As filed with the Securities and Exchange Commission on April 16, 2020

Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

Lantern Pharma Inc.
(Exact name of registrant as specified in its charter)

Delaware	2834	46-3973463
(State or jurisdiction of incorporation or organization)	(Primary Standard Industrial Classification Code Number)	(I.R.S. Employer Identification No.)

Lantern Pharma Inc.
1920 McKinney Avenue, 7th Floor
Dallas, Texas 75201
(972) 277-1136

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

Panna Sharma
President and Chief Executive Officer
1920 McKinney Avenue
Dallas, Texas 75201
(628) 777-3339

(Name, address, including zip code, and telephone number,
Including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ☐

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☐	Smaller reporting company	☒
		Emerging growth company	☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act ☐

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price[1][2]	Amount of Registration Fee
Common Stock, par value $0.0001 per share[3]	$ 28,750,000	$ 3,731.75

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) of the Securities Act of 1933, as amended.

(2) Includes the aggregate offering price of additional shares that the underwriters have the option to purchase, if any.

(3) In accordance with Rule 416(a), the Registrant is also registering hereunder an indeterminate number of additional shares of common stock that may be issued and resold pursuant Rule 416 to prevent dilution resulting from stock splits, stock dividends or similar transactions.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS **SUBJECT TO COMPLETION** **DATED APRIL[ ], 2020**

[_____] Shares

Common Stock

Lantern Pharma Inc.

This is a firm commitment initial public offering of common stock of Lantern Pharma Inc. Prior to this offering, there has been no public market for our common stock. We anticipate that the initial public offering price of our shares will be between $ and $.

We have applied to list our common stock on the NASDAQ Capital Market under the symbol "LTRN."

We are an "emerging growth company," as that term is used in the Jumpstart Our Business Startups Act of 2012, or JOBS Act, and, as such, we have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

Investing in our common stock involves a high degree of risks. See "Risk Factors" beginning on page 11. Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

	Per Share	Total
Initial Public offering price	$	$
Underwriting discounts and commissions[(1)]	$	$
Proceeds to us, before expenses	$	$

(1) Underwriting discounts and commissions do not include a non-accountable expense allowance equal to 1.0% of the initial public offering price payable to the underwriters. We refer you to "Underwriting" beginning on page 158 for additional information regarding underwriters' compensation.

We have granted a 45-day option to the representative to purchase up to an additional [____] shares of common stock solely to cover over-allotment, if any.

The underwriters expect to deliver the shares on or about [____], 2020.

ThinkEquity
a division of Fordham Financial Management, Inc.

Dougherty & Company LLC

The date of this prospectus is [ ], 2020

THE PROBLEM

Oncology drug development is time consuming, costly and high risk, with rates of a successful outcome (drug approval) being very low. This is a perfect problem area for the application of machine learning and artificial intelligence.

~3.4%
Success rate of oncology drug development from 2001 – 2015

$1 Billion+
Average development cost per oncology drug from bench to patient

17,368
Oncology drug clinical trials conducted 2001-2015

2X
Success rate doubled for trials that included patient stratification

OUR SOLUTION

Oncology drug development today is an ideal environment for AI, where Lantern is applying our distinct AI platform, RADR®

RADR® DATA ARCHITECTURE

RADR® WORKFLOW

OUR PORTFOLIO

Drug Candidate	Indication	R&D > Preclinical > Phase I > Phase II > Phase III
LP-100**	Prostate Cancer (Metastatic, Castration-Resistant)	
LP-300***	Lung Cancer (NSCLC, Adenocarcinoma in never/non-smokers)	
LP-184	Solid Tumors (with specific genetic/biomarker profiles)	

* RADR® platform's success in predicting responders and non-responders to treatment, as determined through in-silico, retrospective analyses of historical patient data from 10 independent clinical studies conducted by others.

** LP-100 has been out-licensed to Oncology Venture A/S, see Business: LP-100.

*** Lantern plans on launching a phase 2 trial based on prior, historical clinical trials and the outcomes and data of those phase 2 and 3 trials conducted by others, see Business: LP-300.

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Neither we nor the underwriters have authorized anyone to provide you with information other than that contained in this prospectus or any free writing prospectus prepared by or on behalf of us or to which we have referred you. We and the underwriters take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We and the underwriters are offering to sell, and seeking offers to buy, common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front cover page of this prospectus, or other earlier date stated in this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock.

No action is being taken in any jurisdiction outside the United States to permit a public offering of our common stock or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to that jurisdiction.

PROSPECTUS SUMMARY

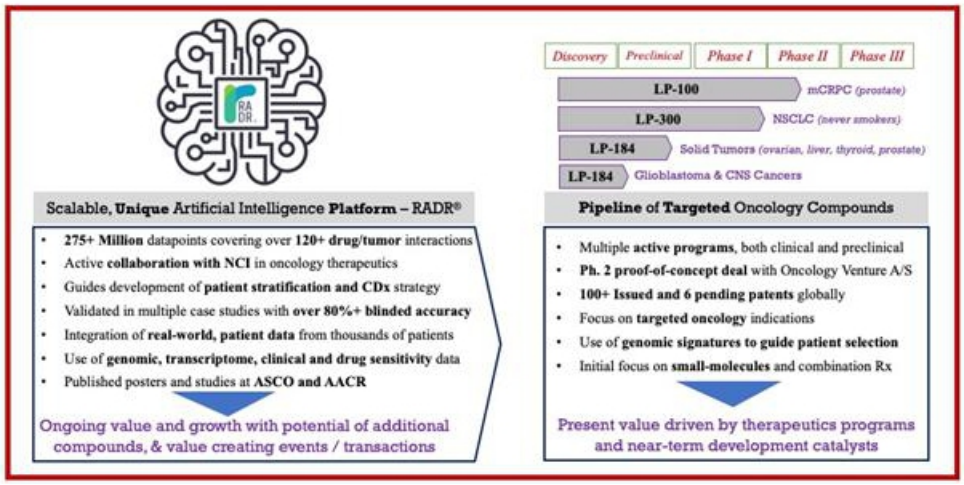
This summary highlights information contained elsewhere or incorporated by reference in this prospectus. This summary provides an overview of selected information and does not contain all of the information you should consider before investing in our securities. You should read the entire prospectus carefully, especially the "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the accompanying notes to those statements, included elsewhere in this prospectus, before making an investment decision. Unless the context requires otherwise, references to the "Company," "Lantern," "we," "us," and "our" refer to Lantern Pharma Inc., a Delaware corporation, and, where appropriate, its wholly-owned subsidiary. Lantern Pharma® and RADR® are registered trademarks of the Company.

Company Overview

We are a clinical stage biotechnology company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from our targeted oncology therapies. Our portfolio of therapies consists of small molecules that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that we are developing with the assistance of our A.I. platform and our biomarker driven approach. Our A.I. platform, known as RADR®, currently includes more than 275 million data points, and uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning to rapidly uncover biologically relevant genomic signatures correlated to drug response, and then identify the cancer patients that we believe may benefit most from our compounds. This data-driven, genomically-targeted and biomarker-driven approach allows us to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates at what we believe is a fraction of the time and cost associated with traditional cancer drug development.

Our strategy is to both develop new drug candidates using our RADR® platform and other machine learning driven methodologies, and to pursue the development of drug candidates that have undergone previous clinical trial testing or that may have been halted in development or deprioritized because of insufficient clinical trial efficacy (i.e., a meaningful treatment benefit relevant for the disease or condition under study as measured against the comparator treatment used in the relevant clinical testing) or for strategic reasons by the owner or development team responsible for the compound. Importantly, these historical drug candidates appear to have been well-tolerated in many instances, and often have considerable data from previous toxicity, tolerability and ADME (absorption, distribution, metabolism, and excretion) studies that have been completed. Additionally, these drug candidates may also have a body of existing data supporting the potential mechanism(s) by which they achieve their intended biologic effect, but often require more targeted trials in a stratified group of patients to demonstrate statistically meaningful results. Our dual approach to both develop de-novo, biomarker-guided drug candidates and "rescue" historical drug candidates by leveraging A.I., recent advances in genomics, computational biology and cloud computing is emblematic of a new era in drug development that is being driven by data-intensive approaches meant to de-risk development and accelerate the clinical trial process. In this context, we intend to create a diverse portfolio of oncology drug candidates for further development towards regulatory and marketing approval with the objective of establishing a leading A.I.-driven, methodology for treating the right patient with the right oncology therapy.

A key component of our strategy is to target specific cancer patient populations and treatment indications identified by leveraging our RADR® platform, a proprietary A.I. enabled engine created and owned by us. We believe the combination of our therapeutic area expertise, our A.I. expertise, and our ability to identify and develop promising drug candidates through our collaborative relationships with research institutions in selected areas of oncology gives us a significant competitive advantage. Our RADR® platform was developed and refined over the last four years and integrates millions of data points immediately relevant for oncology drug development and patient response prediction using artificial intelligence and proprietary machine learning algorithms. By identifying clinical candidates, together with relevant genomic and phenotypic data, we believe our approach will help us design more efficient preclinical studies, and more targeted clinical trials, thereby accelerating our drug candidates' time to approval and eventually to market. Although we have not yet applied for or received regulatory or marketing approval for any of our drug candidates, we believe our RADR® platform has the ability to reduce the cost and time to bring drug candidates to specifically targeted patient groups. We believe we have developed a sustainable and scalable biopharma business model by combining a unique, oncology-focused big-data platform that leverages artificial intelligence along with active clinical and preclinical programs that are being advanced in targeted cancer therapeutic areas to address today's treatment needs.



Scientific literature offers a definition for "drug rescue" as research involving abandoned small molecules and biologics that have not been approved by the U.S. Food and Drug Administration ("FDA"). These rescued molecular compounds are often abandoned by pharmaceutical companies in the drug discovery or preclinical testing phase, typically because they do not prove effective for the specific use for which they were developed. Some of these compounds may be useful in treating other diseases for which they have not been tested. *See,* Hemphill, Thomas A., "The NIH Promotes Drug Repurposing and Rescue," Research Technology Management, v. 5, no. 5, pp. 6-8 (2012). Our use of the term "rescue", "drug rescue", or "drug rescuing" refers to, "…a system of developing new uses for chemical and biological entities that previously were investigated in clinical studies but not further developed or submitted for regulatory approval, or had to be removed from the market for safety reasons.", which is a definition we believe is recognized in the drug discovery, drug development and pharmaceutical and biotechnology industries. *See*, Naylor, S. and Schonfeld J., "Therapeutic Drug Repurposing, Repositioning and Rescue", DDW (Drug Discovery World) Winter 2014, and Mucke, HAM, A New Journal for the Drug Repurposing Community. Drug Repurposing, Rescue & Repositioning 1, 3-4 (2014). The use of the term "drug rescue," "rescuing," or words of similar meaning in this prospectus should not be construed to mean that our RADR® platform has resolved all issues of safety and/or efficacy for any of our drug candidates. Issues of safety and efficacy for any drug candidate may only be determined by the U.S FDA or other applicable regulatory authorities in jurisdictions outside the United States.

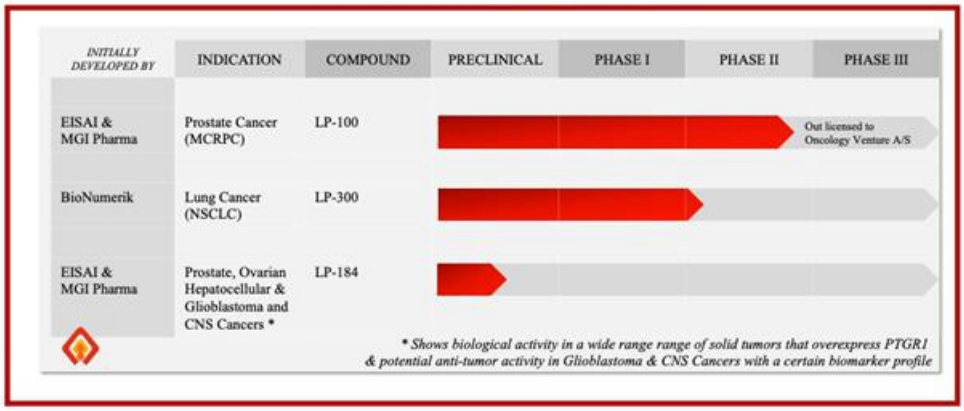
Our Portfolio: Drug Candidates in Development

Our current portfolio consists of three compounds in active development: two drug candidates in clinical phases and, one in preclinical studies. All of these drug candidates are leveraging precision oncology, A.I. and genomic driven approaches to accelerate and direct development efforts. We currently have two drug candidates in clinical development, LP-100 and LP-300, where we are leveraging data from prior preclinical studies and clinical trials, along with insights generated from our A.I. platform, to target the types of tumors and patient groups that would be most responsive to the drug. Both LP-100 and LP-300 showed promise in prior clinical testing, but failed pivotal Phase III trials where the overall results did not meet the required clinical endpoints due to what we believe was a lack of patient stratification driven by an inability to develop biomarker-driven, precision oncology trials. Additionally, we have one new drug candidate, LP-184, in preclinical development for two potentially distinct indications where we are leveraging machine learning and genomic data to streamline the drug development process and to identify the patients and cancer subtypes that will best benefit from the drug, if approved.

Our development strategy is to pursue an increasing number of oncology focused, molecularly targeted therapies where artificial intelligence and genomic data can help us provide biological insights, reduce the risk associated with development efforts and help clarify potential patient response. We plan on strategically evaluating these on a program-by-program basis as they advance into clinical development, either to be done entirely by us or with out-licensing partners to maximize the commercial opportunity and reduce the time it takes to bring the right drug to the right patient.

The following is a summary of our portfolio of compounds that we are developing using our A.I. platform and precision oncology approaches:

Lantern Pharma — Oncology Therapeutics Pipeline



Our most advanced drug candidate, LP-100, is in phase II clinical trials with our out-licensing partner. We have out-licensed LP-100 to Oncology Venture A/S ("Oncology Venture"), a European biotechnology company that is managing an active Phase II clinical trial in metastatic, castration-resistant, prostate cancer (mCRPC). Our second clinical-stage drug candidate in the rescue process is LP-300. LP-300 is a small molecule with cysteine modifying activity on select proteins, which has an existing investigational new drug application ("IND"). We intend to initiate discussions in 2020 with the U.S. FDA to launch a future phase II clinical trial for LP-300 with a stratified patient population of approximately 40 to 75 patients. Our new drug candidate, LP-184, is in a preclinical translational *ex vivo* study using fresh human biopsies. LP-184 is a next generation alkylating agent with nanomolar potency that preferentially damages DNA in cancer cells that overexpress certain biomarkers. LP-184 is in the fulvene class of compounds and has shown preliminary preclinical indications of lower toxicity, longer half-life, and increased antitumor activity as compared to other compounds in this drug class. Subject to regulatory clearance to move forward under a future IND application, we are planning a Phase I clinical trial for LP-184 across multiple solid tumors that express a certain biomarker profile, and in glioblastoma to begin in late 2021 or early 2022.

LP-100 is showing promise in solid tumors, primarily prostate cancer, where it is being advanced in an out-licensing transaction with Oncology Venture after being in-licensed and developed by us. LP-100 has been well-tolerated, based on initial observations from a phase II clinical trial in Europe in mCRPC. Most patients with metastatic prostate cancer present with localized cancer, for which the standard of care treatment is androgen deprivation/suppression therapy. Responses to such therapy can be transient and many patients will develop a castration resistant prostate cancer (CRPC) and develop, or are at risk to develop, mCRPC which accumulates genomic alterations including DNA repair deficits. Chemotherapeutic agents play a critical role in the management of both metastatic castration sensitive and mCRPC. The frequent use of the chemotherapy drug docetaxel in treating metastatic androgen sensitive prostate cancers exemplifies this role. Historical observations of potential anticancer activity of LP-100 in clinical studies with prostate cancer, and evidence of sensitivity to LP-184 in prostate cancer cell lines along with the development of computational methods that integrate gene expression signatures, support LP-184 as a drug candidate with potential for use in combination with androgen deprivation therapy for metastatic prostate cancer that is castration sensitive as well as metastatic prostate cancer that is castration resistant.

LP-184 is a new small molecule drug candidate that in preliminary preclinical studies has demonstrated increased plasma stability, reduced total body clearance, significantly longer half-life, and potentially greater tumor regression than other studied fulvene based compounds. We estimate that a substantial number of patients each year who suffer from metastatic prostate cancer globally could be eligible for potential treatment with LP-184, if approved. In addition, the observed nanomolar potency of LP-184 suggests that it may have anticancer properties in a wide range of solid tumors as an alkylating agent that works by causing DNA damage in tumor cells. Other indications for LP-184 in solid tumors are emerging as a result of early developmental and biomarker studies, including ovarian, breast, liver, kidney and thyroid cancers, as well as certain glioblastomas.

- Based on increased sensitivity in cell-lines and PDx models exhibiting DNA repair deficient genetic backgrounds, we believe that LP-184 could have potential for targeted treatment of DNA repair deficient hereditary breast and ovarian cancers, from which more than 2.3 million patients suffer globally according to the Global Cancer Observatory.

- Based on recent observations, we also believe that LP-184 could have potential as treatment (alone or in combination with other treatments) for glioblastoma, which is an aggressive type of cancer that accounts for more than half of all primary brain tumors. The American Association of Neurological Surgeons estimates that glioblastoma has an incidence of two to three per 100,000 adults per year and accounts for about 17% of all tumors of the brain (primary and metastatic).

- Our A.I. platform RADR® helped uncover genomic biomarkers that we believe indicate certain patients could be more responsive to therapy with LP-184.

Further work on these biomarkers both *in-silico* and in preclinical studies will help to establish a genomic signature that may accelerate our time to a clinical trial and help guide patient selection. We believe that the market for LP-184 as a molecularly-targeted drug candidate could be significant.

LP-300 (disodium 2,2'-dithio-bis-ethane sulfonate or dimesna) is a late-stage clinical drug candidate that was in-licensed by us from BioNumerik Pharmaceuticals, Inc. ("BioNumerik") in May 2016, and subsequently acquired by us in January of 2018. Using our RADR® platform as part of the drug rescue process, we have identified LP-300 for use in a more targeted set of cancer patients who exhibit a biomarker profile that we believe correlates with non-or never smoking status but still have a form of non-small cell lung cancer (NSCLC). LP-300, originally branded as Tavocept®, is a molecular entity that we believe may be capable of ameliorating the toxic side effects of chemotherapeutic drugs such as cisplatin, and it also appears to act as a potential chemoenhancer. LP-300 has been studied in multiple randomized, controlled, multi-center non-small cell lung cancer (NSCLC) trials that included administration of either paclitaxel and cisplatin and/or docetaxel and cisplatin. Since acquiring LP-300 from BioNumerik, we have not yet conducted further clinical testing of LP-300. We are currently evaluating LP-300 for the launch of a targeted phase II trial, in non or never smoking patients with NSCLC in combination with paclitaxel and cisplatin, under an existing IND.

Prior clinical trials conducted by BioNumerik for LP-300 did not meet their primary clinical endpoints and at least one or more future clinical trials that meet their pre-specified primary endpoints with statistical significance will be required before we can obtain a regulatory marketing approval, if any, to commercialize LP-300. Prior clinical trial observations are not necessarily predictive of the outcome of any future clinical trials we may conduct.

Retrospective analyses of the results of a multi-country phase III lung cancer trial conducted by BioNumerik in subgroups of NSCLC adenocarcinoma patients receiving LP-300, paclitaxel and cisplatin demonstrated substantial improvement in overall survival, particularly among female non-smokers, where a 13.6 month improvement in overall survival (p-value 0.0167, hazard ratio 0.367) in favor of LP-300 was observed, as compared to placebo in the subgroup of paclitaxel/cisplatin-treated patients. Similar retrospective findings of increased overall survival in the subgroup of LP-300/paclitaxel/cisplatin treated female Asian patients with adenocarcinoma of the lung were observed in a randomized, double-blind, placebo-controlled trial in Japan. We plan on advancing this drug candidate for the never or non-smoker population of patients due to the following important market and clinical need factors:

- As many as 40% of lung cancers either do not carry currently known targetable proteins or will progress despite initial therapy resulting in a dependence upon chemotherapeutic drug regimens in their treatment, and according to the Global Cancer Observatory, lung cancer is the second most common cancer with over 2 million cases globally.

- Approximately 40% of all lung cancers are adenocarcinomas, with more than half of such lung adenocarcinomas occurring in women.

- As many as 20% of people who die from lung cancer in the United States every year have never smoked or used any other form of tobacco.

- With declining rates of smoking, especially in North America and Europe, the relative proportion of lung cancer patients who are never-smokers is increasing, and this does not appear to be confounded by passive smoking or misreported smoking status.

- Women who have never smoked have a higher proportion of lung cancer than men who are lifelong never-smokers.

- In the clinical research community, a greater focus is being placed on lung cancers that occur in the never-smoking population along with the recognition that such lung cancers might be a genetically distinct type of cancer with a different molecular profile than smoking-based lung cancers.

- Mechanistic studies indicate that LP-300 may work by disruption at binding sites of oncoproteins such as ALK, MET, ROS1 and EGFR which are more commonly altered in female non-smokers and Asian females than in any other groups.

- Never-smokers have also been observed to be less responsive to therapies that stimulate or leverage the immune system such as checkpoint inhibitors or PD-1 and PD-L1 inhibitors. In a meta-analysis research publication of 1,981 patients by Drs. Li, Huang and Fu published in *OncoTargets and Therapy, June 26, 2018* which spanned 3 Phase III randomized, controlled clinical trials the authors observed that, "…PD-1 inhibitors were more efficacious in smoking NSCLC patients compared with chemotherapy. No better survival of nonsmoking patients was observed in the treatment of PD-1 inhibitors than chemotherapy."

We are focused on advancing the development of LP-300 as a combination therapy for female non or never-smokers with NSCLC adenocarcinoma and potentially among non or never-smokers with a genomic signature that correlates with a higher potential of response to this drug compound. We selected NSCLC in non-smoking females as our lead proposed indication because it is a cancer with a growing patient population, without effective treatment options, and LP-300 has shown an improvement in overall survival in this targeted sub-group population in prior clinical studies.

In vitro studies indicate that the target-specific effects of LP-300 potentially correlate to the covalent modification of accessible cysteine residues important in protein function/structure. These could be involved in disruption/ blocking of cofactor binding sites resulting in blocking of oncoproteins such as ALK, MET, ROS1, and EGFR that are more commonly altered in female non-smokers than in any other group. Other potential mechanisms of action of LP-300 could include impact on stress induced oxidoreductases thereby allowing LP-300 to exert its potential chemo-enhancing effects in the presence of chemotherapeutic agents such as cisplatin. LP-300 is postulated to potentiate antitumor cytotoxicity of standard of care chemotherapy agents such as cisplatin. We believe a key LP-300 related mechanism is likely to occur through the increase of tumor cell sensitivity to oxidative stress. Additionally, via induction of NRF2 (also known as NFE2L2), LP-300 has the potential to provide protection of healthy cells against chemotherapy-associated toxicity, and such protection potential was observed with LP-300 combination therapy in both prior nonclinical studies and clinical trials.

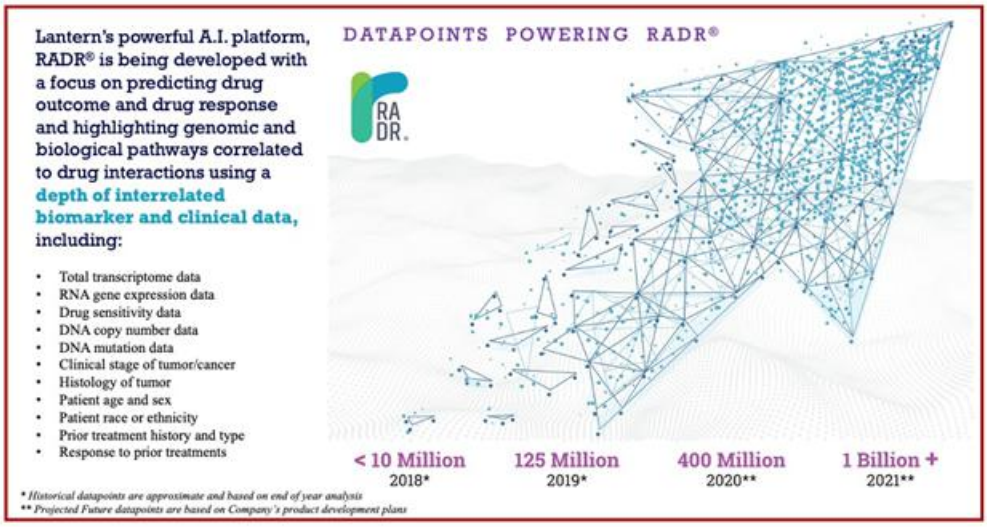
Our Platform: Using A.I., Big Data Genomics and Computational Biology

Drug development is expensive, challenging and is often beleaguered by protracted timelines. Delays in patient identification and enrollment, lengthy and inconclusive biomarker studies, and challenges in achieving a suitable level of efficacy in later clinical phases in the intended patient population often prevent cancer patients from getting the right therapies and challenge the economic returns for biopharma companies. In cancer drug development, this has led to costs that exceed, on average, over 1 billion US dollars to develop an approved drug, and a timeline that can range from 10 to 15 years. We believe, that with the significant advances in genomics, biological methods, translational research, and data-driven biology and the simultaneous increase in patient data-sharing, genomic data-availability, accessibility of large-scale cloud computing and the globalization of cancer research we are entering into a new era of cancer drug development armed with a substantially enhanced understanding of how to treat and manage cancers.

As experienced by many other industries, the wide scale adoption of data-driven methodologies (including data collection and big data analytics) to guide product development along with the introduction of scalable and readily accessible machine learning and A.I. technologies has made large-scale, computational approaches to scientific and interdisciplinary problems more powerful. We believe this big-data and A.I.-driven approach, we believe, can also be applied to cancer drug development. It has the potential, to change the speed, scale and cost of drug rescue and drug development challenges which we believe are perfect problem areas for the application of A.I.

We have been actively developing our RADR® platform through the development, integration and curation of data that we believe is integral to the development of molecularly targeted anti-cancer compounds that can be candidates for future therapies. Over the past 18 months our platform has grown from under 10 million data points to over 275 million data points that have been reviewed, curated and organized to provide insights into drug development and drug rescue in oncology. We anticipate, based on our current platform development roadmap, that our RADR® platform will have over 400 million data points by the end of 2020 and grow to 1 billion data points by the end of 2021.. The majority of our data points are from (see the figure below):

- Transcriptome sequencing and gene expression (RNA) studies;
- Drug sensitivity data;
- DNA copy number and mutation data;
- Tumor stage and type data;
- Histology and cancer sub-type data;
- Patient data (age, sex, race/ethnicity) that is deidentified and IRB (Institutional Review Board) compliant; and
- Prior cancer treatment data (drug treatment history, including drug class and treatment response).



As our RADR® platform continues to develop and grow both in data and in feature sets, we have used it in an increasing range of drug development and rescue activities, including:

1. Prediction of potential patient response based on drug sensitivity and machine learning derived biomarker signatures;

2. Development of "patient molecular profile avatars," templates that can serve as a guide for both future clinical trials and preclinical studies using PDx models and 3D organoid models;

3. Creation of insights into potential molecular pathways (genomic, epigenomic, enzymatic and proteomic) that correlate to mechanisms of action or key activity; and

4. Identification of potential combination programs with currently approved therapies that have the potential to be additive or synergistic to our portfolio of compounds

Our Strategy

Our mission is to bring the right cancer drugs to the right patients by transforming the drug development process through the use of artificial intelligence and data-driven development approaches. Our A.I.-enabled, and precision oncology approach, which focuses on developing our own pipeline of compounds by rescuing drug candidates that have previously failed and developing new compounds that are targeted to specific biological activity and genomic pathways, has the potential, we believe, to bring drugs to market faster, with lower costs, and with reduced risk, thereby enabling a change in the cost and availability of precision cancer therapy. We work with leading research laboratories, translational medicine and cancer centers to develop our studies and clinical trials for our portfolio, and actively update and improve our RADR® platform to incorporate additional biomarker data, patient outcome data, cancer drug efficacy studies and computational models that relate to oncology drug development and prediction of patient response.

As part of our growth strategy, we plan to:

- *Pursue existing indications for both LP-184 and LP-300, leveraging our RADR® platform to refine and optimize our trial design and biomarker signatures that correlate to potential patient response.*

- *Expand our pipeline by identifying new drug candidates that have either been abandoned or have failed in late stage clinical trials, and have the potential to benefit from a precision medicine approach that leverages our expertise and A.I. platform.*

- *Identify and design potential combination therapy approaches to use our compounds in conjunction with currently approved drugs by leveraging our RADR® platform to analyze and uncover synergistic mechanisms and biological pathways using genomics and machine learning.*

- *Increase the number of data points powering our RADR® A.I. platform from the current 275+ million to nearly 400+ million by the end of 2020 and approximately 1 billion by the end of 2021.*

- *Advance the algorithms, methodologies and models that underlie our computational and machine learning platform to improve the predictive power, and to develop additional capabilities that are focused on accelerating or de-risking oncology drug development.*

- *Pursue collaborations and partnerships with other biotech and pharma companies where our A.I. and precision oncology expertise can be used to help de-risk or accelerate development programs and where our shareholders can receive a significant economic benefit.*

- *Continue to develop and patent intellectual property and advance our intellectual property portfolio associated with both fundamental patents and patents associated with precision, patient stratified, targeted therapies and genomic or biomarker signatures.*

- *Select our next clinical development program in the coming twelve months.*

We have a diverse, global intellectual property portfolio consisting of over 108 issued patents, and six6 pending applications across 14 patent families directed to our drug candidates, their usage, manufacturing and other matters. These matters are essential to precision oncology and relate to: (a) uniquely powerful, data-driven, biologically relevant biomarker signatures, (b) patient selection and stratification approaches that rely on prediction of response deriving from these signatures and, (c) the ability to develop novel, combination therapy approaches with existing approved therapeutics.

- For LP-100, we have in-licensed a patent portfolio consisting of two patent families, including issued US patents, issued Japan patents, and various issued EU patents.

- For LP-300, we own a patent portfolio consisting of over six patent families, including U.S. patent applications, issued U.S. patents and foreign issued patents.

- We also have filed an additional six patent applications – including three PCT (Patent Cooperation Treaty) applications – directed to our drug programs, including three applications directed to LP-184 as well as other novel, synthetic illudin analogs and two applications directed to LP-300. These applications include claims directed to the use of biomarkers or sensitivity parameters to identify patients and predict patient response.

Our patent applications include claims relating to our proprietary drug candidates, new manufacturing methods, and gene signature and biomarker profiles indicating sensitivity to illudins and other compounds in development.

Corporate Information

We were initially incorporated in the State of Texas in November 2013. In January 2020 we reincorporated in the State of Delaware. Our principal executive office is located at 1920 McKinney Avenue, 7th Floor, Dallas, Texas 75201 and our telephone number is (972) 277-1136. Our website is www.lanternpharma.com. Information contained in, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus. Our design logo and our other registered and common law trade names, trademarks and service marks are the property of Lantern.

Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm under Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments. We may take advantage of these exemptions until we are no longer an "emerging growth company." We would cease to be an emerging growth company upon the earlier to occur of: (1) the last day of our fiscal year following the fifth anniversary of the completion of this offering; (2) the last day of the fiscal year in which we have total annual gross revenue of U.S.$1.07 billion or more; (3) the date on which we have issued more than U.S.$1.0 billion in nonconvertible debt during the previous three years; or (4) the date on which we are deemed to be a large accelerated filer under the rules of the Securities and Exchange Commission, or the SEC. In particular, in this prospectus, we have provided only two years of audited financial statements and have not included all of the executive compensation related information that would be required if we were not an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of new or revised accounting standards that have different transition dates for public and private companies until those standards would otherwise apply to private companies. We have not elected to use this extended transition period.

The Offering

Common Stock offered by us	[_____] shares of our common stock ([____] shares if the underwriters exercise their over-allotment option in full).
Common Stock to be outstanding after this offering	[_____] shares of common stock[(1)] ([_____] shares if the underwriters exercises their over-allotment option in full).
Over-Allotment Option	The underwriters have an option for a period of 45 days to purchase up to [____] additional shares of our common stock to cover over-allotments, if any.
Use of Proceeds	We intend to use the net proceeds of this offering (i) to fund clinical trials on LP-300; (ii) to fund further preclinical studies and clinical trials on LP-184; (iii) to fund further development of, and data acquisition for, our RADR® platform; (iv) to fund the strategic expansion of our drug candidate portfolio through the acquisition or in-licensing of intellectual property assets; and (v) for working capital and general corporate purposes. See "Use of Proceeds'' on page 60 of this prospectus.
Risk Factors	Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 11.
Proposed Trading Symbol	We have applied to list our common stock on the NASDAQ Capital Market under the symbol "LTRN".

(1) The number of shares of common stock to be outstanding after the offering is based on 2,567,583 shares of common stock outstanding as of April 10, 2020, after giving effect to the conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of our common stock immediately prior to the closing of this offering, and excludes, as of that date, the following:

- 295,323 shares of common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of $1.79 per share;
- 392,440 shares of common stock reserved under our Amended and Restated 2018 Equity Incentive Plan;
- 150,577 shares of common stock issuable upon the exercise of outstanding common stock purchase warrants.

Except as otherwise indicated herein, all information in this prospectus assumes no exercise by the underwriter of its over-allotment option to purchase additional shares.

Summary Financial Data

The following summary statement of operations data for the years ended December 31, 2019 and 2018 and the balance sheet data as of December 31, 2019 and 2018 are derived from our audited financial statements that are included elsewhere in this prospectus. Our historical results are not necessarily indicative of our results in any future period.

You should read the following summary financial data together with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our financial statements and the related notes included elsewhere in this prospectus. The summary financial data in this section are not intended to replace our financial statements and the related notes and are qualified in their entirety by the financial statements and related notes included elsewhere in this prospectus.

	As at the Year Ended December 31,	
	2019	2018
Statement of Operations		
Revenue	-	-
Expenses		
General and administrative	$ 1,475,000	$ 1,154,322
Research and development	953,185	572,095
Total expenses	2,428,185	1,726,417
Net loss	$ (2,428,185)	$ (1,726,417)
Balance Sheet		
Current Assets	$ 1,232,818	$ 445,163
Total Assets	1,432,576	449,831
Current Liabilities	489,292	651,629
Total Liabilities	489,292	651,629
Total Stockholders' Equity (Deficit)	$ 943,284	$ (201,798)

RISK FACTORS

An investment in our common stock involves a high degree of risk. Before making an investment decision, you should give careful consideration to the following risk factors, in addition to the other information included in this prospectus, including our financial statements and related notes, before deciding whether to invest in shares of our common stock. The occurrence of any of the adverse developments described in the following risk factors could materially and adversely harm our business, financial condition, results of operations or prospects. In that case, the trading price of our common stock could decline, and you may lose all or part of your investment.

Risks Related to Financial Position and Need for Capital

We have a limited operating history and have never generated any revenues other than from research grants, which may make it difficult to evaluate the success of our business to date and to assess our future viability.

We were incorporated in November 7, 2013, and to date have been largely focused on organizing and staffing our company, raising capital, developing the RADR® platform and acquiring the rights to, and advancing the development of, our drug candidates, including conducting preclinical studies and early phase clinical trials on our drug candidates. We have not yet demonstrated an ability to successfully complete clinical trials, obtain marketing approvals, manufacture drugs on a commercial scale, or arrange for a third party to do so on our behalf, or conduct sales and marketing activities necessary for successful commercialization. Consequently, predictions about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing drugs.

We expect our financial condition and operating results to continue to fluctuate from quarter to quarter and year to year due to a variety of factors, many of which are beyond our control. We will need to eventually transition from a company with a research and development focus to a company capable of undertaking commercial activities. We may encounter unforeseen expenses, difficulties, complications and delays, and may not be successful in such a transition.

We have incurred significant operating losses since inception and anticipate that we will continue to incur substantial operating losses for the foreseeable future and may never achieve or maintain profitability.

Since our inception, we have incurred losses. Our net losses were $2,428,185 and $1,726,417 for the years ended December 31, 2019 and 2018, respectively. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. None of our current drug candidates have been approved for marketing in the United States, or in any other jurisdiction, and may never receive such approval. It could be several years, if ever, before we have a commercialized drug that generates significant revenues. As a result, we are uncertain when or if we will achieve profitability and, if so, whether we will be able to sustain profitability. The net losses we incur may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially as we:

- continue the development of our drug candidates;
- initiate preclinical studies and clinical trials for any additional indications for our current drug candidates and any future drug candidates that we may pursue;
- continue to build our portfolio of drug candidates through the acquisition or in-license of additional drug candidates or technologies;
- continue to develop, maintain, expand and protect our intellectual property portfolio;
- continue to develop, maintain, and expand our RADR® platform;
- pursue regulatory approvals for our current and future drug candidates that successfully complete clinical trials;

- ultimately establish a sales, marketing, distribution and other commercial infrastructure to commercialize any drug candidate for which we may obtain marketing approval;

- hire additional clinical, regulatory, scientific and accounting personnel; and

- incur additional legal, accounting and other expenses in operating as a public company.

To become and remain profitable, we must develop and eventually commercialize one or more drug candidates with significant market potential or license one or more of our drug candidates to an industry partner. This will require us to be successful in a range of challenging activities, including completing clinical trials of our drug candidates, publishing our data and findings on our drug candidates with peer reviewed publications, developing commercial scale manufacturing processes, obtaining marketing approval, manufacturing, marketing and selling any current and future drug candidates for which we may obtain marketing approval, and satisfying any post-marketing requirements. We are only in the preliminary stages of most of these activities and, in some cases, have not yet commenced certain of these activities. We may never succeed in any or all of these activities and, even if we do, we may never generate sufficient revenue to achieve profitability.

Because of the numerous risks and uncertainties associated with drug development, we are unable to accurately predict the timing or amount of expenses or when, or if, we will obtain marketing approval to commercialize any of our drug candidates. If we are required by the U.S. Food and Drug Administration, or FDA, or other regulatory authorities such as the European Medicines Agency, or EMA, to perform studies and trials in addition to those currently expected, or if there are any delays in the development, or in the completion of any planned or future preclinical studies or clinical trials of our current or future drug candidates, our expenses could increase and profitability could be further delayed.

Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause investors to lose all or part of your investment.

Our independent registered public accounting firm has included an explanatory paragraph relating to our ability to continue as a going concern in its report on our audited financial statements included in this prospectus. Our audited financial statements at December 31, 2019 and 2018 and for the years then ended were prepared assuming that we will continue as a going concern.

Primarily as a result of our losses and limited cash balances, the report of our independent registered public accounting firm included elsewhere in this prospectus contains an explanatory paragraph on our financial statements stating that our ability to continue as a going concern is highly contingent on our ability to raise capital for ongoing research and development and clinical trials as we expect to continue to incur losses for the foreseeable future. Such an opinion could materially limit our ability to raise additional funds through the issuance of new debt or equity securities or otherwise. There is no assurance that sufficient financing will be available when needed to allow us to continue as a going concern. The perception that we may not be able to continue as a going concern may also make it more difficult to operate our business due to concerns about our ability to meet our contractual obligations. Our ability to continue as a going concern is contingent upon, among other factors, the sale of the shares of our common stock in this offering or obtaining alternate financing. We cannot provide any assurance that we will be able to raise additional capital.

If we are unable to secure additional capital, we may be required to curtail our clinical and research and development initiatives and take additional measures to reduce costs in order to conserve our cash in amounts sufficient to sustain operations and meet our obligations. These measures could cause significant delays in our clinical and regulatory efforts, which is critical to the realization of our business plan. The accompanying financial statements do not include any adjustments that may be necessary should we be unable to continue as a going concern. It is not possible for us to predict at this time the potential success of our business. The revenue and income potential of our proposed business and operations are currently unknown. If we cannot continue as a viable entity, you may lose some or all of your investment.

Even if this offering is successful, we will need substantial additional funding, and if we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our drug development programs or commercialization efforts.

We anticipate that our expenses will increase substantially as we continue to develop and begin and continue clinical trials with respect to LP-184, LP-300 and our other drug candidates; seek to identify and develop additional drug candidates; acquire or in-license other drug candidates or technologies; seek regulatory and marketing approvals for our drug candidates that successfully complete clinical trials, if any; establish sales, marketing, distribution and other commercial infrastructure in the future to commercialize various drugs for which we may obtain marketing approval, if any; require the manufacture of larger quantities of drug candidates for clinical development and, potentially, commercialization; maintain, expand and protect our intellectual property portfolio; develop, maintain, and expand our RADR® platform; hire and retain additional personnel, such as clinical, quality control and scientific personnel; add operational, financial and management information systems and personnel, including personnel to support our drug development and help us comply with our obligations as a public company; and add equipment and physical infrastructure to support our research and development programs.

We plan to use the net proceeds of this offering primarily to fund our ongoing research and development efforts. We will be required to expend significant funds in order to advance the development of LP-184, LP-300 and our other drug candidates. In addition, while we may seek one or more collaborators for future development of our current drug candidates or any future drug candidates that we may develop for one or more indications, we may not be able to enter into a partnership or out-license for any of our drug candidates for such indications on suitable terms, on a timely basis or at all. In any event, the net proceeds of this offering and our existing cash and cash equivalents will not be sufficient to fund all of the efforts that we plan to undertake or to fund the completion of development of our drug candidates or our other preclinical studies. Accordingly, we will be required to obtain further funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources. We do not have any committed external source of funds. Further financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents as of December 31, 2019, and our anticipated expenditures and commitments for calendar year 2020, will enable us to fund our operating expenses and capital expenditure requirements for at least 12 months from the date of this prospectus. Our estimate as to how long we expect the net proceeds from this offering, together with our existing cash and cash equivalents, to be able to continue to fund our operations is based on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Further, changing circumstances, some of which may be beyond our control, could cause us to consume capital significantly faster than we currently anticipate, and we may need to seek additional funds sooner than planned. Our future funding requirements, both short-term and long-term, will depend on many factors, including:

- the scope, progress, timing, costs and results of preclinical studies and clinical trials of LP-184, LP-300 and our other drug candidates;
- the costs associated with maintaining, expanding and updating our RADR® platform;
- the costs, timing and outcome of seeking regulatory approvals;
- the costs of our licensing or commercialization activities for any of our drug candidates that receive marketing approval to the extent such costs are not the responsibility of any future collaborators, including the costs and timing of establishing drug sales, marketing, distribution and manufacturing capabilities;

- our headcount growth and associated costs as we expand our research and development as well as potentially establish a commercial infrastructure;
- our ability to enter into and the terms and timing of any collaborations, licensing agreements or other arrangements;
- revenue received from commercial sales, if any, of our current and future drug candidates;
- the costs of preparing, filing and prosecuting patent applications, maintaining and protecting our intellectual property rights and defending against intellectual property related claims;
- the number of future drug candidates that we pursue and their development requirements;
- changes in regulatory policies or laws that may affect our operations;
- changes in physician acceptance or medical society recommendations that may affect commercial efforts;
- the costs of acquiring potential new drug candidates or technology;
- the costs associated with purchasing data for our RADR® platform;
- the costs associated with maintaining and expanding our cybersecurity systems; and
- the costs of operating as a public company.

Risks Related to the Discovery and Development of Drug Candidates

We have limited experience in drug discovery and drug development and may not receive regulatory approval to market our drug candidates.

Prior to the acquisition of our drug candidates, we were not involved in and had no control over their preclinical and clinical development. In addition, we rely upon the parties from whom we have acquired our drug candidates from to have conducted such research and development in accordance with the applicable protocol, legal, regulatory and scientific standards, having accurately reported the results of all clinical trials conducted prior to our acquisition of the applicable drug candidate, and having correctly collected the data from these studies and trials. To the extent any of these has not occurred, our expected development time and costs may be increased, which could adversely affect our prospects for marketing approval of, and receiving any future revenue from, these drug candidates.

In the near term, we are dependent on our ability to advance the development of LP-184 and LP-300 and on the efforts of Oncology Venture to advance LP-100. If we are unable to initiate or complete the clinical development of, obtain marketing approval for or successfully commercialize LP-184 and LP-300 and our other drug candidates, either alone or with a collaborator, or if we experience significant delays in doing so, our business could be substantially harmed.

We currently do not have any drugs that have received regulatory approval and may never be able to develop marketable drug candidates. We are investing a significant portion of our efforts and financial resources in the advancement of LP-184, LP-300 and our other drug candidates and in the development of our RADR® platform. Our prospects are substantially dependent on our ability, or those of any future collaborator, to develop, obtain marketing approval for and successfully commercialize drug candidates in one or more disease indications.

The success of LP-184, LP-300 and our other drug candidates will depend on several factors, including the following:

- following submission of an Investigational New Drug, or IND, by the FDA or any comparable foreign regulatory authority, receiving clearance for the conduct of clinical trials of drug candidates and proposed design of future clinical trials;
- initiation, progress, timing, costs and results of clinical trials of our drug candidates and potential drug candidates;
- establishment of a safety, tolerability and efficacy profile that is satisfactory to the FDA or any comparable foreign regulatory authority for marketing approval;
- adequate ongoing availability of quality data sources for our RADR® platform and raw materials and drug product for clinical development and any commercial sales;
- obtaining and maintaining patent, trade secret protection and regulatory exclusivity, both in the United States and relevant global markets;
- the performance of our future collaborators, if any;
- the extent of any required post-marketing approval commitments to applicable regulatory authorities;
- establishment of supply arrangements with third-party raw materials suppliers and manufacturers;
- establishment of arrangements with third-party manufacturers to obtain finished drug product that is appropriately packaged for sale;
- protection of our rights in our intellectual property portfolio;
- successful launch of commercial sales following any marketing approval;
- a continued acceptable safety profile following any marketing approval;
- commercial acceptance by patients, the medical community and third-party payors; and
- our ability to compete with other therapies.

Many of these factors are beyond our control, including the results of clinical trials, the time required for the FDA or any comparable foreign regulatory authorities to review any regulatory submissions we may make, potential threats to our intellectual property rights and the manufacturing, marketing and sales efforts of any future collaborator. If we are unable to develop, receive marketing approval for and successfully commercialize LP-300 and LP-184 our other drug candidates, on our own or with any future collaborator or experience delays as a result of any of these factors or otherwise, our business could be substantially harmed. The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming, expensive and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our drug candidates, our business will be substantially harmed.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable but can take many years following the commencement of clinical trials and depends upon numerous factors, including the substantial discretion of the regulatory authorities. The results of preclinical studies and early clinical trials of our drug candidates may not be predictive of the results of later-stage clinical trials. Drug candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through preclinical studies and initial clinical trials. It is not uncommon for companies in the biotechnology and pharmaceutical industries to suffer significant setbacks in advanced clinical trials due to nonclinical findings made while clinical studies were underway and safety or efficacy observations made in clinical studies, including previously unreported adverse events. Our future clinical trial results may not be successful, and notwithstanding any potential promising results in earlier studies, we cannot be certain that we will not face similar setbacks. The historical failure rate for drug candidates in our industry is high. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a drug candidate's clinical development and may vary among jurisdictions. We have not obtained final regulatory approval for any drug candidate and it is possible that none of our existing drug candidates or any drug candidates we may seek to develop in the future will ever obtain regulatory approval.

Our drug candidates could fail to receive regulatory clearance or marketing approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials, including, but not limited to, the use of genomic or biomarker signatures to identify patients that may respond to drug efficacy;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a drug candidate is safe and effective for its proposed indication;
- we may be unable to identify and recruit a sufficient number of patients with relevant genomic or biomarker signatures in order to conduct clinical trials on our drug candidates;
- the results of clinical trials may not meet the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the data collected from clinical trials of our drug candidates may not be sufficient to support the submission of a New Drug Application, or NDA, or other submission or to obtain regulatory approval in the United States or elsewhere;
- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes or facilities of third-party manufacturers with which we contract for clinical and commercial supplies; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

We have not previously completed all clinical trials for any of our drug candidates. Consequently, we may not have the necessary capabilities, including adequate staffing, to successfully manage the execution and completion of any clinical trials we initiate in a way that leads to our obtaining marketing approval for our drug candidates in a timely manner, or at all. This lengthy approval process as well as the unpredictability of future clinical trial results may result in our failing to obtain regulatory approval to market our drug candidates, which would significantly harm our business, results of operations and prospects.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our drug candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our drugs, may grant approval contingent on the performance of costly post-marketing clinical trials, may approve a drug candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that drug candidate or may restrict its distribution. Any of the foregoing restrictions or requirements could materially harm the commercial prospects for our drug candidates.

We have not previously submitted a new drug application (an "NDA") to the FDA or similar drug approval filings to comparable foreign authorities, for any drug candidate, and we cannot be certain that any of our drug candidates will be successful in clinical trials or receive regulatory approval. Further, our drug candidates may not receive regulatory approval even if they are successful in clinical trials. If we do not receive regulatory approvals for our drug candidates, we may not be able to continue our operations. Even if we successfully obtain regulatory approvals to market one or more of our drug candidates, our revenues will be dependent, in part, upon the size of the markets in the territories for which we gain regulatory approval and have commercial rights. If the markets for patients that we are targeting for our drug candidates are not as significant as we estimate, or if the price we charge for our drug candidate is too high, we may not generate significant revenues from sales of such drugs, if approved.

We plan to seek regulatory approval to commercialize our drug candidates both in the United States and the European Union and in additional foreign countries. While the scope of regulatory approval is similar in other countries, to obtain separate regulatory approval in many other countries we must comply with numerous and varying regulatory requirements of such countries regarding safety and efficacy and governing, among other things, clinical trials and possible limitations placed upon commercial sales, pricing and distribution of our drug candidates, and we cannot predict success in these jurisdictions.

Our business strategy to rescue previously failed drug candidates may not be successful, and important issues relating to safety and efficacy remain to be resolved for all of our drug candidates. Our strategy also involves risks and uncertainties that differ from other biotechnology companies that focus solely on new drug candidates that do not have a history of failed clinical trials.

Our drug candidate portfolio includes small molecules that others have tried, but failed, to develop into an approved commercialized drug. Our strategy to rescue previously failed drug candidates may not be successful, and the use of the term "drug rescue," "rescuing," or words of similar meaning in this prospectus should not be construed to mean that our RADR® platform has resolved all issues of safety and/or efficacy for any of our drug candidates. Issues of safety and efficacy for any drug candidate may only be determined by the U.S FDA or other applicable regulatory authorities in jurisdictions outside the United States.

Our business strategy includes a focus on leveraging A.I. to streamline the drug development process and to identify patients that will benefit from drug candidates that other biotechnology or pharmaceutical companies have abandoned or shelved after initiating clinical trials under an IND application filed with the FDA, including candidates that have failed to achieve statistical significance on the original endpoints established in the clinical trials. We use our RADR® platform to assess drug candidates together with big data sources of information to both target and evaluate sub-populations and identify new therapeutic indices and gene signatures that will potentially correlate with drug efficacy and patient response to treatment. While we have not yet successfully received regulatory or marketing approval for any of our drug candidates, and while we believe that our approach has the potential to reduce the cost and time of drug development through the identification and selection of patient populations more likely to respond to therapy, our strategy involves risks and uncertainties that differ from other biotechnology companies that focus solely on new drug candidates that do not have a history of failed clinical development. These risks and uncertainties include, but are not limited to, the following:

- The remaining term of the initial patents filed with respect to a rescued and repositioned drug candidate may be significantly less than the patent term for a newly discovered drug candidate;
- Potential out-licensees, alliance partners and collaborators may view a rescued and repositioned drug candidate with more skepticism because of its history of failed clinical trials, thereby requiring a higher level of additional data and further explanations of mechanisms of action in order to overcome this skepticism and obtain commercially reasonable terms for future development or collaboration;
- Key personnel and institutional knowledge relating to a rescued and repositioned drug candidate may no longer be available for us;
- The current standard of care in the targeted therapeutic indication for the rescued and repositioned drug candidate may be different than the standard of care that existed during the candidate's last clinical trial, which will require more time and resources from us to reassess and redesign the regulatory development path for the rescued and repositioned drug candidate; and
- The rescued and repositioned drug candidate may be perceived to be in an "older" therapeutic focus area of oncology, thereby generating less enthusiasm and support compared to therapeutic focus areas of oncology that may be perceived as more recent.

We are dependent on Oncology Venture for the development of LP-100.

We, with the consent of our licensor for LP-100, AF Chemicals, have entered into an agreement with Oncology Venture in which we have granted an exclusive, royalty-bearing license, with the right to sublicense, to develop LP-100. Oncology Venture will be solely responsible for the development of the LP-100, including development of a comprehensive plan for a clinical trial program, but has the right to assign all or part of the agreement to a third-party program acquirer. Under the agreement, we and AF Chemicals, are entitled to receive certain specified milestone payments from Oncology Venture subject to an overall aggregate maximum payment of $21 million U.S. dollars ($21,000,000) with certain exceptions. In addition to milestone payments, we are also entitled to receive royalty payments based incremental levels of annual sales of LP-100 products by Oncology Venture or any third party program acquirer. As a result of the drug license and development agreement with Oncology Venture, we are completely dependent on Oncology Venture for the development of the LP-100.

We may depend on enrollment of patients with specific genomic or biomarker signatures in our clinical trials in order for us to continue development of our drug candidates. If we are unable to enroll patients with specific genomic or biomarker signatures in our clinical trials, our research, development and commercialization efforts could be adversely affected.

The timely completion of clinical trials in accordance with their protocols depends, among other things, on our ability to enroll a sufficient number of patients with genomic or biomarker signatures we have identified and who remain in the study until its conclusion. We may experience difficulties in patient enrollment in our clinical trials for a variety of reasons. Patient enrollment is affected by many factors including the size and nature of the patient population with the specific genomic or biomarker signature we have identified, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, the size of the patient population required for analysis of the trial's primary endpoints, the proximity of patients to study sites, our ability to recruit clinical trial investigators with the appropriate competencies and experience, our ability to obtain and maintain patient consents, the risk that patients enrolled in clinical trials will drop out of the trials before completion, and competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. We will compete with other pharmaceutical companies for clinical sites, physicians and the limited number of patients who fulfill the stringent requirements for participation in oncology clinical trials. Also, due to the confidential nature of clinical trials, we do not know how many of the eligible patients may be enrolled in competing studies and who are consequently not available to us for our clinical trials. Our clinical trials may be delayed or terminated due to the inability to enroll enough patients. The delay or inability to meet planned patient enrollment may result in increased costs and delay or termination of our trials, which could have a harmful effect on our ability to develop drugs.

Delays in clinical testing could result in increased costs to us and delay our ability to generate revenue.

Although we are planning for certain clinical trials relating to LP-300 and LP-184 and our other drug candidates, there can be no assurance that the FDA will accept our proposed trial designs. We may experience delays in our clinical trials and we do not know whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. Clinical trials can be delayed for a variety of reasons, including delays related to:

- obtaining regulatory clearance to commence a trial;
- reaching agreement on acceptable terms with prospective contract research organizations, or CROs, and clinical trial sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and trial sites;
- obtaining institutional review board, or IRB, approval at each site;
- recruiting suitable patients to participate in a trial;
- identifying clinical sites with adequate infrastructure (including data collection) to conduct the trial;

- clinical sites deviating from trial protocol or dropping out of a trial;
- addressing patient safety concerns that arise during the course of a trial;
- having patients complete a trial or return for post-treatment follow-up;
- adding a sufficient number of clinical trial sites; or
- manufacturing sufficient quantities and quality of a drug candidate for use in clinical trials.

We may also experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our drug candidates, including:

- we may receive feedback from regulatory authorities that requires us to modify the design of our clinical trials;
- we may not have the ability to test patients for our clinical trials that require a specific genomic or biomarker signature in order to qualify for enrollment;
- clinical trials of our drug candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon drug development programs;
- the number of patients required for clinical trials of our drug candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- the cost of clinical trials of our drug candidates may be greater than we anticipate;
- the supply or quality of our drug candidates or other materials necessary to conduct clinical trials of our drug candidates may be insufficient or inadequate;
- regulators may revise the requirements for approving our drug candidates, or such requirements may not be as we anticipate; and
- any future collaborators that conduct clinical trials may face any of the above issues, and may conduct clinical trials in ways they view as advantageous to themselves but that are suboptimal for us.

If we are required to conduct additional clinical trials or other testing of our drug candidates beyond those that we currently contemplate, if we are unable to successfully complete clinical trials of our drug candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- incur unplanned costs;
- be delayed in obtaining marketing approval for our drug candidates or not obtain marketing approval at all;
- obtain marketing approval in some countries and not in others;
- obtain marketing approval for indications or patient populations that are not as broad as intended or desired;

- obtain marketing approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the drug removed from the market after obtaining marketing approval.

Furthermore, we intend to rely on CROs, cancer research centers and clinical trial sites to ensure the proper and timely conduct of our clinical trials and we intend to have agreements governing their committed activities. They may not perform as required or we may face competition from other clinical trials being conducted by other pharmaceutical companies.

We could encounter delays if a clinical trial is suspended or terminated by us, by the Institutional Review Board or IRB of the institutions in which such trials are being conducted, by the Data Safety Monitoring Board, or DSMB, for such trial or by the FDA or other regulatory authorities. Such authorities may impose such a suspension or termination due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial.

Further, conducting clinical trials in foreign countries, as we may do for our current and future drug candidates, presents additional risks that may delay completion of our clinical trials. These risks include the failure of enrolled patients in foreign countries to adhere to clinical protocol as a result of differences in healthcare services or cultural customs, managing additional administrative burdens associated with foreign regulatory schemes, as well as political and economic risks relevant to such foreign countries.

If we experience delays in the completion of, or termination of, any clinical trial of our drug candidates, the commercial prospects of our drug candidates will be harmed, and our ability to generate revenues from any of these drug candidates will be delayed. In addition, any delays in completing our clinical trials will increase our costs, slow down our drug candidate development and approval process and jeopardize our ability to commence drug sales and generate revenues. Any of these occurrences may harm our business, financial condition and prospects significantly. In addition, many of the factors that cause, or lead to, a delay in the commencement or completion of clinical trials may also ultimately lead to the denial of regulatory approval of our drug candidates.

Our drug candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our drug candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials and could result in a more restrictive label or the delay or denial of regulatory approval by the FDA or other comparable foreign authorities. The clinical evaluation of LP-184 and our other drug candidates in patients is still in the early stages and it is possible that there may be side effects associated with their use. In such an event, we, the FDA, the IRBs at the institutions in which our studies are conducted, or the DSMB could suspend or terminate our clinical trials or the FDA or comparable foreign regulatory authorities could order us to cease clinical trials or deny approval of our drug candidates for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete the clinical trial or result in potential product liability claims. In addition, these side effects may not be appropriately recognized or managed by the treating medical staff. We expect to have to train medical personnel using our drug candidates to understand the side effect profiles for our clinical trials and upon any commercialization of any of our drug candidates. Inadequate training in recognizing or managing the potential side effects of our drug candidates could result in patient injury or death. Any of these occurrences may harm our business, financial condition and prospects significantly.

Additionally, if one or more of our drug candidates receives marketing approval, and we or others later identify undesirable side effects caused by such drugs, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw approvals of such drugs;
- we may be required to recall a drug or change the way such a drug is administered to patients;
- additional restrictions may be imposed on the marketing or distribution of the particular drug or the manufacturing processes for the drug or any component thereof;
- regulatory authorities may require additional warnings on the label, such as a "black box" warning or contraindication;
- we may be required to implement Risk Evaluation and Mitigation Strategies, or REMS, or create a medication guide outlining the risks of such side effects for distribution to patients;
- we could be sued and held liable for harm caused to patients;
- our drug may become less competitive; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of the particular drug candidate or for particular indications of a drug candidate, if approved, and could significantly harm our business, results of operations and prospects. Our approach to the discovery and development of drug candidates based on our RADR® platform is innovative and in the early stages of development; and we do not know whether we will be able to develop any drugs of commercial value.

We are leveraging our RADR® platform in an attempt to create a pipeline of drug candidates using biomarker identification and patient stratification for the development of oncology drugs. While we believe that applying our RADR® platform to drugs that have failed, been abandoned or otherwise failed to meet clinical endpoints and then developing a precision oncology approach that identifies the mechanism of action, potential combination drug usage and potentially responsive patient population, our approach is both innovative and in the early stages of development. Because our approach is both innovative and in the early stages of development, the cost and time needed to develop our drug candidates is difficult to predict, and our efforts may not result in the successful discovery and development of commercially viable medicines. We may also be incorrect about the effects of our drug candidates on the diseases of our defined patient populations, which may limit the utility of our approach or the perception of the utility of our approach. Furthermore, our estimates of our defined patient populations available for study and treatment may be lower than expected, which could adversely affect our ability to conduct clinical trials and may also adversely affect the size of any market for medicines we may successfully commercialize. Our approach may not result in time savings, higher success rates or reduced costs as we expect it to, and if not, we may not attract collaborators or develop new drugs as quickly or cost effectively as expected and therefore we may not be able to commercialize our approach as originally expected.

Our RADR® platform may fail to help us discover and develop additional potential drug candidates.

Any drug discovery or drug development that we are conducting using our RADR® platform may not be successful in identifying compounds that have commercial value or therapeutic utility. Our RADR® platform may initially show promise in identifying potential drug candidates, yet fail to yield viable drug candidates for clinical development or commercialization for a number of reasons, including:

- research programs to identify new drug candidates will require substantial technical, financial and human resources, and we may be unsuccessful in our efforts to identify new drug candidates. If we are unable to identify suitable additional compounds for preclinical and clinical development, our ability to develop drug candidates and obtain product revenues in future periods could be compromised, which could result in significant harm to our financial position and adversely impact our stock price;

- compounds identified through our RADR® platform may not demonstrate efficacy, safety or tolerability;
- the data available for our RADR® platform that seeks to correlate genomic or biomarker signatures with certain cancers may be influenced by the race of the patient which may limit the efficacy of our drug candidates;
- potential drug candidates may, on further study, be shown to have harmful side effects or other characteristics that indicate that they are unlikely to receive marketing approval and achieve market acceptance;
- competitors may develop alternative therapies that render our potential drug candidates non-competitive or less attractive; or
- a potential drug candidate may not be capable of being produced at an acceptable cost.

Any failure by us to comply with existing regulations could harm our reputation and operating results.

We will be subject to extensive regulation by U.S. federal and state and foreign governments in each of the markets where we intend to sell LP-300 and LP-184 if and after they are approved. For example, we will have to adhere to all regulatory requirements including the FDA's current GCPs, Good Laboratory Practice, or GLP, and GMP requirements. If we fail to comply with applicable regulations, including FDA pre-or post- approval cGMP requirements, then the FDA or other foreign regulatory authorities could sanction us. Even if a drug is FDA-approved, regulatory authorities may impose significant restrictions on a drug's indicated uses or marketing or impose ongoing requirements for potentially costly post-marketing studies.

Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business and damage our reputation. We expend significant resources on compliance efforts and such expenses are unpredictable and might adversely affect our results.

The FDA's and other regulatory authorities' policies may change and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our drug candidates. For example, in December 2016, the 21st Century Cures Act, or Cures Act, was signed into law. The Cures Act, among other things, is intended to modernize the regulation of drugs and spur innovation, but its ultimate implementation is unclear. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability, which would adversely affect our business, prospects, financial condition and results of operations.

In addition, we cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the Trump administration may impact our business and industry. Namely, the Trump administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, FDA's ability to engage in routine oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. Notably, on January 30, 2017, President Trump issued an Executive Order directing all executive agencies, including the FDA, that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This Executive Order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the Executive Order requires agencies to identify regulations to offset any incremental cost of a new regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within OMB on February 2, 2017, the administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents, and on September 8, 2017, the FDA published notices in the Federal Register soliciting broad public comment to identify regulations that could be modified in compliance with these Executive Orders. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose restrictions on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted. In addition, if we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained and we may not achieve or sustain profitability.

We may be subject to extensive regulations outside the United States and may not obtain marketing approvals for drugs in Europe and other jurisdictions.

In addition to regulations in the United States, should we or our collaborators pursue marketing approvals for LP-184 and LP-300 and our other drug candidates internationally, we and our collaborators will be subject to a variety of regulations in other jurisdictions governing, among other things, clinical trials and any commercial sales and distribution of our drugs. Whether or not we, or our collaborators, obtain applicable FDA regulatory clearance and marketing approval for a drug, we must obtain the requisite approvals from regulatory authorities in foreign countries prior to the commencement of clinical trials or marketing of the drug in those countries. The requirements and process governing the conduct of clinical trials, drug licensing, pricing and reimbursement vary from country to country.

We expect to pursue marketing approvals for LP-184 and LP-300 and our other drug candidates in Europe and other jurisdictions outside the United States with collaborative partners. The time and process required to obtain regulatory approvals and reimbursement in Europe and other jurisdictions may be different from those in the United States regulatory and approval in one jurisdiction does not ensure approvals in any other jurisdiction; however, negative regulatory decisions in any jurisdiction may have a negative impact on the regulatory process in other jurisdictions.

Additionally, on June 23, 2016, the electorate in the United Kingdom voted in favor of leaving the European Union, commonly referred to as Brexit. On March 29, 2017, the country formally notified the European Union of its intention to withdraw pursuant to Article 50 of the Lisbon Treaty triggering a two-year period for the United Kingdom to formally leave the European Union. Following a series of extensions to leave the European Union, on January 31, 2020, the United Kingdom officially left the European Union commencing a transition period in which the United Kingdom is required to continue to follow all European Union rules and trading relationships, but will no longer be represented in the European Parliament. During the transition period, the United Kingdom and the European Union will engage in negotiations for new trade agreements and, among other things, the regulation of their pharmaceutical industries. Since a significant proportion of the regulatory framework in the United Kingdom is derived from European Union directives and regulations, the transition period could materially impact the regulatory regime with respect to the approval of our drug candidates in the United Kingdom or the European Union. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing our drug candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for our drug candidates, which could materially and adversely affect our business.

If we are found in violation of federal or state "fraud and abuse" laws, we may be required to pay a penalty and/or be suspended from participation in federal or state health care programs, which may adversely affect our business, financial condition and results of operations.

In the United States, we will be subject to various federal and state health care "fraud and abuse" laws, including anti-kickback laws, false claims laws and other laws intended to reduce fraud and abuse in federal and state health care programs, which could affect us, particularly upon successful commercialization of our drugs in the United States. The federal Anti-Kickback Statute makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce the referral of business, including the purchase, order or prescription of a particular drug for which payment may be made under a federal health care program, such as Medicare or Medicaid. Under federal government regulations, some arrangements, known as safe harbors, are deemed not to violate the federal Anti-Kickback Statute. Although we seek to structure our business arrangements in compliance with all applicable requirements, these laws are broadly written, and it is often difficult to determine precisely how the law will be applied in specific circumstances. Accordingly, it is possible that our practices may be challenged under the federal Anti-Kickback Statute. False claims laws prohibit anyone from knowingly and willfully presenting or causing to be presented for payment to third-party payers, including government payers, claims for reimbursed drugs or services that are false or fraudulent, claims for items or services that were not provided as claimed, or claims for medically unnecessary items or services. Cases have been brought under false claims laws alleging that off-label promotion of pharmaceutical drugs or the provision of kickbacks has resulted in the submission of false claims to governmental health care programs. Under the Health Insurance Portability and Accountability Act of 1996, we are prohibited from knowingly and willfully executing a scheme to defraud any health care benefit program, including private payers, or knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for health care benefits, items or services. Violations of fraud and abuse laws may be punishable by criminal and/or civil sanctions, including fines and/or exclusion or suspension from federal and state health care programs such as Medicare and Medicaid and debarment from contracting with the U.S. government. In addition, private individuals have the ability to bring actions on behalf of the government under the federal False Claims Act as well as under the false claims laws of several states.

Many states have adopted laws similar to the federal anti-kickback statute, some of which apply to the referral of patients for health care services reimbursed by any source, not just governmental payers. Neither the government nor the courts have provided definitive guidance on the application of fraud and abuse laws to our business. Law enforcement authorities are increasingly focused on enforcing these laws, and if we are found in violation of one of these laws, we could be required to pay a penalty and could be suspended or excluded from participation in federal or state health care programs, and our business, results of operations and financial condition may be adversely affected. We may be unable to maintain sufficient clinical trial liability insurance.

Our inability to obtain and retain sufficient clinical trial liability insurance at an acceptable cost to protect against potential liability claims could prevent or inhibit our ability to conduct clinical trials for drug candidates we develop.

We currently do not have clinical trial liability insurance and would need to secure coverage before commencing patient enrollment for our clinical trials in the United States. Any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. We expect we will supplement our clinical trial coverage with product liability coverage in connection with the commercial launch of LP-184 and LP-300 or other drug candidates we develop in the future; however, we may be unable to obtain such increased coverage on acceptable terms or at all. If we are found liable in a clinical trial lawsuit or a product liability lawsuit in the future, we will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts.

The FDA and other regulatory agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses.

If we are found to have improperly promoted off-label uses of our drugs or drug candidates, if approved, we may become subject to significant liability. Such enforcement has become more common in the industry. The FDA and other regulatory agencies strictly regulate the promotional claims that may be made about prescription drug products, such as our drug candidates, if approved. In particular, a drug may not be promoted for uses that are not approved by the FDA or such other regulatory agencies as reflected in the drug's approved labeling. If we receive marketing approval for our drug candidates for our proposed indications, physicians may nevertheless use our drugs for their patients in a manner that is inconsistent with the approved label, if the physicians personally believe in their professional medical judgment it could be used in such manner. However, if we are found to have promoted our drugs for any off-label uses, the federal government could levy civil, criminal and/or administrative penalties, and seek fines against us. The FDA or other regulatory authorities could also request that we enter into a consent decree or a corporate integrity agreement, or seek a permanent injunction against us under which specified promotional conduct is monitored, changed or curtailed. If we cannot successfully manage the promotion of our drug candidates, if approved, we could become subject to significant liability, which would materially adversely affect our business and financial condition.

If a drug is intended for the treatment of a serious condition and nonclinical or clinical data demonstrate the potential to address unmet medical need for this condition, a drug sponsor may apply for FDA Fast Track designation. If we seek Fast Track designation for a drug candidate, we may not receive it from the FDA. However, even if we receive Fast Track designation, Fast Track designation does not ensure that we will receive marketing approval or that approval will be granted within any particular timeframe. We may not experience a faster development or regulatory review or approval process with Fast Track designation compared to conventional FDA procedures. In addition, the FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program. Fast Track designation alone does not guarantee qualification for the FDA's priority review procedures.

Risks Related to Commercialization of Our Drug Candidates

Even if we are successful in completing all preclinical studies and clinical trials, we may not be successful in commercializing one or more of our drug candidates.

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of some or all of our drug candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize our drug candidates, and our ability to generate revenue will be materially impaired.

Our drug candidates and the activities associated with their development and commercialization, including their design, testing, manufacture, safety, efficacy, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, export and import are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and similar regulatory authorities outside of the United States. Failure to obtain marketing approval for a drug candidate will prevent us from commercializing the drug candidate. We have not submitted an application for or received marketing approval for any of our drug candidates in the United States or in any other jurisdiction.

We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party clinical research organizations or other third-party consultants or vendors to assist us in this process. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the drug candidate's safety and efficacy. Securing marketing approval also requires the submission of information about the drug manufacturing process to, and inspection of manufacturing facilities by, the regulatory authorities. Our drug candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. New cancer drugs frequently are indicated only for patient populations that have not responded to an existing therapy or have relapsed. If any of our drug candidates receives marketing approval, the accompanying label may limit the approved use of our drug in this way, which could limit sales of the drug.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the drug candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted drug application, may cause delays in the approval or rejection of an application. Regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. In addition, varying interpretations of the data obtained from preclinical studies and clinical trials could delay, limit or prevent marketing approval of a drug candidate. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved drug not commercially viable.

If our drugs do not gain market acceptance, our business will suffer because we might not be able to fund future operations.

A number of factors may affect the market acceptance of our drugs or any other products we develop or acquire, including, among others:

- the price of our drugs relative to other products for the same or similar treatments;
- the perception by patients, physicians and other members of the health care community of the effectiveness and safety of our drugs for their indicated applications and treatments;
- our ability to fund our sales and marketing efforts; and
- the effectiveness of our sales and marketing efforts.

If our drugs do not gain market acceptance, we may not be able to fund future operations, including developing, testing and obtaining regulatory approval for new drug candidates and expanding our sales and marketing efforts for our approved drugs, which would cause our business to suffer.

We may rely on orphan drug status to commercialize some of our drug candidates, and even if orphan drug status is approved, such approval may not confer marketing exclusivity or other commercial advantages or expected commercial benefits.

We may rely on orphan drug exclusivity for our drug candidates. In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages and user-fee waivers. In addition, if a drug that has orphan drug designation subsequently receives the first FDA marketing approval for the disease for which it has such designation, the drug is entitled to orphan drug exclusivity. Orphan drug exclusivity in the United States provides that the FDA may not approve any other applications, including a full NDA, to market the same drug for the same indication for seven years, except in limited circumstances the applicable exclusivity period is ten years in Europe. The European exclusivity period can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified.

Even if we, or any future collaborators, obtain orphan drug designation for a drug candidate, we, or they, may not be able to obtain or maintain orphan drug exclusivity for that drug candidate. We may not be the first to obtain marketing approval of any drug candidate for which we have obtained orphan drug designation for the orphan-designated indication due to the uncertainties associated with developing pharmaceutical products, and it is possible that another company also holding orphan drug designation for the same drug candidate will receive marketing approval for the same indication before we do. If that were to happen, our applications for that indication may not be approved until the competing company's period of exclusivity expires. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the drug to meet the needs of patients with the rare disease or condition. Further, even if we, or any future collaborators, obtain orphan drug exclusivity for a drug, that exclusivity may not effectively protect the drug from competition because different drugs with different active moieties may be approved for the same condition. Even after an orphan drug is approved, the FDA can subsequently approve the same drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care or the manufacturer of the drug with orphan exclusivity is unable to maintain sufficient drug quantity. Orphan drug designation neither shortens the development time or regulatory review time of a drug nor gives the drug any advantage in the regulatory review or approval process, nor does it prevent competitors from obtaining approval of the same drug candidate as ours for indications other than those in which we have been granted orphan drug designation.

On August 3, 2017, the U.S. Congress passed the FDA Reauthorization Act of 2017, or FDARA. FDARA, among other things, codified the FDA's preexisting regulatory interpretation, to require that a drug sponsor demonstrate the clinical superiority of an orphan drug that is otherwise the same as a previously approved drug for the same rare disease in order to receive orphan drug exclusivity. The new legislation reverses prior precedent holding that the Orphan Drug Act unambiguously requires that the FDA recognize the orphan exclusivity period regardless of a showing of clinical superiority. The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

A Breakthrough Therapy designation by the FDA for our drug candidates may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our drug candidates will receive marketing approval.

We may seek a breakthrough therapy designation for some of our drug candidates. A breakthrough therapy is defined as a drug that is intended, alone or in combination with one or more other drugs, to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed early in clinical development. For drugs and biologics that have been designated as breakthrough therapies, interaction and communication between the FDA and the sponsor of the trial can help to identify the most efficient path for clinical development while minimizing the number of patients placed in ineffective control regimens. Drugs designated as breakthrough therapies by the FDA are also eligible for accelerated approval.

Designation as a breakthrough therapy is within the discretion of the FDA. Accordingly, even if we believe one of our drug candidates meets the criteria for designation as a breakthrough therapy, the FDA may disagree and instead determine not to make such designation. Even if we receive Breakthrough Therapy designation, the receipt of such designation for a drug candidate may not result in a faster development process, review or approval compared to drugs considered for approval under conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, even if one or more of our drug candidates qualify as breakthrough therapies, the FDA may later decide that the drugs no longer meet the conditions for qualification or decide that the time period for FDA review or approval will not be shortened.

A Fast Track designation by the FDA may not lead to a faster development or regulatory review or approval process.

We may seek Fast Track designation for some of our drug candidates. If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for FDA Fast Track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular drug candidate is eligible for this designation; we cannot assure you that the FDA would decide to grant it. Even if we do receive Fast Track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program.

Failure to obtain marketing approval in foreign jurisdictions would prevent our drug candidates from being marketed abroad.

In order to market and sell our drugs in the European Union and many other foreign jurisdictions, we or our potential third-party collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA marketing approval. The regulatory approval process outside of the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside of the United States, it is required that the drug be approved for reimbursement before the drug can be approved for sale in that country. We or our potential third-party collaborators may not obtain approvals from regulatory authorities outside of the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside of the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in other countries. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our drugs in any market.

If we are required by the FDA to obtain approval of a companion diagnostic in connection with approval of a therapeutic drug candidate, and we do not obtain or face delays in obtaining FDA approval of a diagnostic device, we will not be able to commercialize the drug candidate and our ability to generate revenue will be materially impaired.

According to FDA guidance, if the FDA determines that a companion diagnostic device is essential to the safe and effective use of a novel therapeutic drug or indication, the FDA generally will not approve the therapeutic drug or new therapeutic drug indication if the companion diagnostic is not also approved or cleared for that indication. Under the Federal Food, Drug, and Cosmetic Act, or FDCA, companion diagnostics are regulated as medical devices, and the FDA has generally required companion diagnostics intended to select the patients who will respond to cancer treatment to obtain Premarket Approval, or a PMA, for the diagnostic. The PMA process, including the gathering of clinical and preclinical data and the submission to and review by the FDA, involves a rigorous premarket review during which the applicant must prepare and provide the FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing and labeling. A PMA is not guaranteed and may take considerable time, and the FDA may ultimately respond to a PMA submission with a "not approvable" determination based on deficiencies in the application and require additional clinical trial or other data that may be expensive and time-consuming to generate and that can substantially delay approval. As a result, if we are required by the FDA to obtain approval of a companion diagnostic for a therapeutic drug candidate, and we do not obtain or there are delays in obtaining FDA approval of a diagnostic device, we may not be able to commercialize the drug candidate on a timely basis or at all and our ability to generate revenue will be materially impaired.

While it is possible that one or more of our drug candidates may require a companion diagnostic to select the patients who will likely respond to a cancer therapy involving one of our drug candidates that would require a PMA for the companion diagnostic as a condition to obtaining marketing approval from the FDA, it is too early in our drug candidates development to identify which drug candidate, if any, would require a PMA.

Any drug candidate that we obtain marketing approval for could be subject to post-marketing restrictions or withdrawal from the market and we may be subject to substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our drugs, when and if any of them are approved.

Any drug candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such drug, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a drug candidate is granted, the approval may be subject to limitations on the indicated uses for which the drug may be marketed or to the conditions of approval, including the requirement to implement a REMS. New cancer drugs frequently are indicated only for patient populations that have not responded to an existing therapy or have relapsed. If any of our drug candidates receives marketing approval, the accompanying label may limit the approved use of our drug in this way, which could limit sales of the drug.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the drug, including the adoption and implementation of REMS. The FDA and other agencies, including the Department of Justice, or the DOJ, closely regulate and monitor the post-approval marketing and promotion of drugs to ensure they are marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and DOJ impose stringent restrictions on manufacturers' communications regarding off-label use, and if we do not market our drugs for their approved indications, we may be subject to enforcement action for off-label marketing. Violations of the FDCA and other statutes, including the False Claims Act, relating to the promotion and advertising of prescription drugs may lead to investigations and enforcement actions alleging violations of federal and state healthcare fraud and abuse laws, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our drugs, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may have various consequences, including:

- restrictions on such drugs, manufacturers or manufacturing processes;
- restrictions and warnings on the labeling or marketing of a drug;
- restrictions on drug distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the drugs from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of drugs;
- fines, restitution or disgorgement of profits or revenues;
- suspension or withdrawal of marketing approvals;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of our drugs;
- drug seizure;
- injunctions or the imposition of civil or criminal penalties; or
- litigation involving patients using our drugs.

Non-compliance with European Union requirements regarding safety monitoring or pharmacovigilance, and with requirements related to the development of drugs for the pediatric population, can also result in significant financial penalties. Similarly, failure to comply with the European Union's requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

In addition, manufacturers of approved drugs and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs applicable to drug manufacturers or quality assurance standards applicable to medical device manufacturers, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, any contract manufacturers we may engage in the future, our future collaborators and their contract manufacturers will also be subject to other regulatory requirements, including submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements regarding the distribution of samples to clinicians, recordkeeping, and costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the drug such as the requirement to implement a REMS.

We operate in a highly competitive and rapidly changing industry.

Biotechnological and pharmaceutical drug development is highly competitive and subject to rapid and significant technological advancements. Our success is highly dependent upon our ability to in-license, acquire, develop and obtain regulatory approval for new and innovative drugs on a cost-effective basis and to market them successfully. In doing so, we face and will continue to face intense competition from a variety of businesses, including large, fully integrated, well-established pharmaceutical companies who already possess a large share of the market, specialty pharmaceutical and biopharmaceutical companies, academic institutions, government agencies and other private and public research institutions in the United States, the European Union and other jurisdictions.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved drugs than we do. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs. Mergers and acquisitions in the pharmaceutical and biotechnology industries could result in even more resources being concentrated among a small number of our competitors.

Competition may further increase as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drugs that are more effective or less costly than any drug candidate that we may develop.

Established pharmaceutical and biotechnology companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our drug candidates less competitive. In addition, any new drug that competes with an approved drug must demonstrate compelling advantages in efficacy, convenience, tolerability and safety in order to overcome price competition and to be commercially successful. Accordingly, our competitors may succeed in obtaining patent protection, discovering, developing, receiving FDA approval for or commercializing drugs before we do, which would have an adverse impact on our business and results of operations.

The availability of our competitors' drugs could limit the demand and the price we are able to charge for any drug candidate we commercialize, if any. The inability to compete with existing or subsequently introduced drugs would harm our business, financial condition and results of operations.

If we are unable to develop satisfactory sales and marketing capabilities, we may not succeed in commercializing LP-184 and LP-300 or any other drug candidate

We have no experience in marketing and selling drug products. We have not entered into arrangements for the sale and marketing of LP-184 and LP-300 or any other drug candidate. Typically, pharmaceutical companies would employ groups of sales representatives and associated sales and marketing staff numbering in the hundreds to thousands of individuals to call on this large number of physicians and hospitals. We may seek to collaborate with a third party to market our drugs or may seek to market and sell our drugs by ourselves. If we seek to collaborate with a third party, we cannot be sure that a collaborative agreement can be reached on terms acceptable to us. If we seek to market and sell our drugs directly, we will need to hire additional personnel skilled in marketing and sales. We cannot be sure that we will be able to acquire, or establish third party relationships to provide, any or all of these marketing and sales capabilities. The establishment of a direct sales force or a contract sales force or a combination direct and contract sales force to market our drugs will be expensive and time-consuming and could delay any drug launch. Further, we can give no assurances that we may be able to maintain a direct and/or contract sales force for any period of time or that our sales efforts will be sufficient to generate or to grow our revenues or that our sales efforts will ever lead to profits.

Even if we obtain regulatory approvals to commercialize LP-184 and LP-300 or our other drug candidates, our drug candidates may not be accepted by physicians or the medical community in general.

There can be no assurance that LP-184 and LP-300 and our other drug candidates or any other drug candidate successfully developed by us, independently or with partners, will be accepted by physicians, hospitals and other health care facilities. LP-184 and LP-300 and any future drug candidates we develop will compete with a number of drugs manufactured and marketed by major pharmaceutical and biotech companies. The degree of market acceptance of any drugs we develop depends on a number of factors, including:

- our demonstration of the clinical efficacy and safety of LP-184 and LP-300 and our other drug candidates;
- timing of market approval and commercial launch of LP-184 and LP-300 and our other drug candidates;
- the clinical indication(s) for which LP-184 and LP-300 and our other drug candidates are approved;
- drug label and package insert requirements;
- advantages and disadvantages of our drug candidates compared to existing
- continued interest in and growth of the market for anticancer or anti-agitation drugs;
- strength of sales, marketing, and distribution support;
- drug pricing in absolute terms and relative to alternative treatments;
- future changes in health care laws, regulations, and medical policies; and
- availability of reimbursement codes and coverage in select jurisdictions, and future changes to reimbursement policies of government and third-party payors.

Significant uncertainty exists as to the coverage and reimbursement status of any drug candidate for which we obtain regulatory approval. In the United States and markets in other countries, sales of any drugs for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors. Third-party payors include government health administrative authorities, managed care providers, private health insurers and other organizations.

Healthcare reform measures could hinder or prevent our drug candidates' commercial success.

The U.S. government and other governments have shown significant interest in pursuing healthcare reform. Any government-adopted reform measures could adversely impact the pricing of healthcare drugs and services in the United States or internationally and the amount of reimbursement available from governmental agencies or other third-party payors. The continuing efforts of the U.S. and foreign governments, insurance companies, managed care organizations and other payors of health care services to contain or reduce health care costs may adversely affect our ability to set prices for our drugs which we believe are fair, and our ability to generate revenues and achieve and maintain profitability.

New laws, regulations and judicial decisions, or new interpretations of existing laws, regulations and decisions, that relate to healthcare availability, methods of delivery or payment for products and services, or sales, marketing or pricing, may limit our potential revenue, and we may need to revise our research and development programs. The pricing and reimbursement environment may change in the future and become more challenging due to several reasons, including policies advanced by the current executive administration in the United States, new healthcare legislation or fiscal challenges faced by government health administration authorities. Specifically, in both the United States and some foreign jurisdictions, there have been a number of legislative and regulatory proposals to change the health care system in ways that could affect our ability to sell our drugs profitably.

For example, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the PPACA has substantially changed the way healthcare is financed by both government health plans and private insurers, and significantly impacts the pharmaceutical industry. The PPACA contains a number of provisions that are expected to impact our business and operations in ways that may negatively affect our potential revenues in the future. For example, the PPACA imposes a non-deductible excise tax on pharmaceutical manufacturers or importers that sell branded prescription drugs to government programs which we believe will increase the cost of our drugs. In addition, as part of the PPACA's provisions closing a funding gap that currently exists in the Medicare Part D prescription drug program, we will be required to provide a discount on branded prescription drugs equal to 50% of the government-negotiated price, for drugs provided to certain beneficiaries who fall within the donut hole. Similarly, PPACA increases the level of Medicaid rebates payable by manufacturers of brand-name drugs from 15.1% to 23.1% and requires collection of rebates for drugs paid by Medicaid managed care organizations. The PPACA also includes significant changes to the 340B drug discount program including expansion of the list of eligible covered entities that may purchase drugs under the program. At the same time, the expansion in eligibility for health insurance benefits created under PPACA is expected to increase the number of patients with insurance coverage who may receive our drugs. While it is too early to predict all the specific effects the PPACA or any future healthcare reform legislation will have on our business, they could have a material adverse effect on our business and financial condition.

Congress periodically adopts legislation like the PPACA and the Medicare Prescription Drug, Improvement and Modernization Act of 2003, that modifies Medicare reimbursement and coverage policies pertaining to prescription drugs. Implementation of these laws is subject to ongoing revision through regulatory and sub regulatory policies. Congress also may consider additional changes to Medicare policies, potentially including Medicare prescription drug policies, as part of ongoing budget negotiations. While the scope of any such legislation is uncertain at this time, there can be no assurances that future legislation or regulations will not decrease the coverage and price that we may receive for our proposed drugs. Other third-party payors are increasingly challenging the prices charged for medical products and services. It will be time consuming and expensive for us to go through the process of seeking coverage and reimbursement from Medicare and private payors. Our proposed drugs may not be considered cost-effective, and coverage and reimbursement may not be available or sufficient to allow us to sell our proposed drugs on a profitable basis. Further federal and state proposals and health care reforms are likely which could limit the prices that can be charged for the drug candidates that we develop and may further limit our commercial opportunities. Our results of operations could be materially adversely affected by proposed healthcare reforms, by the Medicare prescription drug coverage legislation, by the possible effect of such current or future legislation on amounts that private insurers will pay and by other health care reforms that may be enacted or adopted in the future.

In September 2007, the Food and Drug Administration Amendments Act of 2007 was enacted, giving the FDA enhanced post-marketing authority, including the authority to require post-marketing studies and clinical trials, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA. The FDA's exercise of this authority could result in delays or increased costs during drug development, clinical trials and regulatory review, increased costs to assure compliance with post-approval regulatory requirements, and potential restrictions on the sale and/or distribution of approved drugs.

The efforts of the Trump administration to pursue regulatory reform may limit the FDA's ability to engage in oversight and implementation activities in the normal course, and that could negatively impact our business.

The Trump administration has taken several executive actions, including the issuance of a number of executive orders, that could impose significant burdens on, or otherwise materially delay, the FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. On January 30, 2017, President Trump issued an executive order, applicable to all executive agencies, including the FDA, requiring that for each notice of proposed rulemaking or final regulation to be issued in fiscal year 2017, the agency shall identify at least two existing regulations to be repealed, unless prohibited by law. These requirements are referred to as the "two-for-one" provisions. This executive order includes a budget neutrality provision that requires the total incremental cost of all new regulations in the 2017 fiscal year, including repealed regulations, to be no greater than zero, except in limited circumstances. For fiscal years 2018 and beyond, the executive order requires agencies to identify regulations to offset any incremental cost of a new regulation. In interim guidance issued by the Office of Information and Regulatory Affairs within the Office of Management and on February 2, 2017, the Trump administration indicates that the "two-for-one" provisions may apply not only to agency regulations, but also to significant agency guidance documents. It is difficult to predict how these requirements will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

Our relationships with healthcare providers, physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse, false claims, transparency, health information privacy and security, and other healthcare laws and regulations, which, in the event of a violation, could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, administrative burdens and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors will play a primary role in the recommendation and prescription of any drug candidates for which we obtain marketing approval. Our future arrangements with healthcare providers, physicians and third-party payors may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we market, sell and distribute any drugs for which we obtain marketing approval. In addition, we may be subject to transparency laws and patient privacy regulation by U.S. federal and state governments and by governments in foreign jurisdictions in which we conduct our business. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward, or in return for, either the referral of an individual for, or the purchase, order or recommendation or arranging of, any good or service, for which payment may be made under a federal healthcare program such as Medicare and Medicaid;

- the federal False Claims Act imposes criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for, among other things, knowingly presenting, or causing to be presented, false or fraudulent claims for payment by a federal healthcare program or making a false statement or record material to payment of a false claim or avoiding, decreasing or concealing an obligation to pay money to the federal government, with potential liability including mandatory treble damages and significant per-claim penalties, currently set at $5,500 to $11,000 per false claim;

- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009, and their respective implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal Physician Payments Sunshine Act requires applicable manufacturers of covered drugs to report payments and other transfers of value to physicians and teaching hospitals; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws and transparency statutes, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers.

Some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures. Additionally, some state and local laws require the registration of pharmaceutical sales representatives in the jurisdiction. State and foreign laws also govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, imprisonment, exclusion of drugs from government funded healthcare programs, such as Medicare and Medicaid, and the curtailment or restructuring of our operations. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from participation in government funded healthcare programs.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our drug candidates and affect the prices we may obtain for any drugs that are approved in the United States or foreign jurisdictions.

In the United States and some foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our drug candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any drug candidates for which we obtain marketing approval. The pharmaceutical industry has been a particular focus of these efforts and has been significantly affected by legislative initiatives. Current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we receive for any FDA approved drug.

In the United States, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, or the MMA, changed the way Medicare covers and pays for pharmaceutical products. The legislation expanded Medicare coverage for drug purchases by the elderly and introduced a new reimbursement methodology based on average sales prices for physician-administered drugs. In addition, this legislation provided authority for limiting the number of drugs that will be covered in any therapeutic class. Cost reduction initiatives and other provisions of this legislation could decrease the coverage and price that we receive for any approved drugs. While the MMA applies only to drug benefits for Medicare beneficiaries, private payors often follow Medicare coverage policy and payment limitations in setting their own reimbursement rates. Therefore, any reduction in reimbursement that results from the MMA may result in a similar reduction in payments from private payors.

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA. Among the provisions of the ACA of potential importance to our business, including, without limitation, our ability to commercialize and the prices we may obtain for any of our drug candidates that are approved for sale, are the following:

- an annual, non-deductible fee on any entity that manufactures or imports specified branded prescription drugs and biologic agents;
- an increase in the statutory minimum rebates a manufacturer must pay under the Medicaid Drug Rebate Program;
- expansion of healthcare fraud and abuse laws, including the civil False Claims Act and the federal Anti-Kickback Statute, new government investigative powers and enhanced penalties for noncompliance;
- a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% (and 70% starting January 1, 2019) point-of-sale discounts off negotiated prices;
- extension of manufacturers' Medicaid rebate liability;

- expansion of eligibility criteria for Medicaid programs;
- expansion of the entities eligible for discounts under the Public Health Service pharmaceutical pricing program;
- new requirements to report certain financial arrangements with physicians and teaching hospitals;
- a new requirement to annually report drug samples that manufacturers and distributors provide to physicians; and
- a new Patient-Centered Outcomes Research Institute to oversee, identify priorities in, and conduct comparative clinical effectiveness research, along with funding for such research.

In addition, other legislative changes have been proposed and adopted since the ACA was enacted. These changes include the Budget Control Act of 2011, which, among other things, led to aggregate reductions to Medicare payments to providers of up to 2% per fiscal year that started in 2013 and, due to subsequent legislative amendments to the statute, will stay in effect through 2027 unless additional congressional action is taken, and the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several types of providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our drug candidates for which we may obtain regulatory approval or the frequency with which any such drug candidate is prescribed or used. Further, there have been several recent U.S. congressional inquiries and proposed state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products.

We expect that these healthcare reforms, as well as other healthcare reform measures that may be adopted in the future, may result in additional reductions in Medicare and other healthcare funding, more rigorous coverage criteria, new payment methodologies and additional downward pressure on the price that we receive for any approved drug and/or the level of reimbursement physicians receive for administering any approved drug we might bring to market. Reductions in reimbursement levels may negatively impact the prices we receive or the frequency with which our drugs are prescribed or administered. Any reduction in reimbursement from Medicare or other government programs may result in a similar reduction in payments from private payors.

With enactment of the Tax Cuts and Jobs Act ("TCJA"), which was signed by the President on December 22, 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, will become effective in 2019. According to the Congressional Budget Office, the repeal of the individual mandate will cause an estimated 13 million fewer Americans to be insured in 2027 and premiums in insurance markets may rise. Additionally, on January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. Further, the Bipartisan Budget Act of 2018, among other things, amends the ACA, effective January 1, 2019, to increase from 50% to 70% the point-of-sale discount that is owed by pharmaceutical manufacturers who participate in Medicare Part D and to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." Further, each chamber of the U.S. Congress has put forth multiple bills designed to repeal or repeal and replace portions of the ACA. Although none of these measures has been enacted by Congress to date, Congress may consider other legislation to repeal and replace elements of the ACA. The U.S. Congress will likely consider other legislation to replace elements of the ACA, during the next Congressional session.

The Trump administration has also taken executive actions to change or delay implementation of the ACA. In January 2017, President Trump signed an executive order directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. In October 2017, the President signed a second executive order allowing for the use of association health plans and short-term health insurance, which may provide fewer health benefits than the plans sold through the ACA exchanges. At the same time, the Trump administration announced that it will discontinue the payment of cost-sharing reduction, or CSR, payments to insurance companies until Congress approves the appropriation of funds for such CSR payments. The loss of the CSR payments is expected to increase premiums on certain policies issued by qualified health plans under the ACA. A bipartisan bill to appropriate funds for CSR payments was introduced in the Senate, but the future of that bill is uncertain. We will continue to evaluate the effect that the ACA and its possible repeal and replacement could have on our business.

The costs of prescription pharmaceuticals have also been the subject of considerable discussion in the United States, and members of Congress and the Trump administration have stated that they will address such costs through new legislative and administrative measures. To date, there have been several recent U.S. congressional inquiries and proposed and enacted state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for drug products. At the federal level, the Trump administration's budget proposal for fiscal year 2019 contains further drug price control measures that could be enacted during the 2019 budget process or in other future legislation, including, for example, measures to permit Medicare Part D plans to negotiate the price of certain drugs under Medicare Part B, to allow some states to negotiate drug prices under Medicaid, and to eliminate cost sharing for generic drugs for low-income patients. While any proposed measures will require authorization through additional legislation to become effective, Congress and the Trump administration have each indicated that it will continue to seek new legislative and/or administrative measures to control drug costs. At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Legislative and regulatory proposals have been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our drug candidates, if any, may be. Increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

Governments outside of the United States tend to impose strict price controls, which may adversely affect our revenues, if any.

In some countries, particularly the countries of the European Union and Canada, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our drug candidate to other available therapies. If reimbursement of our drugs is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially.

If we or any third-party manufacturers we engage now or in the future fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs or liabilities that could harm our business.

We and third-party manufacturers we engage now are, and any third-party manufacturers we may engage in the future will be, subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. Liability under certain environmental laws governing the release and cleanup of hazardous materials is joint and several and could be imposed without regard to fault. We also could incur significant costs associated with civil or criminal fines and penalties or become subject to injunctions limiting or prohibiting our activities for failure to comply with such laws and regulations.

Although we maintain general liability insurance as well as workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Further, with respect to the operations of our current and any future third-party contract manufacturers, it is possible that if they fail to operate in compliance with applicable environmental, health and safety laws and regulations or properly dispose of wastes associated with our drugs, we could be held liable for any resulting damages, suffer reputational harm or experience a disruption in the manufacture and supply of our drug candidates or drugs. In addition, our supply chain may be adversely impacted if any of our third-party contract manufacturers become subject to injunctions or other sanctions as a result of their non-compliance with environmental, health and safety laws and regulations.

We may experience challenges with the acquisition, development, enhancement or deployment of technology necessary for our RADR® ***platform.***

We operate in businesses that require sophisticated computer systems and software for data collection, data processing, cloud-based platforms, analytics, statistical projections and forecasting, mobile computing, social media analytics and other applications and technologies. We seek to address our technology risks by increasing its reliance on the use of innovations by cross-industry technology leaders and adapt these for their pharmaceutical, specialty-pharma, biotech, biopharmaceutical, diagnostic, medical device and contract research and manufacturing clients. Some of the technologies supporting the industries they serve are changing rapidly and we must continue to adapt to these changes in a timely and effective manner at an acceptable cost. They also must continue to deliver data to its clients in forms that are easy to use while simultaneously providing clear answers to complex questions. There can be no guarantee that we will be able to develop, acquire or integrate new technologies, that these new technologies will meet our needs or achieve our expected goals, or that we will be able to do so as quickly or cost-effectively as our competitors. Significant technological change could render our RADR® platform obsolete. Our continued success will depend on its ability to adapt to changing technologies, manage and process ever-increasing amounts of data and information and improve the performance, features and reliability of its services in response to changing client and industry demands. We may experience difficulties that could delay or prevent the successful design, development, testing, and introduction of advanced versions of our RADR® platform, limiting our ability to identify new drug candidates. New services, or enhancements to existing services using our RADR® platform, may not adequately meet our requirements. Any of these failures could have a material adverse effect on our operating results and financial condition.

Risks Related to Our Reliance on Third Parties

We rely on third parties to conduct our preclinical studies and clinical trials. If these third parties do not successfully perform their contractual legal and regulatory duties or meet expected deadlines, we may not be able to obtain regulatory approval for or commercialize our drug candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third-party medical institutions, clinical investigators, contract laboratories and other third party CROs to monitor and manage data for our ongoing preclinical and clinical programs. We rely on these parties for execution of our preclinical studies and clinical trials, and control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs are required to comply with cGCPs, which are regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area, or EEA, and comparable foreign regulatory authorities for all of our drugs in clinical development.

Regulatory authorities enforce these cGCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our CROs fail to comply with applicable cGCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, the EMA or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. We cannot assure you that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with cGCP regulations. In addition, our clinical trials must be conducted with product produced under current good manufacturing practices, or cGMP, regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs or to do so on commercially reasonable terms. In addition, our CROs are not our employees, and except for remedies available to us under our agreements with such CROs, we cannot control whether or not they devote sufficient time and resources to our on-going clinical, nonclinical and preclinical programs. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our drug candidates. As a result, our results of operations and the commercial prospects for our drug candidates would be harmed, our costs could increase and our ability to generate revenues could be delayed.

Many of the third parties with whom we contract may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical trials or other drug development activities that could harm our competitive position. If the third parties conducting our GLP preclinical studies or our clinical trials do not perform their contractual duties or obligations, experience work stoppages, do not meet expected deadlines, terminate their agreements with us or need to be replaced, or if the quality or accuracy of the clinical data they obtain is compromised due to their failure to adhere to our clinical trial protocols or to GCPs, or for any other reason, we may need to enter into new arrangements with alternative third parties. Switching or adding additional CROs involves additional cost and requires management time and focus. In addition, there is a natural transition period when a new CRO commences work. As a result, delays occur, which can materially impact our ability to meet our desired clinical development timelines. Though we carefully manage our relationships with our CROs, there can be no assurance that we will not encounter similar challenges or delays in the future or that these delays or challenges will not have a material adverse impact on our business, financial condition and prospects.

We are substantially dependent on third parties for the manufacture of our clinical supplies of our drug candidates, and we intend to rely on third parties to produce commercial supplies of any approved drug candidate. Therefore, our development of our drugs could be stopped or delayed, and our commercialization of any future drug could be stopped or delayed or made less profitable if third party manufacturers fail to obtain approval of the FDA or comparable regulatory authorities or fail to provide us with drug products in sufficient quantities or at acceptable prices.

The manufacture of pharmaceutical products is complex and requires significant expertise, capital investment, process controls and know-how. Common difficulties in pharmaceutical manufacturing may include: sourcing and producing raw materials, transferring technology from chemistry and development activities to production activities, validating initial production designs, scaling manufacturing techniques, improving costs and yields, establishing and maintaining quality controls and stability requirements, eliminating contaminations and operator errors, and maintaining compliance with regulatory requirements. We do not currently have nor do we plan to acquire the infrastructure or capability internally in accordance with cGMP prescribed by the FDA or to produce an adequate supply of compounds to meet future requirements for clinical trials and commercialization of our drugs. Drug manufacturing facilities are subject to inspection before the FDA will issue an approval to market a new drug product, and all of the manufacturers that we intend to use must adhere to the cGMP regulations prescribed by the FDA.

We expect therefore to rely on third-party manufacturers for clinical supplies of our drug candidates that we may develop. These third-party manufacturers will be required to comply with current good manufacturing practices, or GMPs, and other applicable laws and regulations. We will have no control over the ability of these third parties to comply with these requirements, or to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or any other applicable regulatory authorities do not approve the facilities of these third parties for the manufacture of our other drug candidates or any drugs that we may successfully develop, or if it withdraws any such approval, or if our suppliers or contract manufacturers decide they no longer want to supply or manufacture for us, we may need to find alternative manufacturing facilities, in which case we might not be able to identify manufacturers for clinical or commercial supply on acceptable terms, or at all. Any of these factors would significantly impact our ability to develop, obtain regulatory approval for or market our drug candidates and adversely affect our business.

We and/or our third-party manufacturers may be adversely affected by developments outside of our control, and these developments may delay or prevent further manufacturing of our drugs. Adverse developments may include labor disputes, resource constraints, shipment delays, inventory shortages, lot failures, unexpected sources of contamination, lawsuits related to our manufacturing techniques, equipment used during manufacturing, or composition of matter, unstable political environments, acts of terrorism, war, natural disasters, and other natural and man-made disasters. If we or our third-party manufacturers were to encounter any of the above difficulties, or otherwise fail to comply with contractual obligations, our ability to provide any drug for clinical trial or commercial purposes would be jeopardized. This may increase the costs associated with completing our clinical trials and commercial production. Further, production disruptions may cause us to terminate ongoing clinical trials and/or commence new clinical trials at additional expense. We may also have to take inventory write-offs and incur other charges and expenses for drugs that fail to meet specifications or pass safety inspections. If production difficulties cannot be solved with acceptable costs, expenses, and timeframes, we may be forced to abandon our clinical development and commercialization plans, which could have a material adverse effect on our business, prospects, financial condition, and the value of our securities.

We, or third-party manufacturers on whom we rely, may be unable to successfully scale-up manufacturing of our drug candidates in sufficient quality and quantity, which would delay or prevent us from developing our drug candidates and commercializing approved drugs, if any.

In order to conduct clinical trials of our drug candidates and commercialize any approved drug candidates, we, or our manufacturers, will need to manufacture them in large quantities. We, or our manufacturers, may be unable to successfully increase the manufacturing capacity for any of our drug candidates in a timely or cost-effective manner, or at all. In addition, quality issues may arise during scale-up activities. If we, or any of our manufacturers, are unable to successfully scale up the manufacture of our drug candidates in sufficient quality and quantity, the development, testing, and clinical trials of that drug candidate may be delayed or infeasible, and regulatory approval or commercial launch of any resulting drug may be delayed or not obtained, which could significantly harm our business. If we are unable to obtain or maintain third-party manufacturing for commercial supply of our drug candidates, or to do so on commercially reasonable terms, we may not be able to develop and commercialize our drug candidates successfully.

Our failure to find third party collaborators to assist or share in the costs of drug development could materially harm our business, financial condition and results of operations.

Our strategy for the development and commercialization of our proprietary drug candidates may include the formation of collaborative arrangements with third parties. Existing and future collaborators have significant discretion in determining the efforts and resources they apply and may not perform their obligations as expected. Potential third-party collaborators include biopharmaceutical, pharmaceutical and biotechnology companies, academic institutions and other entities. Third-party collaborators may assist us in:

- funding research, preclinical development, clinical trials and manufacturing;
- seeking and obtaining regulatory approvals; and
- successfully commercializing any future drug candidates.

If we are not able to establish further collaboration agreements, we may be required to undertake drug development and commercialization at our own expense. Such an undertaking may limit the number of drug candidates that we will be able to develop, significantly increase our capital requirements and place additional strain on our internal resources. Our failure to enter into additional collaborations could materially harm our business, financial condition and results of operations.

In addition, our dependence on licensing, collaboration and other agreements with third parties may subject us to a number of risks. These agreements may not be on terms that prove favorable to us and may require us to relinquish certain rights in our drug candidates. To the extent we agree to work exclusively with one collaborator in a given area, our opportunities to collaborate with other entities could be curtailed. Lengthy negotiations with potential new collaborators may lead to delays in the research, development or commercialization of drug candidates. The decision by our collaborators to pursue alternative technologies or the failure of our collaborators to develop or commercialize successfully any drug candidate to which they have obtained rights from us could materially harm our business, financial condition and results of operations.

Risks Related to Our Business and Industry

We may face future business disruption and related risks resulting from the recent outbreak of the novel coronavirus 2019 (COVID-19) or from another pandemic, epidemic or outbreak of an infectious disease, any of which could have a material adverse effect on our business.

The development of our drug candidates could be disrupted and materially adversely affected in the future by a pandemic, epidemic or outbreak of an infectious disease like the recent outbreak of COVID-19. For example, as a result of measures imposed by the governments in regions affected by COVID-19 businesses and schools have been suspended due to quarantines or "stay at home" orders intended to contain this outbreak. The spread of COVID-19 from China to other countries has resulted in the Director General of the World Health Organization declaring the outbreak of COVID-19 as a Public Health Emergency of International Concern (PHEIC), based on the advice of the Emergency Committee under the International Health Regulations (2005), and on March 12, 2020, the President of the United States imposed international travel restrictions between the US and Europe to supplement the existing international travel restrictions between the US and certain Asian countries and on March 13, 2020, declared a national emergency in response to the likely spread of COVID-19 to the U.S. COVID-19 continues to spread globally and, as of April 2020, has spread to over 150 countries, including the United States. While the COVID-19 outbreak is still in its early stages, international stock markets continue to reflect the uncertainty associated with the slow-down in the Chinese, US and European economies and the reduced levels of international travel experienced since the beginning of January 2020. The significant declines in the Dow Industrial Average and other domestic and international stock indices at the end of February and during March and April 2020 were largely attributed to the adverse effects the pandemic has had on the world's economies. We are still assessing our business plans and the impact COVID-19 may have on our ability to advance the development of our drug candidates or to raise financing to support the development of our drug candidates, but no assurances can be given that this analysis will enable us to avoid part or all of any impact from the spread of COVID-019 or its consequences, including downturns in business sentiment generally or in our sector in particular.

The spread of an infectious disease, including COVID-19, may also result in the inability of our suppliers to deliver components or raw materials on a timely basis or materially and adversely affect our collaborators and out-license partners ability to perform preclinical studies and clinical trials. In addition, hospitals may reduce staffing and reduce or postpone certain treatments in response to the spread of an infectious disease. Such events may result in a period of business and manufacturing disruption, and in reduced operations, any of which could materially affect our business, financial condition and results of operations. The extent to which the coronavirus impacts our business will depend on future developments, which are highly uncertain and cannot be predicted, including new information which may emerge concerning the severity of the coronavirus and the actions to contain the coronavirus or treat its impact, among others.

We will need to increase the size of our organization and the scope of our outside vendor relationships, and we may experience difficulties in managing growth.

As of December 31, 2019, we employed a total of four full-time and three part-time employees. Our current internal departments include research and development, finance and administration. We intend to expand our management team to include an operation ramp up of additional scientific development and technical staff required to achieve our business objectives. We will need to expand our managerial, operational, technical and scientific, financial and other resources in order to manage our operations and clinical trials, establish independent manufacturing, continue our research and development activities, and commercialize our drug candidate. Our management and scientific personnel, systems and facilities currently in place may not be adequate to support our future growth.

Our need to effectively manage our operations, growth and various projects requires that we:

- manage our clinical trials effectively, including our planned clinical trials of LP-184 and LP-300 and our other drug candidates;
- manage our internal development efforts effectively while carrying out our contractual obligations to licensors, contractors and other third parties;
- continue to improve our operational, financial and management controls and reporting systems and procedures; and
- attract and retain sufficient numbers of talented employees.

We may utilize the services of vendors and research partners or collaborators to perform tasks including preclinical studies and clinical trial management, statistics and analysis, regulatory affairs, medical advisory, market research, formulation development, chemistry, manufacturing and control activities, other drug development functions, legal, auditing, financial advisory, and investor relations. Our growth strategy may also entail expanding our group of contractors or consultants to implement these and other tasks going forward. Because we rely on numerous consultants to outsource many key functions of our business, we will need to be able to effectively manage these consultants to ensure that they successfully carry out their contractual obligations and meet expected deadlines. However, if we are unable to effectively manage our outsourced activities or if the quality or accuracy of the services provided by consultants is compromised for any reason, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for our drug candidate or otherwise advance our business. There can be no assurance that we will be able to manage our existing consultants or find other competent outside contractors and consultants on economically reasonable terms, or at all. If we are not able to effectively expand our organization by hiring new employees and expanding our groups of consultants and contractors, we may be unable to successfully implement the tasks necessary to further develop and commercialize our drug candidate and, accordingly, may not achieve our research, development and commercialization goals.

We depend on our senior management team, and the loss of one or more of our executive officers or key employees or an inability to attract and retain highly skilled employees could adversely affect our business.

Our success depends largely upon the continued services of Panna Sharma, our Chief Executive Officer, President and Director. We do not maintain “key person” insurance for Mr. Sharma or any of our other key employees. We also rely on employees in the areas of research and development, artificial intelligence and machine learning services and general and administrative functions, some of which are in the US on H-1B work visas. From time to time, there may be changes in our executive management and employees resulting from the hiring or departure of executives or other key employees or the expiration or termination of H-1B work visas, which could disrupt our business. The replacement of one or more of our executive officers or other key employees would likely involve significant time and costs and may significantly delay or prevent the achievement of our business objectives.

To continue to execute our growth strategy, we also must attract and retain highly skilled personnel. We might not be successful in maintaining our unique culture and continuing to attract and retain qualified personnel. We have from time to time in the past experienced, and we expect to continue to experience in the future, difficulty in hiring and retaining highly skilled personnel with appropriate qualifications. The pool of qualified personnel with experience in artificial intelligence, machine learning, and genomics, or experience working with the pharma market is limited overall. In addition, many of the companies with which we compete for experienced personnel have greater resources than we have.

In addition, in making employment decisions, particularly in the biotechnology and pharmaceutical industries, job candidates often consider the value of the stock options or other equity instruments they are to receive in connection with their employment. Volatility in the price of our stock might, therefore, adversely affect our ability to attract or retain highly skilled personnel. Furthermore, the requirement to expense stock options and other equity instruments might discourage us from granting the size or type of stock option or equity awards that job candidates require to join our company. If we fail to attract new personnel or fail to retain and motivate our current personnel, our business and future growth prospects could be severely harmed.

Our employees may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of employee fraud or other misconduct. Misconduct by employees could include intentional failures to comply with any regulations applicable to us, to provide accurate information to regulatory authorities, to comply with manufacturing standards we have established, to comply with federal and state healthcare fraud and abuse laws and regulations, or to report financial information or data accurately or disclose unauthorized activities to us. In particular, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. We have adopted a Code of Business Conduct, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risk. If our employees engage in any such misconduct, we could face criminal penalties, fines, revocation of regulatory approvals and harm to our reputation, any of which could form a material adverse effect on our business.

Business interruptions could adversely affect future operations, revenues, and financial conditions, and may increase our costs and expenses.

Our operations, and those of our directors, advisors, contractors, consultants, CROs, and collaborators, could be adversely affected by earthquakes, floods, hurricanes, typhoons, extreme weather conditions, fires, water shortages, power failures, business systems failures, medical epidemics and other natural and man-made disaster or business interruptions. Our phones, electronic devices and computer systems and those of our directors, advisors, contractors, consultants, CROs, and collaborators are vulnerable to damages, theft and accidental loss, negligence, unauthorized access, terrorism, war, electronic and telecommunications failures, and other natural and man-made disasters. Operating as a virtual company, our employees conduct business outside of our headquarters and leased or owned facilities. These locations may be subject to additional security and other risk factors due to the limited control of our employees. If such an event as described above were to occur in the future, it may cause interruptions in our operations, delay research and development programs, clinical trials, regulatory activities, manufacturing and quality assurance activities, sales and marketing activities, hiring, training of employees and persons within associated third parties, and other business activities. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data.

Likewise, we will rely on third parties to manufacture LP-100, LP-184 and LP-300 and conduct clinical trials, and similar events as those described in the prior paragraph relating to their business systems, equipment and facilities could also have a material adverse effect on our business. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability and the further development and commercialization of our drug candidate could be delayed or altogether terminated.

Disruptions to our information technology systems, including future cyber-attacks and security breaches, and the costs of maintaining secure and effective information technology systems could negatively affect our business and results of operations.

The efficient operation of our businesses is highly dependent on computer hardware and software systems, including our customized information technology systems that form our RADR® platform. Information systems are vulnerable to security breaches by computer hackers and cyber terrorists. We rely on industry accepted security measures and technology to securely maintain confidential and proprietary information maintained on our information systems, and continue to invest in maintaining and upgrading these systems and applications to ensure risk is controlled. Regardless of our efforts to maintain and upgrade our cyber security systems, there can be no assurance that we will not suffer an intrusion, that unauthorized parties will not gain access to confidential or personal information, or that any such incident will be discovered promptly. The techniques used by criminals to obtain unauthorized access to sensitive data change frequently and often are not recognized until launched against a target, and we may be unable to anticipate these techniques or implement adequate preventative measures. The failure to promptly detect, determine the extent of and appropriately respond to a significant data security breach could have a material adverse impact on our business, financial condition and results of operations. In addition, the unavailability of the information systems or failure of these systems to perform as anticipated for any reason, including a major disaster or business interruption resulting in an inability to access data stored in these systems or sustain the data center systems necessary to support functions to meet our needs, and any inability to respond to, or recover from, such an event, could disrupt our business and could result in decreased performance and increased overhead costs, causing our business and results of operations to suffer.

Additionally, our operations involve the receipt and storage of sensitive data, including personal information about our employees and proprietary business information of ours and our vendors. We may also share information with vendors that assist us in conducting our business, as required by law, with the permission of the individual or as permitted under applicable privacy policies.

Despite the utilization of information security measures, we cannot be certain that all of our IT systems or the IT systems of our vendors are or will be able to prevent, contain or detect any future cyber-attacks or security breaches from known malware, malware that may be developed in the future or otherwise. Cyber-attacks are rapidly evolving and becoming increasingly sophisticated and difficult to detect, and therefore, we may be unable to anticipate these attacks or implement adequate preventive measures. Additionally, unauthorized parties may attempt to gain access to our or a vendor's systems or facilities through fraud, trickery or other forms of deception involving our employees or vendors. To the extent that any attack or breach results in the loss, damage or misappropriation of information, we may be adversely affected by claims from persons participating in our clinical trials, stockholders and others and by costly inquiries or enforcement actions on the part of regulatory authorities. Our operations could also be significantly disrupted by these claims, as well as by the need to spend significant time and expense to upgrade, fix or replace our systems. We could also lose credibility with persons participating in our clinical trials and suffer damage to our reputation and future sales, if any. In addition, the cost of complying with stricter privacy and information security laws and standards and developing, maintaining and upgrading technology systems to address future advances in technology, could be significant and we could experience problems and interruptions associated with the implementation of new or upgraded systems and technology or with maintenance or adequate support of existing systems.

Our failure to successfully acquire, develop and market additional drug candidates could impair our ability to grow.

As part of our growth strategy, we may evaluate, acquire, license, develop and/or market additional drug candidates and technologies. We do not anticipate these investments will constitute a significant portion of our business. However, our internal research capabilities are limited and we may be dependent upon pharmaceutical and biopharmaceutical companies, academic scientists and other researchers to sell or license drug candidates or technologies to us. The success of this strategy depends partly upon our ability to identify, select and acquire promising pharmaceutical drug candidates and technologies. The process of proposing, negotiating and implementing a license or acquisition of a drug candidate is lengthy and complex. Other companies, including some with substantially greater financial, marketing and sales resources, may compete with us for the license or acquisition of drug candidates and technologies. We have limited resources to identify and execute the acquisition or in-licensing of potential drug candidates and technologies and to integrate them into our current infrastructure. Moreover, we may devote resources to potential acquisitions or in-licensing opportunities that are never completed, or we may fail to realize the anticipated benefits of such efforts. Furthermore, we may not be able to acquire the rights to additional drug candidates on terms that we find acceptable, or at all.

In addition, future acquisitions of intellectual property rights may entail numerous operational and financial risks, including:

- exposure to unknown liabilities;
- disruption of our business and diversion of our management's and technical personnel's time and attention to develop acquired drug candidates or technologies;
- incurrence of substantial debt or dilutive issuances of securities to pay for acquisition costs;
- higher than expected acquisition costs; and
- increased amortization expenses.

Any drug candidate that we acquire may require additional development efforts prior to commercial sale or out-licensing, including extensive clinical testing and approval by the FDA and applicable foreign regulatory authorities. All drug candidates are prone to risks of failure typical of pharmaceutical drug development, including the possibility that a drug candidate will not be shown to be sufficiently safe and effective for approval by regulatory authorities. In addition, we cannot provide assurance that any drugs that we may develop or approved drugs that we may acquire will be manufactured profitably or achieve market acceptance.

We have obtained statistical data, market data and other industry data and forecasts used throughout this Prospectus from market research, publicly available information and industry publications which we believe are reliable but have not been verified by any third party.

This prospectus contains estimates, projections and other information concerning our industry, our business and the markets for our drug candidates, including data regarding the estimated size of such markets and the incidence of certain medical conditions. We obtained the industry, market and similar data set forth in this prospectus from our internal estimates and research and from academic and industry research, publications, surveys and studies conducted by third parties, including governmental agencies. In some cases, we do not expressly refer to the sources from which this data is derived. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. While we believe our internal research is reliable, such research has not been verified by any third party. You are cautioned not to give undue weight to any such information, projections and estimates.

Risks Related to Our Intellectual Property

If we do not obtain patent term extension for any drug candidates we may develop, our business may be materially harmed.

In the United States, depending upon the timing, duration, and specifics of any FDA marketing approval of a drug candidate, the patent term of a patent that covers an FDA-approved drug may be eligible for limited patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act, permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent term extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of drug approval, and only one patent applicable to an approved drug may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in Europe and other non-United States jurisdictions to extend the term of a patent that covers an approved drug. While, in the future, if and when our drug candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those drug candidates, there is no guarantee that the applicable authorities will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions. We may not be granted an extension because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of the relevant patents, or otherwise failing to satisfy applicable requirements. If we are unable to obtain any patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing drugs following the expiration of our patent rights, and our business, financial condition, results of operations, and prospects could be materially harmed.

Changes to patent laws in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our drugs.

Changes in either the patent laws or interpretation of patent laws in the United States, including patent reform legislation such as the Leahy-Smith America Invents Act, or the Leahy-Smith Act, could increase the uncertainties and costs surrounding the prosecution of our owned and in-licensed patent applications and the maintenance, enforcement or defense of our owned and in-licensed issued patents. The Leahy-Smith Act includes a number of significant changes to United States patent law. These changes include provisions that affect the way patent applications are prosecuted, redefine prior art, provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, and enable third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent at USPTO-administered post-grant proceedings, including post-grant review, inter parties review, and derivation proceedings. Assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent.

After March 2013, under the Leahy-Smith Act, the United States transitioned to a first-to-file system in which, assuming that the other statutory requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third party was the first to invent the claimed invention. As such, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our patent rights and our ability to protect, defend and enforce our patent rights in the future.

We or our licensors may become involved in lawsuits to protect or enforce our patent or other intellectual property rights, which could be expensive, time-consuming and unsuccessful.

Competitors and other third parties may infringe, misappropriate or otherwise violate our or our licensor's issued patents or other intellectual property. As a result, we or our licensors may need to file infringement, misappropriation or other intellectual property related claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke such parties to assert counterclaims against us alleging that we infringe, misappropriate or otherwise violate their intellectual property. In addition, in a patent infringement proceeding, such parties could counterclaim that the patents we or our licensors have asserted are invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may institute such claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, inter parties review, interference proceedings, derivation proceedings, and equivalent proceedings in foreign jurisdictions (e.g., opposition proceedings).

An adverse result in any such proceeding could put one or more of our owned or in-licensed patents at risk of being invalidated or interpreted narrowly, and could put any of our owned or in-licensed patent applications at risk of not yielding an issued patent. A court may also refuse to stop the third party from using the technology at issue in a proceeding on the grounds that our owned or in-licensed patents do not cover such technology. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information or trade secrets could be compromised by disclosure during this type of litigation. Any of the foregoing could allow such third parties to develop and commercialize competing technologies and products and have a material adverse impact on our business, financial condition, results of operations, and prospects.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability, and the ability of our collaborators, to develop, manufacture, market and sell our drug candidates and use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of third parties. There is considerable patent and other intellectual property litigation in the pharmaceutical and biotechnology industries. We may become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our technology and drug candidates, including interference proceedings, post grant review, inter parties review, and derivation proceedings before the USPTO and similar proceedings in foreign jurisdictions such as oppositions before the European Patent Office.

The legal threshold for initiating litigation or contested proceedings is low, so that even lawsuits or proceedings with a low probability of success might be initiated and require significant resources to defend. Litigation and contested proceedings can also be expensive and time-consuming, and our adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we can. The risks of being involved in such litigation and proceedings may increase if and as our drug candidates near commercialization and as we gain the greater visibility associated with being a public company. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of merit. We may not be aware of all such intellectual property rights potentially relating to our technology and drug candidates and their uses. Thus, we do not know with certainty that our technology and drug candidates, or our development and commercialization thereof, do not and will not infringe, misappropriate or otherwise violate any third party's intellectual property.

Even if we believe that third party intellectual property claims are without merit, there is no assurance that a court would find in our favor on questions of misappropriation, infringement, validity, enforceability, or priority. A court of competent jurisdiction could hold these third-party patents are valid, enforceable, and infringed, which could materially and adversely affect our ability to commercialize any technology or drug candidate covered by the asserted third-party patents. In order to successfully challenge the validity of any such U.S. patent in federal court, we would need to overcome a presumption of validity. As this burden is a high one requiring us to present clear and convincing evidence as to the invalidity of any such U.S. patent claim, there is no assurance that a court of competent jurisdiction would invalidate the claims of any such U.S. patent.

If we are found to infringe, misappropriate or otherwise violate a third party's intellectual property rights, we could be required to obtain a license from such third party to continue developing, manufacturing and marketing our technology and drug candidates. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive; thereby giving our competitors and other third parties access to the same technologies licensed to us and could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or drug. In addition, we could be found liable for significant monetary damages, including treble damages and attorneys' fees, if we are found to have willfully infringed a patent or other intellectual property right and could be forced to indemnify our collaborators or others. A finding of infringement could prevent us from commercializing our drug candidates or force us to cease some of our business operations, which could materially harm our business. In addition, we may be forced to redesign our drug candidates, seek new regulatory approvals and indemnify third parties pursuant to contractual agreements. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations, and prospects.

Intellectual property litigation or other legal proceedings relating to intellectual property could cause us to spend substantial resources and distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and may also have an advantage in such proceedings due to their more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of intellectual property litigation or other proceedings could compromise our ability to compete in the marketplace.

Obtaining and maintaining patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance, renewal and annuity fees and various other government fees on any issued patent and pending patent application must be paid to the USPTO and foreign patent agencies in several stages or annually over the lifetime of our owned and in-licensed patents and patent applications. The USPTO and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. In certain circumstances, we rely on our licensing partners to pay these fees to, or comply with the procedural and documentary rules of, the relevant patent agency. With respect to our patents, we rely on an annuity service to remind us of the due dates and to make payment after we instruct them to do so. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, potential competitors might be able to enter the market with similar or identical products or technology. If we or our licensors fail to maintain the patents and patent applications covering our drug candidates, it would have a material adverse effect on our business, financial condition, results of operations, and prospects.

If we fail to comply with our obligations in our intellectual property licenses and funding arrangements with third parties, we could lose rights that are important to our business.

We are party to license and funding agreements that impose, and we may enter into additional licensing and funding arrangements with third parties that may impose, diligence, development and commercialization timelines, milestone payment, royalty, insurance and other obligations on us. Under our existing licensing and funding agreements, we are obligated to pay royalties on net drug sales of drug candidates or related technologies to the extent they are covered by the agreements. If we fail to comply with such obligations under current or future license and funding agreements, our counterparties may have the right to terminate these agreements or require us to grant them certain rights. Such an occurrence could materially adversely affect the value of any drug candidate being developed under any such agreement. For example, under the AF Agreement, we are required to use commercially reasonable efforts to research, develop and commercialize LP-184. If we fail to meet the foregoing obligation, then, under certain circumstances, AF may terminate the AF Agreement and may exercise the exclusive, sub-licensable and worldwide license we granted AF in and to certain of our intellectual property to develop and commercialize LP-184. Termination of these agreements or reduction or elimination of our rights under these agreements may result in our having to negotiate new or reinstated agreements with less favorable terms, or cause us to lose our rights under these agreements, including our rights to important intellectual property or technology, which would have a material adverse effect on our business, financial condition, results of operations, and prospects.

Additionally, these and other license agreements may not provide exclusive rights to use the licensed intellectual property and technology in all relevant fields of use and in all territories in which we may wish to develop or commercialize our technology and drugs in the future. As a result, we may not be able to prevent competitors from developing and commercializing competitive products and technology in fields of use and territories not included in such agreements. In addition, we may not have the right to control the preparation, filing, prosecution, maintenance, enforcement, and defense of patents and patent applications covering the technology that we license from third parties. Therefore, we cannot be certain that these patents and patent applications will be prepared, filed, prosecuted, maintained, and defended in a manner consistent with the best interests of our business. If our licensors fail to prosecute, maintain, enforce, and defend such patents, or lose rights to those patents or patent applications, the rights we have licensed may be reduced or eliminated, and our right to develop and commercialize any of our drugs that are the subject of such licensed rights could be adversely affected.

We may need to obtain additional licenses from others to advance our research or allow commercialization of our drug candidates. It is possible that we may be unable to obtain additional licenses at a reasonable cost or on reasonable terms, if at all, or such licenses may be non-exclusive. The licensing or acquisition of third-party intellectual property rights is a competitive area, and several more established companies may pursue strategies to license or acquire third-party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We also may be unable to license or acquire third-party intellectual property rights on terms that would allow us to make an appropriate return on our investment or at all.

If we are unable to obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may be required to expend significant time and resources to redesign our technology, drug candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected technology and drug candidates, which could harm our business, financial condition, results of operations, and prospects significantly.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, the agreements under which we currently license intellectual property or technology from third parties are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations, and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected technology and drug candidates, which could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

Our licensors may have relied on third-party consultants or collaborators or on funds from third parties such that our licensors are not the sole and exclusive owners of the patents and patent applications we in-licensed. If other third parties have ownership rights to our in-licensed patents, they may be able to license such patents to our competitors, and our competitors could market competing products and technology. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

In spite of our best efforts, our licensors might conclude that we have materially breached our license agreements and might therefore terminate the license agreements, thereby removing our ability to develop and commercialize drug candidates and technology covered by these license agreements. If these in-licenses are terminated, or if the underlying intellectual property fails to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products and technologies identical to ours. This could have a material adverse effect on our competitive position, business, financial conditions, results of operations, and prospects.

We may not be able to protect our intellectual property and proprietary rights throughout the world.

Filing, prosecuting, and defending patents on drug candidates in all countries throughout the world would be prohibitively expensive, and the laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection or licenses but enforcement is not as strong as that in the United States. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to pharmaceutical products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally. Proceedings to enforce our intellectual property and proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our licensors is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations, and prospects may be adversely affected.

We may be subject to claims by third parties asserting that our employees, consultants, contractors or advisors have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, consultants, contractors and advisors were previously employed, or may currently be employed, at universities or other pharmaceutical or biotechnology companies, including our competitors or potential competitors. Although we try to ensure that our employees, contractors and advisors do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that these individuals or we have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such individual's current or former employer. Litigation may be necessary to defend against these claims.

In addition, while it is our policy to require our employees, consultants, contractors and advisors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own. Our intellectual property assignment agreements with them may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial conditions, results of operations, and prospects.

If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could have a material adverse effect on our competitive business position and prospects. Such intellectual property rights could be awarded to a third party, and we could be required to obtain a license from such third party to commercialize our technology or products, which license may not be available on commercially reasonable terms, or at all, or such license may be non-exclusive. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our management and employees.

In addition to seeking patents for some of our technology and drug candidates, we also rely on trade secrets and confidentiality agreements relating to the development of our RADR® platform to protect our unpatented know-how, technology and other proprietary information, in order to maintain our competitive position. We seek to protect our trade secrets and other proprietary technology, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants. We cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Detecting the disclosure or misappropriation of a trade secret and enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, some courts inside and outside of the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor or other third party, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor or other third party, our competitive position would be materially and adversely harmed.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- our RADR® platform is not protected by any patented intellectual property, and we may not be able to develop, acquire or in-license any patentable technologies or other intellectual property related to such platform;
- we, or our license partners or current or future collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent applications that we license or may own in the future;
- we, or our license partners or current or future collaborators, might not have been the first to file patent applications covering certain of our or their inventions;

- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or in-licensed intellectual property rights;
- it is possible that our owned and in-licensed pending patent applications or those we may own or in-license in the future will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such intellectual property.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Risks Related to Owning our Common Stock and this Offering

An active trading market for our common stock may not develop, and you may not be able to sell your common stock at or above the initial public offering price.

Prior to the consummation of this offering, there has been no public market for our common stock. An active trading market for shares of our common stock may never develop or be sustained following this offering. If an active trading market does not develop, you may have difficulty selling your shares of common stock at an attractive price, or at all. The price for our common stock in this offering will be determined by negotiations between us and the underwriters, and it may not be indicative of prices that will prevail in the open market following this offering. Consequently, you may not be able to sell your common stock at or above the initial public offering price or at any other price or at the time that you would like to sell. An inactive market may also impair our ability to raise capital by selling our common stock, and it may impair our ability to attract and motivate our employees through equity incentive awards and our ability to acquire other companies, drugs or technologies by using our common stock as consideration.

The price of our common stock may fluctuate substantially.

You should consider an investment in our common stock to be risky, and you should invest in our common stock only if you can withstand a significant loss and wide fluctuations in the market value of your investment. Some factors that may cause the market price of our common stock to fluctuate, in addition to the other risks mentioned in this “Risk Factors” section and elsewhere in this prospectus, are:

- sale of our common stock by our stockholders, executives, and directors;
- volatility and limitations in trading volumes of our shares of common stock;
- our ability to obtain financings to conduct and complete research and development activities including, but not limited to, our proposed clinical trials, and other business activities;
- possible delays in the expected recognition of revenue due to lengthy and sometimes unpredictable sales timelines;

- the timing and success of introductions of new applications or our competitors or any other change in the competitive dynamics of our industry, including consolidation among competitors, customers or strategic partners;
- network outages or security breaches;
- the lack of market acceptance and sales growth for our drug candidates, if any, that receive marketing approval;
- our ability to secure resources and the necessary personnel to conduct clinical trials on our desired schedule;
- commencement, enrollment or results of our clinical trials for our drug candidates or any future clinical trials we may conduct;
- changes in the development status of our drug candidates;
- any delays or adverse developments or perceived adverse developments with respect to the FDA's review of our planned preclinical studies and clinical trials;
- any delay in our submission for studies or drug approvals or adverse regulatory decisions, including failure to receive regulatory approval for our drug candidates;
- unanticipated safety concerns related to the use of our drug candidates;
- failures to meet external expectations or management guidance;
- changes in our capital structure or dividend policy, future issuances of securities, sales of large blocks of common stock by our stockholders;
- our cash position;
- announcements and events surrounding financing efforts, including debt and equity securities;
- our inability to enter into new markets or develop new drugs;
- reputational issues;
- competition from existing technologies and drugs or new technologies and drugs that may emerge;
- announcements of acquisitions, partnerships, collaborations, joint ventures, new drugs, capital commitments, or other events by us or our competitors;
- changes in general economic, political and market conditions in or any of the regions in which we conduct our business;
- changes in industry conditions or perceptions;
- changes in valuations of similar companies or groups of companies;
- analyst research reports, recommendation and changes in recommendations, price targets, and withdrawals of coverage;
- departures and additions of key personnel;

- disputes and litigations related to intellectual properties, proprietary rights, and contractual obligations;
- changes in applicable laws, rules, regulations, or accounting practices and other dynamics; and
- other events or factors, many of which may be out of our control.

In addition, if the market for stocks in our industry or industries related to our industry, or the stock market in general, experiences a loss of investor confidence, the trading price of our common stock could decline for reasons unrelated to our business, financial condition and results of operations. If any of the foregoing occurs, it could cause our stock price to fall and may expose us to lawsuits that, even if unsuccessful, could be costly to defend and a distraction to management.

We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this initial public offering, including for any of the currently intended purposes described in the section entitled "Use of Proceeds." Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management may not apply our cash from this offering in ways that ultimately increase the value of any investment in our securities or enhance shareholder value. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply our cash in ways that enhance shareholder value, we may fail to achieve expected financial results, which may result in a decline in the price of our shares of common stock, and, therefore, may negatively impact our ability to raise capital, invest in or expand our business, acquire additional drugs or licenses, commercialize our drugs, or continue our operations.

We may acquire other companies or technologies, which could divert our management's attention, result in dilution to our stockholders and otherwise disrupt our operations and adversely affect our operating results.

We may in the future seek to acquire or invest in businesses, applications and services or technologies that we believe could complement or expand our services, enhance our technical capabilities or otherwise offer growth opportunities. The pursuit of potential acquisitions may divert the attention of management and cause us to incur various expenses in identifying, investigating and pursuing suitable acquisitions, whether or not they are consummated.

In addition, we do not have any experience in acquiring other businesses. If we acquire additional businesses, we may not be able to integrate the acquired personnel, operations and technologies successfully or effectively manage the combined business following the acquisition. We also may not achieve the anticipated benefits from the acquired business due to a number of factors, including:

- inability to integrate or benefit from acquired technologies or services in a profitable manner;
- unanticipated costs or liabilities associated with the acquisition;
- difficulty integrating the accounting systems, operations and personnel of the acquired business;
- difficulties and additional expenses associated with supporting legacy drugs and hosting infrastructure of the acquired business;
- difficulty converting the customers of the acquired business onto our platform and contract terms, including disparities in the revenue, licensing, support or professional services model of the acquired company;
- diversion of management's attention from other business concerns;

- adverse effects to our existing business relationships with business partners and customers as a result of the acquisition;
- the potential loss of key employees;
- use of resources that are needed in other parts of our business; and
- use of substantial portions of our available cash to consummate the acquisition.

In addition, a significant portion of the purchase price of companies we acquire may be allocated to acquired goodwill and other intangible assets, which must be assessed for impairment at least annually. In the future, if our acquisitions do not yield expected returns, we may be required to take charges to our operating results based on this impairment assessment process, which could adversely affect our results of operations.

Acquisitions could also result in dilutive issuances of equity securities or the incurrence of debt, which could adversely affect our operating results. In addition, if an acquired business fails to meet our expectations, our operating results, business and financial position may suffer.

Market and economic conditions may negatively impact our business, financial condition and share price.

Concerns over inflation, energy costs, geopolitical issues, the U.S. mortgage market and a declining real estate market, unstable global credit markets and financial conditions, and volatile oil prices have led to periods of significant economic instability, diminished liquidity and credit availability, declines in consumer confidence and discretionary spending, diminished expectations for the global economy and expectations of slower global economic growth going forward, increased unemployment rates, and increased credit defaults in recent years. Our general business strategy may be adversely affected by any such economic downturns, volatile business environments and continued unstable or unpredictable economic and market conditions. If these conditions continue to deteriorate or do not improve, it may make any necessary debt or equity financing more difficult to complete, more costly, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance, and share price and could require us to delay or abandon development or commercialization plans.

If securities or industry analysts do not publish research or reports, or publish unfavorable research or reports about our business, our stock price and trading volume may decline.

The trading market for our common stock will rely in part on the research and reports that industry or financial analysts publish about us, our business, our markets and our competitors. We do not control these analysts. If securities analysts do not cover our common stock after the closing of this offering, the lack of research coverage may adversely affect the market price of our common stock. Furthermore, if one or more of the analysts who do cover us downgrade our stock or if those analysts issue other unfavorable commentary about us or our business, our stock price would likely decline. If one or more of these analysts cease coverage of us or fails to regularly publish reports on us, we could lose visibility in the market and interest in our stock could decrease, which in turn could cause our stock price or trading volume to decline and may also impair our ability to expand our business with existing customers and attract new customers.

Because certain of our stockholders control a significant number of shares of our common stock, they may have effective control over actions requiring stockholder approval.

Following this offering, our directors, executive officers and principal stockholders, and their respective affiliates, will beneficially own approximately [__%] of our outstanding shares of common stock. As a result, these stockholders, acting together, would have the ability to control the outcome of matters submitted to our stockholders for approval, including the election of directors and any merger, consolidation or sale of all or substantially all of our assets. In addition, these stockholders, acting together, would have the ability to control the management and affairs of our company. Accordingly, this concentration of ownership might harm the market price of our common stock by:

- delaying, deferring or preventing a change in corporate control;
- impeding a merger, consolidation, takeover or other business combination involving us; or
- discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us.

A significant portion of our total outstanding shares of common stock are restricted from immediate resale but may be sold at the same time into the market in the near future, which could cause our stock price to decline.

A significant number of our outstanding shares of common stock held by our directors, executive officers and certain shareholders are subject to contractual lock-up restrictions on resale that for a period of six months after the date of this prospectus as more fully described in the section titled "Underwriting" in this prospectus. If these stockholders sell, or indicate an intent to sell, substantial amounts of our common stock in the public market after the expiration of the applicable lock-up period, the trading price of our common stock could decline significantly and could decline below the public offering price.

In addition, subject to contractual lock-up restrictions discussed above, holders of approximately [____] shares of our common stock, including shares of common stock issuable under outstanding options and warrants, have the right to require us to register these shares under the Securities Act pursuant to an Amended and Restated Investors' Rights Agreement as more fully described in section titled "Description of Capital Stock—Registration Rights" in this prospectus. If our existing stockholders sell substantial amounts of our common stock in the public market, or if the public perceives that such sales could occur, this could have an adverse impact on the market price of our common stock, even if there is no relationship between such sales and the performance of our business.

You will incur immediate dilution as a result of this offering.

If you purchase common stock in this offering, you will pay more for your shares than the net tangible book value of your shares. As a result, you will incur immediate dilution of [$___] per share, representing the difference between the assumed initial public offering price of [$___] per share (the midpoint of the range on the cover of this prospectus) and our estimated pro forma net tangible book value per share as of December 31, 2019 of [$____]. Accordingly, should we be liquidated at our book value, you would not receive the full amount of your investment.

Future sales and issuances of our common stock could result in additional dilution of the percentage ownership of our stockholders and could cause our share price to fall.

We expect that significant additional capital will be needed in the future to continue our planned operations, including increased marketing, hiring new personnel, commercializing our drugs, and continuing activities as an operating public company. To the extent we raise additional capital by issuing equity securities; our stockholders may experience substantial dilution. We may sell common stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell common stock, convertible securities or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

We do not intend to pay cash dividends on our shares of common stock so any returns will be limited to the value of our shares.

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any return to stockholders will therefore be limited to the increase, if any, of our share price.

We are an "emerging growth company" and will be able to avail ourselves of reduced disclosure requirements applicable to emerging growth companies, which could make our common stock less attractive to investors.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and we intend to take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not "emerging growth companies" including not being required to comply with the auditor attestation requirements of Section 404(b) of the Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved. In addition, Section 107 of the JOBS Act also provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We are not electing to delay such adoption of new or revised accounting standards, and as a result, we will comply with new or revised accounting standards on the relevant dates on which adoption of such standards is required for non-emerging growth companies. We cannot predict if investors will find our common stock less attractive because we may rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. We may take advantage of these reporting exemptions until we are no longer an "emerging growth company." We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

We may be at risk of securities class action litigation.

We may be at risk of securities class action litigation. In the past, biotechnology and pharmaceutical companies have experienced significant stock price volatility, particularly when associated with binary events such as clinical trials and drug approvals. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business and results in a decline in the market price of our common stock.

There is no assurance that an active and liquid trading market in our common stock will develop.

We have applied to list our shares of common stock on the NASDAQ Capital Market. If our listing application is approved, there can be no assurance any broker will be interested in trading our common stock. Therefore, it may be difficult to sell any shares you purchase in this offering if you desire or need to sell them. The underwriters are not obligated to make a market in our common stock, and even after making a market, can discontinue market making at any time without notice. Neither we nor the underwriters can provide any assurance that an active and liquid trading market in our common stock will develop or, if developed, that the market will continue.

Our certificate of incorporation and our by-laws, and Delaware law may have anti-takeover effects that could discourage, delay or prevent a change in control, which may cause our stock price to decline.

Our certificate of incorporation, and our by-laws, and Delaware law could make it more difficult for a third party to acquire us, even if closing such a transaction would be beneficial to our stockholders. We will be authorized to issue up to 1,000,000 shares of preferred stock upon the completion of this offering and the filing of our amended and restated certificate of incorporation with the State of Delaware. This preferred stock may be issued in one or more series, the terms of which may be determined at the time of issuance by our board of directors without further action by stockholders. The terms of any series of preferred stock may include voting rights (including the right to vote as a series on particular matters), preferences as to dividend, liquidation, conversion and redemption rights and sinking fund provisions. No preferred stock is currently outstanding. The issuance of any preferred stock could materially adversely affect the rights of the holders of our common stock, and therefore, reduce the value of our common stock. In particular, specific rights granted to future holders of preferred stock could be used to restrict our ability to merge with, or sell our assets to, a third party and thereby preserve control by the present management.

Provisions of our certificate of incorporation, by-laws and Delaware law also could have the effect of discouraging potential acquisition proposals or making a tender offer or delaying or preventing a change in control, including changes a stockholder might consider favorable. Such provisions may also prevent or frustrate attempts by our stockholders to replace or remove our management. In particular, our certificate of incorporation and by-laws and Delaware law, as applicable, among other things:

- provide the board of directors with the ability to alter the by-laws without stockholder approval;
- establishing advance notice requirements for nominations for election to the board of directors or for proposing matters that can be acted upon at stockholder meetings; and
- provide that vacancies on the board of directors may be filled by a majority of directors in office, although less than a quorum.

Our by-laws designate the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) as the exclusive forum for certain types of claims, which may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable.

Section 7.07 of our by-laws specifies that unless we consent in writing to the selection of an alternative forum, the court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for: (a) any derivative action or proceeding brought on our behalf; any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us or to our stockholders; (b) any action asserting a claim against us arising pursuant to the Delaware General Corporation Law ("DGCL") or certificate of incorporation or our by-laws; or (c) or any action asserting a claim against us that is governed by the internal affairs doctrine.. There is uncertainty as to whether a court would enforce this provision with respect to claims under the Securities Act and our stockholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder. The exclusive forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes against us and our directors, officers and other employees, which may discourage such lawsuits, or may require increased costs to bring a claim.

Financial reporting obligations of being a public company in the United States require well defined disclosure and financial controls and procedures that we did not have as a private company and that are expensive and time-consuming requiring our management to devote substantial time to compliance matters.

As a publicly traded company, we will incur significant additional legal, accounting and other expenses that we did not incur as a privately held company. For example, as a privately held company, we were not required to have, and did not have, well defined disclosure and financial controls and procedures or systems of internal controls over financial reporting that are generally required of publicly held companies. In connection with our review of our previously existing internal controls as part of our preparations for becoming a publicly traded company, we determined that our internal controls over financial reporting for prior periods were inadequate and included material weaknesses that needed to be remedied. Although we have taken, and are continuing to take, additional steps to remedy these material weaknesses in order to assure compliance with our future financial reporting obligations, there can be no assurance that we will be able to do so in a timely manner or at all.

These reporting obligations associated with being a public company in the United States require significant expenditures and will place significant demands on our management and other personnel, including costs resulting from our reporting obligations under the Securities Exchange Act of 1934, as amended, (the "Exchange Act"), and the rules and regulations regarding corporate governance practices, including those under the Sarbanes-Oxley Act of 2002, as amended, (the "Sarbanes-Oxley Act"), the Dodd-Frank Wall Street Reform and Consumer Protection Act, as amended, (the "Dodd-Frank Act"), and the listing requirements of the stock exchange on which our securities are to be listed. These rules require the establishment and maintenance of effective disclosure and financial controls and procedures, internal control over financial reporting and changes in corporate governance practices, among many other complex rules that are often difficult to implement, monitor and maintain compliance with. Moreover, despite recent reforms made possible by the JOBS Act, the reporting requirements, rules, and regulations will make some activities more time-consuming and costly, particularly after we are no longer an "emerging growth company." In addition, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance. Our management and other personnel will need to devote a substantial amount of time to ensure that we comply with all of these requirements and to keep pace with new regulations, otherwise we may fall out of compliance and risk becoming subject to litigation or being delisted, among other potential problems.

If we fail to comply with the rules under the Sarbanes-Oxley Act related to accounting controls and procedures in the future, or, if we discover additional material weaknesses and other deficiencies in our internal control and accounting procedures, our stock price could decline significantly and raising capital could be more difficult.

Section 404 of the Sarbanes-Oxley Act requires annual management assessments of the effectiveness of our internal control over financial reporting after a transition period ending with our second annual report on Form 10-K filed under Section 13(a) of the Exchange Act. If we fail to comply with the rules under the Sarbanes-Oxley Act related to disclosure controls and procedures in the future, or, if in the future we discover additional material weaknesses and other deficiencies in our internal control and accounting procedures, our stock price could decline significantly and raising capital could be more difficult.

Comprehensive tax reform bills could adversely affect our business and financial condition.

The U.S. government recently enacted comprehensive federal income tax legislation that includes significant changes to the taxation of business entities. These changes include, among others, a permanent reduction to the corporate income tax rate. Notwithstanding the reduction in the corporate income tax rate, the overall impact of this tax reform is uncertain, and our business and financial condition could be adversely affected. This prospectus does not discuss any such tax legislation or the manner in which it might affect purchasers of our common stock. We urge our stockholders to consult with their legal and tax advisors with respect to any such legislation and the potential tax consequences of investing in our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this prospectus, including statements regarding our strategy, future preclinical studies and clinical trials, future financial position, projected costs, prospects, plans and objectives of management, are forward-looking statements. These forward-looking statements are contained principally in the sections entitled “Prospectus Summary,” “Business,” “Risk Factors,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” The words “anticipate,” “believe,” “contemplate,” “could,” “estimate,” “expect,” “intend,” “seek,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “target,” “aim,” “should,” ‘will” “would,” or the negative of these words or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these words. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties.

The forward-looking statements in this prospectus include, among other things, statements relating to:

- the potential advantages of our RADR® platform in identifying drug candidates and patient populations that are likely to respond to a drug candidate;
- our strategic plans to advance the development of any of our drug candidates;
- our strategic plans to expand the number of data points that our RADR® platform can access and analyze;
- our research and development efforts of our internal drug discovery programs and the utilization of our RADR® platform to streamline the drug development process;
- the initiation, timing, progress, and results of our preclinical studies or clinical trials on any of our drug candidates;
- our intention to leverage artificial intelligence, machine learning and genomic data to streamline the drug development process and to identify patient populations that would likely respond to a drug candidate;

- the timing of, the ability to submit applications for and the ability to obtain and maintain regulatory approvals for any of our drug candidates;
- our plans to discover and develop drug candidates and to maximize their commercial potential by advancing such drug candidates ourselves or in collaboration with others;
- our expectations regarding our ability to fund our operating expenses and capital expenditure requirements with our cash, cash equivalents, and the proceeds of this offering;
- our ability to secure sufficient funding and alternative source of funding to support our existing and proposed preclinical studies and clinical trials;
- our estimates regarding the potential market opportunity for our drug candidates we or any of our collaborators may in the future develop;
- our anticipated growth strategies and our ability to manage the expansion of our business operations effectively;
- our expectations related to the use of proceeds from this offering;
- our ability to keep up with rapidly changing technologies and evolving industry standards, including our ability to achieve technological advances;
- the potential impact of the recent outbreak of COVID-19 may have on our business plans;
- our ability to source our needs for skilled labor in the fields of artificial intelligence, genomics, biology, oncology and drug development; and
- the impact of government laws and regulations on the development and commercialization of our drug candidates.

We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions, and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly in the "Risk Factor" section, that we believe could cause actual results or events to differ materially from the forward-statements that we make. Furthermore, we operate in a competitive and rapid changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this prospectus.

You should read this prospectus and the documents we reference in this prospectus and have filed as exhibits to the registration statement of which this prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this prospectus are made as of the date of this prospectus, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

MARKET AND INDUSTRY DATA

This prospectus contains estimates, projections and other information concerning our industry, our business and the markets for our drug candidates, including data regarding the estimated size of such markets and the incidence of certain medical conditions. We obtained the industry, market and similar data set forth in this prospectus from our internal estimates and research and from academic and industry research, publications, surveys and studies conducted by third parties, including governmental agencies. In some cases, we do not expressly refer to the sources from which this data is derived. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. While we believe our internal research is reliable, such research has not been verified by any third party. You are cautioned not to give undue weight to any such information, projections and estimates.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately $[____] ($[_____]) if the underwriters exercise their over-allotment option in full), after deducting the underwriting discount and estimated offering expenses payable by us.

We intend to use the net proceeds of this offering as follows:

- Approximately $[___] million to fund clinical trials on LP-300;
- Approximately $[___] million to fund further preclinical studies and clinical trials on LP-184;
- Approximately $[___] million to fund further development of, and data acquisition for, our RADR® platform;
- Approximately $[__] million to fund the strategic expansion of our drug candidate portfolio through the acquisition or in-licensing of intellectual property assets; and
- And the balance for working capital and general corporate purposes.

We will retain broad discretion over the use of the net proceeds of this offering which may result in an allocation of net proceeds in differing amounts than those listed above, or in entirely new areas. The amount and timing of these proposed expenditures will depend on a number of factors, including the progress of any partnering efforts, progress of our research and development efforts, technological advances and the competitive environment for our drug candidates. As a result, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the proceeds will be used in a way that does not yield a favorable, or any, return for us. Pending application of the net proceeds as described above, we intend to invest the proceeds in investment grade interest bearing instruments, or will hold the proceeds in interest bearing or non-interest bearing bank accounts.

We believe that the net proceeds from this offering, together with our existing cash and cash equivalents as of December 31, 2019, and our anticipated expenditures and commitments for calendar year 2020, will enable us to fund our operating expenses and capital expenditure requirements for at least 12 months from the date of this prospectus. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. We believe the amount of net proceeds from this offering allocated to clinical trials on LP-300 will be sufficient to complete a Phase II clinical trial for LP-300. We also believe that the amount of net proceeds from this offering allocated to preclinical studies and clinical trials on LP-184 will be sufficient to complete preclinical development and a Phase I clinical trial for LP-184. We will need to raise substantial additional funds to complete additional clinical trials on LP-300 and LP-184 and before we can expect to commercialize any of our drug candidates, if approved.

In the ordinary course of our business, we anticipate that from time to time we may evaluate the acquisition of, investment in or in-license of additional drug candidates that we believe are capable of rescuing using our RADR® platform or for new drug development and we could use a portion of the net proceeds from this offering for such purposes. While we regularly engage in preliminary discussions relating to the evaluation of potential drug candidates that we may be interested in acquiring or in-licensing, we currently do not have any agreements, arrangements or commitments with respect to any additional investment in new drug candidates.

DIVIDEND POLICY

We do not anticipate declaring or paying, in the foreseeable future, any cash dividends on our capital stock. We intend to retain all available funds and future earnings, if any, to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination regarding the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then-existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

CAPITALIZATION

The following table sets forth our capitalization, as of December 31, 2019:

- on an actual basis;
- on a pro forma basis to reflect the automatic conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of common stock immediately prior to the closing of this offering; and
- on a pro forma basis as adjusted to give effect to the assumed sale of [_____] shares of our common stock in this offering at a public offering price of $[_____] per share, after deducting the underwriting discount and estimated offering expenses payable by us, and the pro forma adjustments described above.

You should read the forgoing table together with "Management's Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and related notes appearing elsewhere in this prospectus.

	As of December 31, 2019		
	Actual	Pro Forma (Unaudited)	Pro Forma As Adjusted
Cash	$ 1,232,030	$	$
Total long-term liabilities:			
Stockholders' equity:			
Preferred stock, $0.0001 par value, 2,000,000 shares authorized, 1,401,647 shares of Series A preferred stock issued and outstanding and zero pro forma and pro forma as adjusted	14,016		
Common stock, $0.0001 par value, 15,000,000 shares authorized, 1,136,936 shares issued and outstanding as of December 31, 2019, [____] shares issued and outstanding pro forma and pro forma as adjusted	11,369		
Additional paid in capital	7,669,604		
Accumulated deficit	(6,751,705)		
Total Stockholders' equity	943,284		
Total Capitalization	2,175,314		

The pro forma as adjusted information discussed above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering determined between us and the underwriter at pricing. The number of shares of common stock outstanding as of December 31, 2019, excludes the following:

- 349,131 shares of common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of $1.79 per share;
- 367,632 shares of common stock reserved under our Amended and Restated 2018 Equity Incentive Plan;
- 150,577 shares of common stock issuable upon the exercise of outstanding common stock purchase warrants.

DILUTION

If you invest in our common stock in this offering, your ownership interest will be diluted immediately to the extent of the difference between the public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

As of December 31, 2019, we had a net tangible book value of approximately $943,284 or approximately $0.37 per share.

Our pro forma net tangible book value at December 31, 2019 was approximately [_____] per share. Our pro forma net tangible book value per share represents our total tangible assets, less total liabilities, divided by the number of shares of common stock outstanding of 2,538,583 after giving effect to the conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of our common stock immediately prior to the closing of this offering. After giving effect to the assumed sale of [_____] shares of our common stock in this offering at a public offering price of $[_____] per share, and after deducting the underwriting discount and estimated offering expenses payable by us, our as adjusted net tangible book value per share as of December 31, 2019, would have been approximately $[____] or approximately $[_____] per share. This represents an immediate increase in net tangible book value per share of $[_____] to existing stockholders and an immediate dilution of approximately $[____] per share to new investors purchasing shares of our common stock in this offering.

Dilution in pro forma net tangible book value per share represents the difference between the initial public offering price of the shares of common stock in this offering and the pro forma as adjusted net tangible book value per share of our common stock immediately after this offering.

The following table illustrates this dilution on a per share basis:

Assumed public offering price per share		$
Net tangible book value per share at December 31, 2019	$ 0.37	
Pro forma increase attributable to the pro forma adjustments		
Pro forma net tangible book value per share as of December 31, 2019		
Increase in book value per share attributable to new investors	$	
Pro forma as adjusted net tangible book value per share after this offering		$
Dilution per share to new investors		$

If the underwriter exercises its over-allotment option in full, our pro forma as adjusted net tangible book value would be approximately $[____] million, or approximately $[_____] per share, representing an increase in the net tangible book value to existing stockholders of approximately would be $[_____] per share and immediate dilution of approximately $[____] per share to new investors purchasing shares of our common stock in this offering.

The following table summarizes, on a pro forma as adjusted basis as of December 31, 2019, the differences between the number of shares of common stock and warrants purchased from us, the total consideration and the average price per share paid by existing stockholders and by investors participating in this offering, after deducting estimated underwriting discounts and commissions and estimated offering expenses, at the assumed initial public offering price of $[___] per share.

	Shares Purchased		Total Consideration		Average Price Per Share
	Number	%	Amount	%	
Existing Shareholders	[●]	[●]	$ [●]	[●]%	$ [●]
New Investors	[●]	[●]	$ [●]	[●]%	$ [●]
Total	$ [●]	[●]	$ [●]	100%	$ [●]

The table and discussion above are based on 2,538,583 shares of common stock outstanding as of December 31, 2019, after giving effect to the conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of our common stock immediately prior to the closing of this offering, and excludes, as of that date, the following:

- 349,131 shares of common stock issuable upon exercise of outstanding stock options at a weighted average exercise price of $1.79 per share;
- 367,632 shares of common stock reserved under our Amended and Restated 2018 Equity Incentive Plan; and
- 150,577 shares of common stock issuable upon the exercise of outstanding common stock purchase warrants.

In addition, we may choose to raise additional capital in the future. To the extent that capital is raised through equity or convertible securities, the issuance of those securities may result in further dilution to the holders of common stock.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and plan of operations together with our financial statements and the related notes appearing elsewhere in this prospectus. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from those discussed below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those discussed in the section titled "Risk Factors" included elsewhere in this prospectus.

Overview

We are a clinical stage biotechnology company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from our targeted oncology therapies. Our portfolio of therapies consists of small molecules that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that we are developing with the assistance of our A.I. platform and our biomarker driven approach. Our A.I. platform, known as RADR®, currently includes more than 275 million data points, and uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning to rapidly uncover biologically relevant genomic signatures correlated to drug response, and then identify the cancer patients that we believe may benefit most from our compounds. This data-driven, genomically-targeted and biomarker-driven approach allows us to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates at what we believe is a fraction of the time and cost associated with traditional cancer drug development.

Our strategy is to both develop new drug candidates using our RADR® platform, and other machine learning driven methodologies, and to pursue the development of drug candidates that have undergone previous clinical trial testing or that may have been halted in development or deprioritized because of insufficient clinical trial efficacy (i.e., a meaningful treatment benefit relevant for the disease or condition under study as measured against the comparator treatment used in the relevant clinical testing) or for strategic reasons by the owner or development team responsible for the compound. Importantly, these historical drug candidates appear to have been well-tolerated in many instances, and often have considerable data from previous toxicity, tolerability and ADME (absorption, distribution, metabolism, and excretion) studies that have been completed. Additionally, these drug candidates may also have a body of existing data supporting the potential mechanism(s) by which they achieve their intended biologic effect, but often require more targeted trials in a stratified group of patients to demonstrate statistically meaningful results. Our dual approach to both develop de-novo, biomarker-guided drug candidates and "rescue" historical drug-candidates by leveraging A.I., recent advances in genomics, computational biology and cloud computing is emblematic of a new era in drug development that is being driven by data-intensive approaches meant to de-risk development and accelerate the clinical trial process. In this context, we intend to create a diverse portfolio of oncology drug candidates for further development towards regulatory and marketing approval with the objective of establishing a leading A.I.-driven, methodology for treating the right patient with the right oncology therapy.

A key component of our strategy is to target specific cancer patient populations and treatment indications identified by leveraging our RADR® platform, a proprietary A.I. enabled engine created and owned by us. We believe the combination of our therapeutic area expertise, our A.I. expertise, and our ability to identify and develop promising drug candidates through our collaborative relationships with research institutions in selected areas of oncology gives us a significant competitive advantage. Our RADR® platform was developed and refined over the last four years and integrates millions of data points immediately relevant for oncology drug development and patient response prediction using artificial intelligence and proprietary machine learning algorithms. By identifying clinical candidates, together with relevant genomic and phenotypic data, we believe our approach will help us design more efficient pre-clinical studies, and more targeted clinical trials, thereby accelerating our drug candidates' time to approval and eventually to market. Although we have not yet applied for or received regulatory or marketing approval for any of our drug candidates, we believe our RADR® platform has the ability to reduce the cost and time to bring drug candidates to specifically targeted patient groups. We believe we have developed a sustainable and scalable biopharma business model by combining a unique, oncology-focused big-data platform that leverages artificial intelligence along with active clinical and preclinical programs that are being advanced in targeted cancer therapeutic areas to address today's treatment needs.

Our current portfolio consists of three active compounds in development: two drug candidates in clinical phases and, one in preclinical studies. All of these drug candidates are leveraging precision oncology, A.I. and genomic driven approaches to accelerate and direct development efforts. We currently have two drug candidates in clinical development, LP-100 and LP-300, where we are leveraging data from prior preclinical studies and clinical trials, along with insights generated from our A.I. platform, to target the types of tumors and patient groups that would be most responsive to the drug. Both LP-100 and LP-300 showed promise in prior clinical testing, but failed pivotal Phase III trials where the overall results did not meet the required clinical endpoints due to what we believe was a lack of patient stratification driven by an inability to develop biomarker-driven, precision oncology trials. Additionally, we have one new drug candidate, LP-184, in preclinical development for two potentially distinct indications where we are leveraging machine learning and genomic data to streamline the drug development process and to identify the patients and cancer subtypes that will best benefit from the drug, if approved.

Our development strategy is to pursue an increasing number of oncology focused, molecularly targeted therapies where artificial intelligence and genomic data can help us provide biological insights, reduce the risk associated with development efforts and help clarify potential patient response. We plan on strategically evaluating these on a program-by-program basis as they advance into clinical development, either to be done entirely by us or with out-licensing partners to maximize the commercial opportunity and reduce the time it takes to bring the right drug to the right patient

To date, except for a research grant in 2017, we have not generated any revenue, we have incurred net losses and our operations have been financed primarily by sales of our equity securities. Our net losses were approximately $2,428,000 and $1,726,000 for the years ended December 31, 2019 and 2018, respectively.

Our net losses have primarily resulted from costs incurred in licensing and developing the drug candidates in our pipeline, planning, preparing and conducting preclinical studies, early stage clinical testing and general and administrative activities associated with our operations. We expect to continue to incur significant expenses and corresponding increased operating losses for the foreseeable future as we continue to develop our pipeline. Our costs may further increase as we conduct preclinical studies and clinical trials and potentially seek regulatory clearance for and prepare to commercialize our drug candidates. We expect to incur significant expenses to continue to build the infrastructure necessary to support our expanded operations, preclinical studies, clinical trials, commercialization, including manufacturing, marketing, sales and distribution functions. We will also experience increased costs associated with operating as a public company.

The development of our drug candidates could be disrupted and materially adversely affected in the future by a pandemic, epidemic or outbreak of an infectious disease like the recent outbreak of COVID-19. For example, as a result of measures imposed by the governments in regions affected by COVID-19 businesses and schools have been suspended due to quarantines or "stay at home" orders intended to contain this outbreak. The spread of COVID-19 from China to other countries has resulted in the Director General of the World Health Organization declaring the outbreak of COVID-19 as a Public Health Emergency of International Concern (PHEIC), based on the advice of the Emergency Committee under the International Health Regulations (2005), and on March 12, 2020, the President of the United States imposed international travel restrictions between the US and Europe to supplement the existing international travel restrictions between the US and certain Asian countries and on March 13, 2020, declared a national emergency in response to the likely spread of COVID-19 to the U.S. COVID-19 continues to spread globally and, as of April 2020, has spread to over 150 countries, including the United States. While the COVID-19 outbreak is still in its early stages, international stock markets continue to reflect the uncertainty associated with the slow-down in the Chinese, US and European economies and the reduced levels of international travel experienced since the beginning of January 2020. The significant declines in the Dow Industrial Average and other domestic and international stock indices at the end of February and during March and April 2020 were largely attributed to the adverse effects the pandemic has had on the world's economies. We are still assessing our business plans and the impact COVID-19 may have on our ability to advance the development of our drug candidates or to raise financing to support the development of our drug candidates, but no assurances can be given that this analysis will enable us to avoid part or all of any impact from the spread of COVID-019 or its consequences, including downturns in business sentiment generally or in our sector in particular. The spread of an infectious disease, including COVID-19, may also result in the inability of our suppliers to deliver components or raw materials on a timely basis or materially and adversely affect our collaborators and out-license partners ability to perform preclinical studies and clinical trials.

Components of Our Results of Operations

Revenues

We did not recognize revenues for the years ended December 31, 2019 and 2018.

General and Administrative

General and administrative expenses consist of our operating expenses that are not included in the direct costs of production or cost of goods sold which include:

- corporate office overhead expenses such as salaries of administrative staff and corporate officers;
- legal expenses;
- accounting expenses; and
- rent, utilities and supplies.

Research and Development

Research and development expenses consist primarily of costs incurred for the research and development of our preclinical and clinical candidates, which include:

- expenses incurred towards consultants, laboratories and investigators that conduct our preclinical or clinical research activities; and
- the cost of acquiring and developing preclinical study materials and lab supplies.

We expense research and development costs to operations as incurred.

For the years ended December 31, 2019 and 2018, we incurred an aggregate of approximately $953,000, and $572,000, respectively, in research and development expenses related to the development of LP-100, LP-184, LP-300 and our RADR® platform. We expect that our research and development expenses will increase as we plan for and commence our clinical trials of LP-184 and LP-300.

Because of the numerous risks and uncertainties associated with product development, we cannot determine with certainty the duration and completion costs of these or other current or future clinical trials of LP-184 and LP-300 or our other therapeutic candidates. We may never succeed in achieving regulatory approval for LP-184 and LP-300 or any of our other drug candidates. The duration, costs and timing of clinical trials and development of our therapeutic candidates will depend on a variety of factors, including the uncertainties of future clinical and preclinical studies, uncertainties in clinical trial enrollment rate and significant and changing government regulation. In addition, the probability of success for each drug candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability.

General and Administrative

General and administrative expenses consist primarily of salaries and related costs for employees in executive, finance and administration, corporate development and administrative support functions, including stock-based compensation expenses and benefits. Other significant general and administrative expenses include accounting and legal services, the cost of various consultants, occupancy costs and information systems costs.

We expect that our general and administrative expenses will increase once we operate as public company. We expect increased administrative costs resulting from our anticipated clinical trials and the potential commercialization of our drug candidates. We believe that these increases will likely include increased costs for director and officer liability insurance, hiring additional personnel to support future market research and future product commercialization efforts and increased fees for outside consultants, attorneys and accountants. We also expect to incur increased costs to comply with corporate governance, internal controls, investor relations and disclosures and similar requirements applicable to a public company.

Financial Operations Overview and Analysis for the Years Ended December 31, 2019 and 2018.

	Year Ended December 31,	
	2019	**2018**
Revenue	-	-
Expenses		
General and administrative	$ 1,475,000	$ 1,154,322
Research and development	953,185	572,095
Total expenses	2,428,185	1,726,417
Net loss	$ (2,428,185)	$ (1,726,417)

Revenues

To date, except for a research grant in 2017, we have not generated any revenue since our inception.

General and Administrative

General and administrative expenses increased approximately $320,678 or 27.8%, from $1,154,322 for the year ended December 31, 2018 to $1,475,000 for the year ended December 31, 2019. The increase was primarily attributable to increases in professional expenses of approximately $99,000, travel and relocation expense increases of approximately $97,000, and employee compensation increases of approximately $95,000 .. There was also a decrease in non-cash stock-based compensation of $67,844, from $185,604 for the year ended December 31, 2018 to $117,760 for the year ended December 31, 2019.

Research and Development Expense

Research and development expenses increased approximately $381,090, or 67%, from $572,095 for the year ended December 31, 2018 to $953,185 for the year ended December 31, 2019.

On September 3, 2018 Lantern Pharma Limited, our wholly owned subsidiary, was awarded a grant by the UK government in the form of state aid under the Commission Regulations (EU) No. 651/2014 of 17 June 2014 (the "General Block Exemption"), Article 25 Aid for research and development projects, state aid notification no. SA.40154. The grant was awarded to conduct research and development activities for the prostate cancer biomarker analysis of our LP-184 drug candidate. Following our research and development activities in Northern Ireland, the grant will reimburse 50% of our research and development expenses not exceeding GBP 24,215 (approximately $32,078 at December 31, 2019) of vouched and approved expenditures within specific categories and will remain in force for a period of five years. No revenue has been recognized from this grant through December 31, 2019.

Liquidity and Capital Resources

We reported net losses of $2,428,185 and $1,726,417 for the years ended December 31, 2019 and 2018, respectively. We had working capital of approximately $744,000 as of December 31, 2019.

We have not yet generated any revenues from operations, other than revenues from a research grant in 2017, and we have not yet achieved profitability. We expect that general and administrative expenses and our research and development expenses will continue to increase and, as a result, we will need to generate significant product revenues to achieve profitability. We may never achieve profitability.

Sources of Liquidity

Since our inception, our operations have been financed primarily through the sale of equity securities, and, to a lesser extent, grants received by us from Massachusetts Life Sciences Center in 2017.

As of the years ended December 31, 2019 and 2018, we had cash and cash equivalents of $1,232,030 and $445,163 respectively. We believe that the net proceeds from this offering of $[___], together with our existing cash and cash equivalents as of December 31, 2019, and our anticipated expenditures and capital commitments for the calendar year 2020, will enable us to fund our operating expenses and capital expenditure requirements for at least 12 months from the date of this prospectus.

Cash Flows

The following table summarizes our cash flow for the periods indicated:

	Year Ended December 31,	
	2019	**2018**
Net cash flows used in operating activities	$ (2,127,923)	$ (1,271,517)
Net cash flows (used in) provided by investing activities	(5,717)	5,337
Net cash flows provided by financing activities	2,920,507	535,000
Net (decrease) increase in cash and cash equivalents	$ 786,867	$ (731,180)

Operating Activities

For the year ended December 31, 2019, net cash used in operating activities was approximately $2,127,923, which consisted of a net loss of $2,428,185 offset by $117,760 in stock based compensation and an increase in accounts payables of $372,663.

For the year ended December 31, 2018, net cash used in operating activities was $1,271,517 which consisted of a net loss of $1,726,417 offset primarily by a decrease in accounts receivable of $186,603 and stock based compensation in the amount of $185,604.

Investing Activities

Net cash (used in) provided by investing activities was $(5,717), and $5,337 for the years ended December 31, 2019 and 2018, respectively, and consisted of purchase and sales of property and equipment.

Financing Activities

Net cash provided by financing activities were $2,920,507 and $535,000 for the years ended December 31, 2019 and 2018. During the year ended December 31, 2019, we completed the sale of 658,571 shares of Series A preferred stock and warrants to purchase Series A preferred stock, for proceeds amounting to $3,455,000 of which $2,920,000 consisted of cash and $535,000 consisted of the conversion of Simple Agreement for Future Equity ("SAFE") agreements to Series A Preferred Stock. During the year ended December 31, 2018, we obtained $535,000 in funding pursuant to SAFE agreements in exchange for an agreement to issue shares of our preferred stock to the SAFE agreement investors upon occurrence of a subsequent financing.

Operating Capital and Capital Expenditure Requirements

We expect to continue to incur significant and increasing operating losses at least for the next several years as we commence our clinical trials of LP-184 and LP-300, pursue development of our other drug candidates, and seek potential future marketing approval for our drug candidates which could be several years in the future, if at all. We do not expect to generate revenue, other than possible license revenue, unless and until we successfully complete development and obtain regulatory approval for our therapeutic candidates. Our net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our planned clinical trials and our expenditures on other research and development activities.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. We anticipate that our expenses will increase substantially as we:

- continue the development of our drug candidates;
- initiate preclinical studies and clinical trials for any additional indications for our current drug candidates and any future drug candidates that we may pursue;
- continue to build our portfolio of drug candidates through the acquisition or in-license of additional drug candidates or technologies;
- continue to develop, maintain, expand and protect our intellectual property portfolio;
- continue to develop, maintain, and expand our RADR® platform;

- pursue regulatory approvals for those of our current and future drug candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing, distribution and other commercial infrastructure to commercialize any drug candidate for which we may obtain marketing approval;
- hire additional clinical, regulatory, scientific and accounting personnel; and
- incur additional legal, accounting and other expenses in operating as a public company.

We expect that we will need to obtain substantial additional funding in order to complete our clinical trials. To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, the ownership interests of our existing stockholders may be materially diluted and the terms of these securities could include liquidation or other preferences that could adversely affect the rights of our existing stockholders. In addition, debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business. If we are unable to raise capital when needed or on attractive terms, we could be forced to significantly delay, scale back or discontinue the development or commercialization of LP-184 and LP-300 and/or other drug candidates, seek collaborators at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available, and relinquish or license, potentially on unfavorable terms, our rights to LP-184 and LP-300 or other drug candidates that we otherwise would seek to develop or commercialize ourselves.

Contractual Obligations

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements as defined under SEC rules.

Critical Accounting Policies

We prepare our consolidated financial statements in accordance with generally accepted accounting standards in the United States of America. Our significant accounting policies are described in Note 3 to our consolidated financial statements attached hereto. We believe the following critical accounting policies involve the most significant judgments and estimates used in the preparation of the consolidated financial statements.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Significant areas of estimation include determining the deferred tax asset valuation allowance and the inputs in determining the fair value of equity-based awards and warrants issued. Actual results could differ from these estimates.

Research and Development

Research and development expenses are expensed as incurred. Costs to acquire technologies, including licenses, that are utilized in research and development and that have no alternative future use are expensed when incurred.

Stock-based Compensation

We have granted stock options to our employees under our equity incentive plan. Stock-based compensation expense from awards granted under our plan is allocated over the required service period over which those stock option awards vest.

The stock option awards are valued at fair value on the date of grant and that fair value is recognized over the requisite service period. The estimated fair value of these stock option awards was determined using the Black Scholes option pricing model on the date of grant. Significant judgment and estimates were used to estimate the fair value of these awards, as they are not publicly traded.

Our estimation of fair value of the awards considered our recent transactions, relevant industry and comparable public company data. Since, at the time of the grants, we were a non-public entity, the majority of the inputs used to estimate the fair value of the common stock option awards are considered level 3 due to their unobservable nature. Each option award is subject to specified vesting schedules and requirements. Compensation expense is charged to us over the required service period to earn the award which is expected to be up to four years, subject to the achievement of time and event-based vesting requirements. For the years ended December 31, 2019 and 2018, we have incurred share-based compensation expense related to equity awards totaling $117,760 and $185,604, respectively. We have recorded these charges as general and administrative expense in our statement of operations.

Accounting Pronouncements

New Accounting Pronouncements Not Yet Adopted

Income Taxes

In December 2019, the FASB issued ASU 2019-12: Income Taxes (Topic 740) – Simplifying the Accounting for Income Taxes. This ASU simplifies accounting for income taxes by removing the exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or gain for other items, the exception to the requirement to recognize a deferred tax liability for equity method investments when a foreign subsidiary becomes an equity method investment, exception to the ability not to recognize a deferred tax liability for a foreign subsidiary when a foreign equity method investment becomes a subsidiary, and the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. This ASU also includes other requirements related to franchise tax, goodwill as part of a business combination, consolidations, changes in tax laws, and affordable housing projects. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, including interim periods within that fiscal year. Early adoption is permitted for periods in which financial statements have not yet been issued. We do not anticipate a material impact from the adoption of this new standard on its financial statements.

Recently Adopted Accounting Standards

Leases

In February 2016 the FASB issued ASU 2016-02: Leases. The ASU introduces a lessee model that results in most leases impacting the balance sheet. The ASU addresses other concerns related to the current lease model. Under ASU 2016-02, lessees will be required to recognize for all leases with terms longer than 12 months, at the commencement date of the lease, a lease liability, which is a lessee's obligation to make lease payments arising from a lease measured on a discounted basis, and a right-to-use (ROU) asset, which is an asset that represents the lessee's right to use or control the use of a specified asset for the lease term. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition.

In July 2018, the FASB issued ASU 2018-10 "Codification Improvements to Topic 842, Leases." This ASU affects narrow aspects of the guidance issued in the amendments in ASU 2016-02 including those regarding residual value guarantees, rate implicit in the lease, lessee reassessment of lease classification, lessor reassessment of lease term and purchase option, variable lease payments that depend on an index or a rate, investment tax credits, lease term and purchase option, transition guidance for amounts previously recognized in business combinations, certain transition adjustments, transition guidance for leases previously classified as capital leases under Topic 840, transition guidance for modifications to leases previously classified as direct financing or sales-type leases under Topic 840, transition guidance for sale and leaseback transactions, impairment of net investment in the lease, unguaranteed residual asset, effect of initial direct costs on rate implicit in the lease, and failed sale and leaseback transactions.

We adopted ASC 2018-10 Topic 842 effective January 1, 2019 and elected the short-term lease recognition exemption for all leases that qualify. For those leases that qualify, the Company will not recognize ROU assets or lease liabilities, and this includes not recognizing ROU assets or lease liabilities for existing short-term leases of those assets in transition. This practical expedient was elected to not separate lease and non-lease components for its office space leases. We do not expect a material impact from the adoption of this new standard on its financial statements as it does not have any leases that have terms of longer than 12 months.

Compensation – Stock Compensation

In June 2018, the FASB issued ASU 2018-07: Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. This ASU expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees, and as a result, the accounting for share-based payments to non-employees will be substantially aligned. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted but no earlier than an entity's adoption date of Topic 606. We adopted ASU Topic 718 effective January 1, 2019. The adoption of this new accounting guidance did not have a material impact on our consolidated financial statements and related footnote disclosures.

Compensation – Stock Compensation

In June 2018, the FASB issued ASU 2018-07: Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. This ASU expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees, and as a result, the accounting for share-based payments to non-employees will be substantially aligned. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year, early adoption is permitted but no earlier than an entity's adoption date of Topic 606. We do not believe there will be a material impact from the adoption of this new accounting guidance on our consolidated financial statements and related footnote disclosures.

Quantitative and Qualitative Disclosure About Market Risk

Our primary exposure to market risk is interest expense sensitivity, which is affected by changes in the general level of U.S. interest rates. Historically, we have raised capital through the issuance of equity securities. As of December 31, 2019, we had no long-term debt outstanding.

We do not believe that our cash has significant risk of default or illiquidity. While we believe our cash does not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash at one or more financial institutions that are in excess of federally insured limits.

We do not participate in any foreign currency hedging activities and we do not have any other derivative financial instruments.

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on our results of operations during the periods presented.

JOBS Act

On April 5, 2012, the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, was enacted. Section 107 of the JOBS Act provides that an "emerging growth company" can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, or the Securities Act, for complying with new or revised accounting standards. In other words, an "emerging growth company" can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We have chosen to opt out of the extended transition periods available to emerging growth companies under the JOBS Act for complying with new or revised accounting standards. Section 107 of the JOBS Act provides that our decision to opt out of the extended transition periods for complying with new or revised accounting standards is irrevocable.

We are in the process of evaluating the benefits of relying on other exemptions and reduced reporting requirements provided by the JOBS Act. Subject to certain conditions set forth in the JOBS Act, as an "emerging growth company," we intend to rely on certain of these exemptions, including without limitation, (i) providing an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (ii) complying with any requirement that may be adopted by the PCAOB regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis. We will remain an "emerging growth company" until the earliest of (i) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more; (ii) the last day of our fiscal year following the fifth anniversary of the date of the completion of this offering; (iii) the date on which we have issued more than $1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

BUSINESS

Overview

We are a clinical stage biotechnology company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from our targeted oncology therapies. Our portfolio of therapies consists of small molecules that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that we are developing with the assistance of our A.I. platform and our biomarker driven approach. Our A.I. platform, known as RADR®, currently includes more than 275 million data points, and uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning to rapidly uncover biologically relevant genomic signatures correlated to drug response, and then identify the cancer patients that we believe may benefit most from our compounds. This data-driven, genomically-targeted and biomarker-driven approach allows us to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates at what we believe is a fraction of the time and cost associated with traditional cancer drug development.

Our strategy is to both develop new drug candidates using our RADR® platform and other machine learning driven methodologies, and to pursue the development of drug candidates that have undergone previous clinical trial testing or that may have been halted in development or deprioritized because of insufficient clinical trial efficacy (i.e., a meaningful treatment benefit relevant for the disease or condition under study as measured against the comparator treatment used in the relevant clinical testing) or for strategic reasons by the owner or development team responsible for the compound. Importantly, these historical drug candidates appear to have been well-tolerated in many instances, and often have considerable data from previous toxicity, tolerability and ADME (absorption, distribution, metabolism, and excretion) studies that have been completed. Additionally, these drug candidates may also have a body of existing data supporting the potential mechanism(s) by which they achieve their intended biologic effect, but often require more targeted trials in a stratified group of patients to demonstrate statistically meaningful results. Our dual approach to both develop de-novo, biomarker-guided drug candidates and "rescue" historical drug candidates by leveraging A.I., recent advances in genomics, computational biology and cloud computing is emblematic of a new era in drug development that is being driven by data-intensive approaches meant to de-risk development and accelerate the clinical trial process. In this context, we intend to create a diverse portfolio of oncology drug candidates for further development towards regulatory and marketing approval with the objective of establishing a leading A.I.-driven, methodology for treating the right patient with the right oncology therapy.

A key component of our strategy is to target specific cancer patient populations and treatment indications identified by leveraging our RADR® platform, a proprietary A.I. enabled engine created and owned by us. We believe the combination of our therapeutic area expertise, our A.I. expertise, and our ability to identify and develop promising drug candidates through our collaborative relationships with research institutions in selected areas of oncology gives us a significant competitive advantage. Our RADR® platform was developed and refined over the last four years and integrates millions of data points immediately relevant for oncology drug development and patient response prediction using artificial intelligence and proprietary machine learning algorithms. By identifying clinical candidates, together with relevant genomic and phenotypic data, we believe our approach will help us design more efficient preclinical studies, and more targeted clinical trials, thereby accelerating our drug candidates' time to approval and eventually to market. Although we have not yet applied for or received regulatory or marketing approval for any of our drug candidates, we believe our RADR® platform has the ability to reduce the cost and time to bring drug candidates to specifically targeted patient groups. We believe we have developed a sustainable and scalable biopharma business model by combining a unique, oncology-focused big-data platform that leverages artificial intelligence along with active clinical and preclinical programs that are being advanced in targeted cancer therapeutic areas to address today's treatment needs.

Scientific literature offers a definition for "drug rescue" as research involving abandoned small molecules and biologics that have not been approved by the U.S. Food and Drug Administration ("FDA"). These rescued molecular compounds are often abandoned by pharmaceutical companies in the drug discovery or preclinical testing phase, typically because they do not prove effective for the specific use for which they were developed. Some of these compounds may be useful in treating other diseases for which they have not been tested. *See,* Hemphill, Thomas A., "The NIH Promotes Drug Repurposing and Rescue," Research Technology Management, v. 5, no. 5, pp. 6-8 (2012). Our use of the term "rescue", "drug rescue", or "drug rescuing" refers to, "…a system of developing new uses for chemical and biological entities that previously were investigated in clinical studies but not further developed or submitted for regulatory approval, or had to be removed from the market for safety reasons.", which is a definition we believe is recognized in the drug discovery, drug development and pharmaceutical and biotechnology industries. *See*, Naylor, S. and Schonfeld J., "Therapeutic Drug Repurposing, Repositioning and Rescue", DDW (Drug Discovery World) Winter 2014, and Mucke, HAM, A New Journal for the Drug Repurposing Community. Drug Repurposing, Rescue & Repositioning 1, 3-4 (2014). The use of the term "drug rescue," "rescuing," or words of similar meaning in this prospectus should not be construed to mean that our RADR® platform has resolved all issues of safety and/or efficacy for any of our drug candidates. Issues of safety and efficacy for any drug candidate may only be determined by the U.S FDA or other applicable regulatory authorities in jurisdictions outside the United States.

Our current portfolio consists of three compounds in active development: two drug candidates in clinical phases and, one in preclinical studies. All of these drug candidates are leveraging precision oncology, A.I. and genomic driven approaches to accelerate and direct development efforts. We currently have two drug candidates in clinical development, LP-100 and LP-300, where we are leveraging data from prior preclinical studies and clinical trials, along with insights generated from our A.I. platform, to target the types of tumors and patient groups that would be most responsive to the drug. Both LP-100 and LP-300 showed promise in prior clinical testing, but failed pivotal Phase III trials where the overall results did not meet the required clinical endpoints due to what we believe was a lack of patient stratification driven by an inability to develop biomarker-driven, precision oncology trials. Additionally, we have one new drug candidate, LP-184, in preclinical development for two potentially distinct indications where we are leveraging machine learning and genomic data to streamline the drug development process and to identify the patients and cancer subtypes that will best benefit from the drug, if approved.

Our development strategy is to pursue an increasing number of oncology focused, molecularly targeted therapies where artificial intelligence and genomic data can help us provide biological insights, reduce the risk associated with development efforts and help clarify potential patient response. We plan on strategically evaluating these on a program-by-program basis as they advance into clinical development, either to be done entirely by us or with out-licensing partners to maximize the commercial opportunity and reduce the time it takes to bring the right drug to the right patient.

Our most advanced drug candidate, LP-100, is in phase II clinical trials with our out-licensing partner. We have out-licensed LP-100 to Oncology Venture A/S ("*Oncology Venture"), a European biotechnology company* that is managing an active Phase II clinical trial in metastatic, castration-resistant, prostate cancer (mCRPC). Our second clinical-stage drug candidate in the rescue process is LP-300. LP-300 is a small molecule with cysteine modifying activity on select proteins, which has an existing investigational new drug application ("IND"). We intend to initiate discussions in 2020 with the U.S. FDA to launch a future phase II clinical trial for LP-300 with a stratified patient population of approximately 40 to 75 patients. Our new drug candidate, LP-184, is in a preclinical translational *ex vivo* study using fresh human biopsies. LP-184 is a next generation alkylating agent with nanomolar potency that preferentially damages DNA in cancer cells that overexpress certain biomarkers. LP-184 is in the fulvene class of compounds and has shown preliminary preclinical indications of lower toxicity, longer half-life, and increased antitumor activity as compared to other compounds in this drug class. Subject to regulatory clearance to move forward under a future IND application, we are planning a Phase I clinical trial for LP-184 across multiple solid tumors that express a certain biomarker profile, and in glioblastoma to begin in late 2021 or early 2022.

LP-100 is showing promise in solid tumors, primarily prostate cancer, where it is being advanced in an out-licensing transaction with Oncology Venture after being in-licensed and developed by us. LP-100 has been well-tolerated, based on initial observations from a phase II clinical trial in Europe in mCRPC. Most patients with metastatic prostate cancer present with localized cancer, for which the standard of care treatment is androgen deprivation/suppression therapy. Responses to such therapy can be transient and many patients will develop a castration resistant prostate cancer (CRPC) and develop, or are at risk to develop, mCRPC which accumulates genomic alterations including DNA repair deficits. Chemotherapeutic agents play a critical role in the management of both metastatic castration sensitive and mCRPC. The frequent use of the chemotherapy drug docetaxel in treating metastatic androgen sensitive prostate cancers exemplifies this role. Historical observations of potential anticancer activity of LP-100 in clinical studies with prostate cancer, and evidence of sensitivity to LP-184 in prostate cancer cell lines along with the development of computational methods that integrate gene expression signatures, support LP-184 as a drug candidate with potential for use in combination with androgen deprivation therapy for metastatic prostate cancer that is castration sensitive as well as metastatic prostate cancer that is castration resistant.

LP-184 is a new small molecule drug candidate that in preliminary preclinical studies has demonstrated increased plasma stability, reduced total body clearance, significantly longer half-life, and potentially greater tumor regression than other studied fulvene based compounds. We estimate that a substantial number of patients each year who suffer from metastatic prostate cancer globally could be eligible for potential treatment with LP-184, if approved. In addition, the observed nanomolar potency of LP-184 suggests that it may have anticancer properties in a wide range of solid tumors as an alkylating agent that works by causing DNA damage in tumor cells. Other indications for LP-184 in solid tumors are emerging as a result of early developmental and biomarker studies, including ovarian, breast, liver, kidney and thyroid cancers, as well as certain glioblastomas.

- Based on increased sensitivity in cell-lines and PDx models exhibiting DNA repair deficient genetic backgrounds, we believe that LP-184 could have potential for targeted treatment of DNA repair deficient hereditary breast and ovarian cancers, from which more than 2.3 million patients suffer globally according to the Global Cancer Observatory.

- Based on recent observations, we also believe that LP-184 could have potential as treatment (alone or in combination with other treatments) for glioblastoma, which is an aggressive type of cancer that accounts for more than half of all primary brain tumors. The American Association of Neurological Surgeons estimates that glioblastoma has an incidence of two to three per 100,000 adults per year and accounts for about 17% of all tumors of the brain (primary and metastatic).

- Our A.I. platform RADR® helped uncover genomic biomarkers that we believe indicate certain patients could be more responsive to therapy with LP-184.

Further work on these biomarkers both *in-silico* and in preclinical studies will help to establish a genomic signature that may accelerate our time to a clinical trial and help guide patient selection. We believe that the market for LP-184 as a molecularly-targeted drug candidate could be significant.

LP-300 (disodium 2,2'-dithio-bis-ethane sulfonate or dimesna) is a late-stage clinical drug candidate that was in-licensed by us from BioNumerik Pharmaceuticals, Inc. ("BioNumerik") in May 2016, and subsequently acquired by us in January of 2018. Using our RADR® platform as part of the drug rescue process, we have identified LP-300 for use in a more targeted set of cancer patients who exhibit a biomarker profile that we believe correlates with non-or never smoking status but still have a form of non-small cell lung cancer (NSCLC). LP-300, originally branded as Tavocept®, is a molecular entity that we believe may be capable of ameliorating the toxic side effects of chemotherapeutic drugs such as cisplatin, and it also appears to act as a potential chemoenhancer. LP-300 has been studied in multiple randomized, controlled, multi-center non-small cell lung cancer (NSCLC) trials that included administration of either paclitaxel and cisplatin and/or docetaxel and cisplatin. Since acquiring LP-300 from BioNumerik, we have not yet conducted further clinical testing of LP-300. We are currently evaluating LP-300 for the launch of a targeted phase II trial, in non or never smoking patients with NSCLC in combination with paclitaxel and cisplatin, under an existing IND.

Prior clinical trials conducted by BioNumerik for LP-300 did not meet their primary clinical endpoints and at least one or more future clinical trials that meet their pre-specified primary endpoints with statistical significance will be required before we can obtain a regulatory marketing approval, if any, to commercialize LP-300. Prior clinical trial observations are not necessarily predictive of the outcome of any future clinical trials we may conduct.

Retrospective analyses of the results of a multi-country phase III lung cancer trial conducted by BioNumerik in subgroups of NSCLC adenocarcinoma patients receiving LP-300, paclitaxel and cisplatin demonstrated substantial improvement in overall survival, particularly among female non-smokers, where a 13.6 month improvement in overall survival (p-value 0.0167, hazard ratio 0.367) in favor of LP-300 was observed, as compared to placebo in the subgroup of paclitaxel/cisplatin-treated patients. Similar retrospective findings of increased overall survival in the subgroup of LP-300/paclitaxel/cisplatin treated female Asian patients with adenocarcinoma of the lung were observed in a randomized, double-blind, placebo-controlled trial in Japan. We plan on advancing this drug candidate for the never or non-smoker population of patients due to the following important market and clinical need factors:

- As many as 40% of lung cancers either do not carry currently known targetable proteins or will progress despite initial therapy resulting in a dependence upon chemotherapeutic drug regimens in their treatment, and according to the Global Cancer Observatory, lung cancer is the second most common cancer with over 2 million cases globally.

- Approximately 40% of all lung cancers are adenocarcinomas, with more than half of such lung adenocarcinomas occurring in women.

- As many as 20% of people who die from lung cancer in the United States every year have never smoked or used any other form of tobacco.

- With declining rates of smoking, especially in North America and Europe, the relative proportion of lung cancer patients who are never-smokers is increasing, and this does not appear to be confounded by passive smoking or misreported smoking status.

- Women who have never smoked have a higher proportion of lung cancer than men who are lifelong never-smokers.

- In the clinical research community, a greater focus is being placed on lung cancers that occur in the never-smoking population along with the recognition that such lung cancers might be a genetically distinct type of cancer with a different molecular profile than smoking-based lung cancers.

- Mechanistic studies indicate that LP-300 may work by disruption at binding sites of oncoproteins such as ALK, MET, ROS1 and EGFR which are more commonly altered in female non-smokers and Asian females than in any other groups.

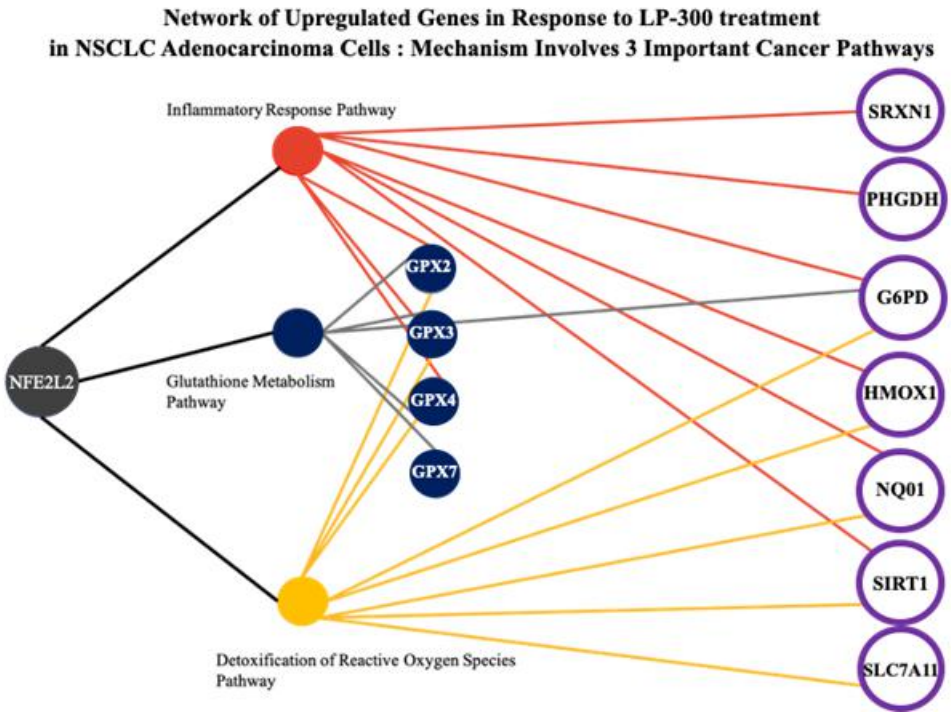
- Never-smokers have also been observed to be less responsive to therapies that stimulate or leverage the immune system such as checkpoint inhibitors or PD-1 and PL-L1 inhibitors. In a meta-analysis research publication of 1,981 patients by Drs. Li, Huang and Fu published in *OncoTargets and Therapy, June 26, 2018* which spanned 3 Phase III randomized, controlled clinical trials the authors observed that, "…PD-1 inhibitors were more efficacious in smoking NSCLC patients compared with chemotherapy. No better survival of nonsmoking patients was observed in the treatment of PD-1 inhibitors than chemotherapy."

We are focused on advancing the development of LP-300 as a combination therapy for female non or never-smokers with NSCLC adenocarcinoma and potentially among non or never-smokers with a genomic signature that correlates with a higher potential of response to this drug compound. We selected NSCLC in non-smoking females as our lead proposed indication because it is a cancer with a growing patient population, without effective treatment options, and LP-300 has shown an improvement in overall survival in this targeted sub-group population in prior clinical studies.

In vitro studies indicate that the target-specific effects of LP-300 potentially correlate to the covalent modification of accessible cysteine residues important in protein function/structure. These could be involved in disruption/ blocking of cofactor binding sites resulting in blocking of oncoproteins such as ALK, MET, ROS1, and EGFR that are more commonly altered in female non-smokers than in any other group. Other potential mechanisms of action of LP-300 could include impact on stress induced oxidoreductases thereby allowing LP-300 to exert its potential chemo-enhancing effects in the presence of chemotherapeutic agents such as cisplatin. LP-300 is postulated to potentiate antitumor cytotoxicity of standard of care chemotherapy agents such as cisplatin. We believe a key LP-300 related mechanism is likely to occur through the increase of tumor cell sensitivity to oxidative stress. Additionally, via induction of NRF2 (also known as NFE2L2), LP-300 has the potential to provide protection of healthy cells against chemotherapy-associated toxicity, and such protection potential was observed with LP-300 combination therapy in both prior nonclinical studies and clinical trials

A differential gene expression analysis of whole transcriptome profiling data from LP-300 treated versus untreated NSCLC adenocarcinoma cells has been performed. Using a threshold of fold change > 2 out of a set of 51 curated NRF2 (NFE2L2) target genes as well as NRF2 itself, we observed the top significantly upregulated genes in response to LP-300 exposure. Based on our observations, we believe these genes could include NFE2L2, NQO1, PHGDH, HMOX1, SLC7A11, SRXN1, SOX2, GPX2, GPX3, GPX4, GPX7, G6PD, SIRT1, ITGB2 and BCL2. Our analysis indicates that these genes preferentially map to the following biological signaling pathways: (i) detoxification of reactive oxygen species; (ii) glutathione metabolism; and (iii) inflammatory response. We filed a patent application in March of 2020 on this discovery.

The interaction network of selected genes along with the associated biological pathways is shown in the figure below.



As part of our overall growth strategy, we plan to grow our pipeline by identifying new drug candidates and pursuing potential indications for both LP-184 and LP-300 while leveraging our RADR® platform. We are also pursuing the identification and design of potential combination therapies in cancer for our compounds by leveraging our RADR® platform to analyze synergistic genomic networks and biological pathways with other currently approved drugs. We intend to select our next clinical program in the next twelve months.

We have an extensive global portfolio of intellectual property directed to our drug candidates, and to protect the targeted use and development of our portfolio of compounds in specific patient populations and in specific therapeutic indications.

As of April 2020, we own or control 114 active patents and patent applications across 14 patent families whose claims are directed to our drug candidates and what we plan to do with our drug candidates. We have in-licensed or acquired patents from AF Chemicals, and BioNumerik that are directed to the compounds, LP-100, LP-184 and LP-300. Additionally, we have also filed patent applications to further enhance, and extend the use of these in-licensed compounds. Our 14 patent families are directed to our drug candidates, their usage, manufacturing and other matters. These matters are essential to precision oncology and relate to: (a) uniquely powerful, data-driven, biologically relevant biomarker signatures, (b) patient selection and stratification approaches that rely on prediction of response derived from these signatures and, (c) the ability to develop novel, combination therapy approaches with existing therapeutics.

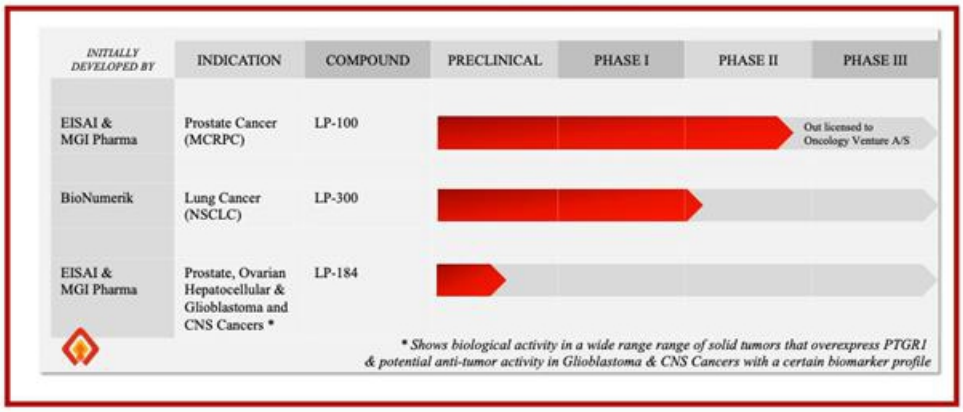
Our Drug Candidate Pipeline

One of the ways we are building our drug candidate pipeline is by in-licensing clinical stage drug candidates that may have been discontinued for development. We use our RADR® platform to assist in analyzing prior clinical research conducted by others to identify small-molecule oncology drug candidates that have (i) a well-tolerated profile evidenced by completion of phase I clinical trials, and (ii) demonstrated at least limited antitumor or anticancer activity in clinical trials. We intend to implement an efficient and thorough workflow to advance the drug candidates in our pipeline as potential precision medicine treatments for cancer. Our targeted development workflow includes preclinical studies where drug activity and associated gene signatures are identified, in part through strategic collaborations with some of the top academic institutions and clinical translational centers in the world. Using this collaborative approach, together with innovative observations from our RADR® platform, we intend to develop and add drug candidates to our pipeline with the objective of treating the right patient populations with the right oncology therapies.

We use our RADR® platform to identify potential biomarkers for patient response to a drug candidate and we further intend to validate the selected drug candidate and potential associated biomarkers by conducting small, focused early phase clinical trials. We intend to create various exit opportunities between one to three years for each drug candidate that progresses successfully. For each drug candidate that progresses, along with its newly identified biomarker diagnostic for drug response, we intend to partner, out-license, or internally develop the drug.

Our current pipeline of development programs involves three small molecule drug candidates: LP-100, LP-184 and LP-300.

Lantern Pharma — Oncology Therapeutics Pipeline



- **LP-100 (Irofulven)** LP-100 has been out-licensed to Oncology Venture and is in active enrollment for a phase II clinical trial in AR-targeted and Docetaxel-Pretreated mCRPC Patients.

- **LP-300 (Tavocept®)** We are currently evaluating LP-300 for the launch of a phase II clinical trial, in combination with **p**aclitaxel and **c**isplatin in female non-smokers and never-smokers with NSCLC adenocarcinoma that have a unique biomarker profile.

- **LP-184**. LP-184 is a next generation alkylating agent with nanomolar potency that preferentially damages DNA in cancer cells that overexpress certain biomarkers. LP-184 is in preclinical development and is in the planning stages for a phase I clinical trial.

LP-100 is currently being advanced by our licensee, Oncology Venture. LP-184 and LP-300 are being advanced solely by us. There is currently no active IND in the U.S. for LP-100 and LP-184. We currently have an existing IND in the U.S. for LP-300 that was transferred to us as part of our in-licensing and agreement with BioNumerik to acquire the rights to the compound.

Our Precision Cancer Therapy Development Using Our Innovative* RADR® *Platform

Historically, cancer treatment protocols include surgery, chemotherapy and radiation therapy. Treatments have been selected based on histologic type and disease spread, irrespective of genetic differences among patients. With the advent of precision therapies, cancer treatments increasingly target specific genes or mechanisms of action for a more personalized approach to patient care. This trend represents a substantial advance in cancer treatment because tumor growth is highly dependent on genetic changes and the genetic profile of the individual and the progression of the disease is highly variable amongst patients.

Our RADR® platform is core to our drug development approach for identifying the desired candidates to in-license and develop. According to a recent article in JAMA (*Estimated Research and Development Investment Needed to Bring a New Medicine to Market*, 2009-18, *JAMA, March 3, 2020*) oncology drug development is costly, risky, and highly competitive with an average success rate of 4% to 8% and average developmental costs of over $1 billion per successful drug. There is a critical need to rescue clinical research on drugs that have failed clinical trials in order to provide additional possible therapies for patients while reducing the overall cost of therapeutic development. Many drug failures within oncology may be attributed to the heterogeneity of the tested patient population, even though there may be a strongly positive therapeutic impact on certain patient subgroups within that population.

Our drug rescue approach leverages substantial prior research and development investments in candidates that were withdrawn from development prior to submission for FDA approval. The large volume of failed compounds, recent developments that permit increased access to validated genomic and biomarker data, and the rapid evolution of AI technology creates an opportunity to efficiently capitalize on these investments.

Our RADR® platform is rapidly emerging as a robust and scalable platform for targeted cancer therapy development. Through the use of AI and machine learning, RADR® is designed to quickly identify and guide the development of compounds that we can develop as potential oncology agents through either a process of drug rescue, drug repositioning or de-novo development. RADR® is being developed on a routine basis through an accumulation and curation of genomic and biomarker data that is directly relevant to the measurement and classification drug-tumor interaction, and clinical datapoints related to patient response and patient stratification.

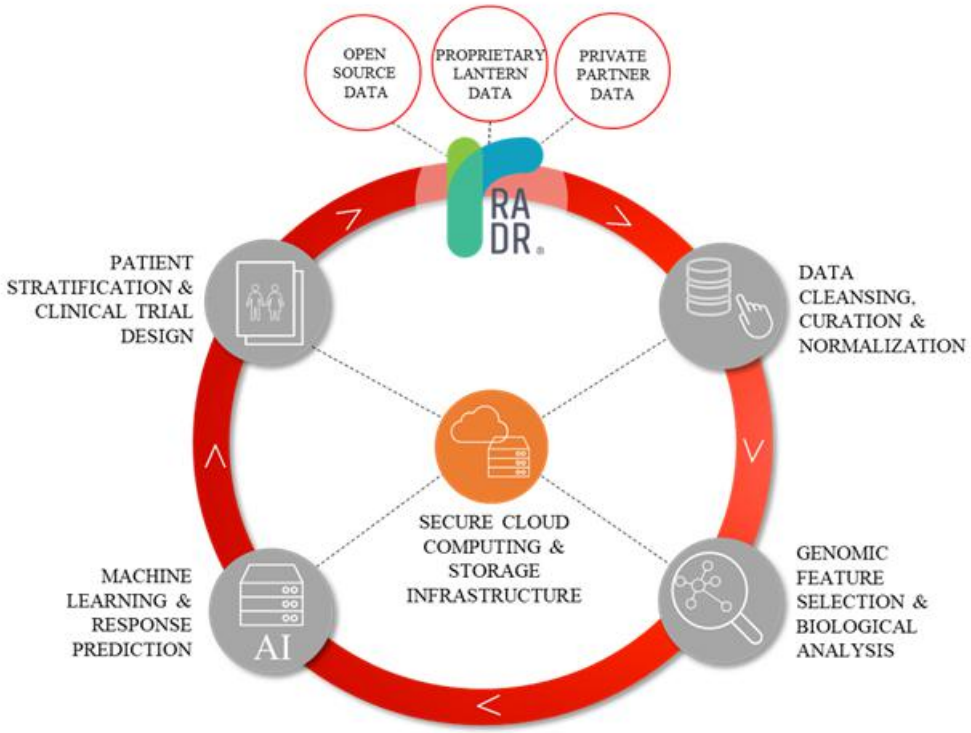
Predicting optimal drug responses in cancer patients requires the identification and validation of predictive biomarkers. Our RADR® platform seeks to identify biomarkers to assist in selecting patients who have the highest likelihood to respond to our drug candidates. For example, the targeted indications for our drug candidate LP-184 were chosen in part because they are known to highly express the protein coding gene PTGR1. Our preclinical "PRostate cancer Artificial Intelligence Study using *Ex vivo* models" or "PRAISE" trial and our planned clinical trial for LP-184 are intended to examine biomarkers related to LP-184's molecular and cellular targets to identify those that may correlate with clinical observed anticancer activity. This method of using and validating targeted biomarkers during development and then using these biomarkers during clinical trials can lead to shortening of the development timeline and compression of costs associated with oncology drug development.

Similarly, we believe LP-300 targets molecular pathways that are more common in female non-smokers than in any other group and also targets kinases involved in key signaling pathways involving enzymes critical for DNA synthesis and repair, such as Excision Repair Cross-Complementation Group 1 (ERCC1), Ribonucleotide Reductase 1 (RNR1), Ribonucleotide Reductase 2 (RNR2), as well as enzymes and proteins important in regulating cell redox status, such as Thioredoxin (TRX), Peroxiredoxin (PRX), Glutaredoxin (GRX), and Protein Disulfide Isomerase (PDI). Our plan is to bring LP-300 into a targeted phase 2 clinical trial within the never smoker sub-group that are identified with the adenocarcinoma sub-type of NSCLC.

Our RADR® Platform

The human genome consists of 19,000 to 20,000 protein coding genes. One input record derived from available data bases and analyzed by our RADR® platform consists of datapoints (expression values) from approximately 20,000 genes, another input record type is drug sensitivity data (IC20, IC50), and other sets include key clinical parameters from HIPPA compliant patient data and clinical histories. Our RADR ® platform uses a data-driven gene feature selection methodology that is a combination of biology, informatics, and statistics – computational biology. The architecture and modules of our platform are depicted in the image below.

RADR™ Architecture: Process & Workflow

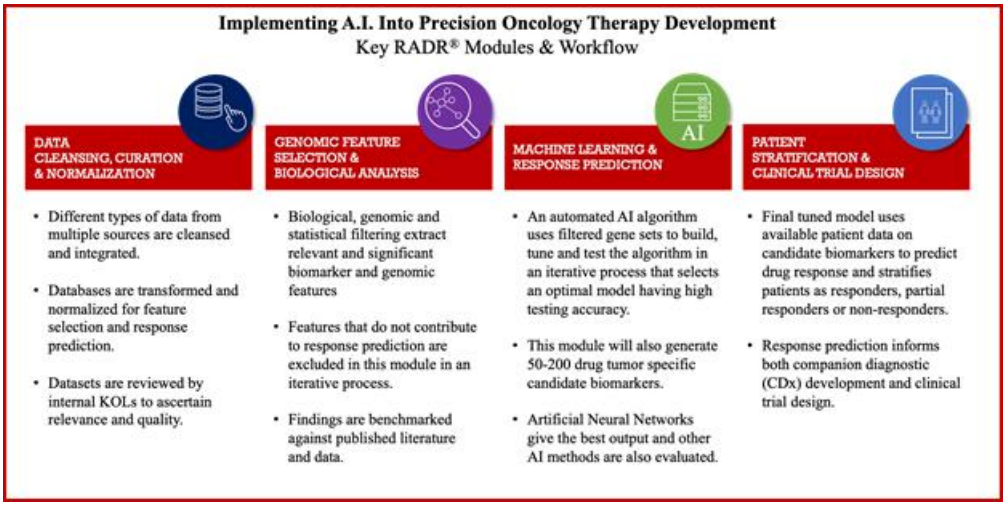


RADR® Platform Architecture and Modules

Our platform uses AI and machine learning to identify genes and genomic signatures believed to be highly correlated with drug sensitivity. These statistically significant genes are furthered filtered in the pathway network and interaction analysis to identify genes believed to be biologically relevant. Genes that make up this layer are either related to the molecule's mechanism of action or heavily connected to each other in gene networks. Lastly, another inductive learning algorithm ranks these filtered genes based on drug sensitivity by calculating the half maximal inhibiting concentration (IC_{50}) of the correlated relationship. In this way, our platform has the potential to predict drug sensitivity, classify a patient as responder or non-responder and identify biomarkers for each drug-tumor combination.

We developed our platform using primarily open-source third party supervised algorithms such as Neural Networks, Support Vector Machine, Random Forest, K-Nearest Neighbors, Logistic Regression and Penalized Multivariate Regression. Each algorithm is trained with input data to predict drug sensitivity (regressor models) and stratify patient response as responder or non-responder (classifier models). Model tuning and optimization is then performed using a hyperparameter search algorithm in order to produce the predicted lowest cross validation error. The models are then evaluated using traditional performance metrics such as accuracy, area under the Receiver Operating Characteristic (ROC) curve, sensitivity, specificity, precision, root mean square error and mean absolute error calculations.

A feature reduction algorithm is then used to reduce the number of genes under analysis to a biomarker gene panel of less than approximately 50 genes. This set of genes is intended to carry the highest coefficient to predict drug sensitivity and the highest variable importance in classifying a responder from a non-responder. Genes that do not help in predicting the output variable are eliminated sequentially.



Our RADR® Platform Workflow

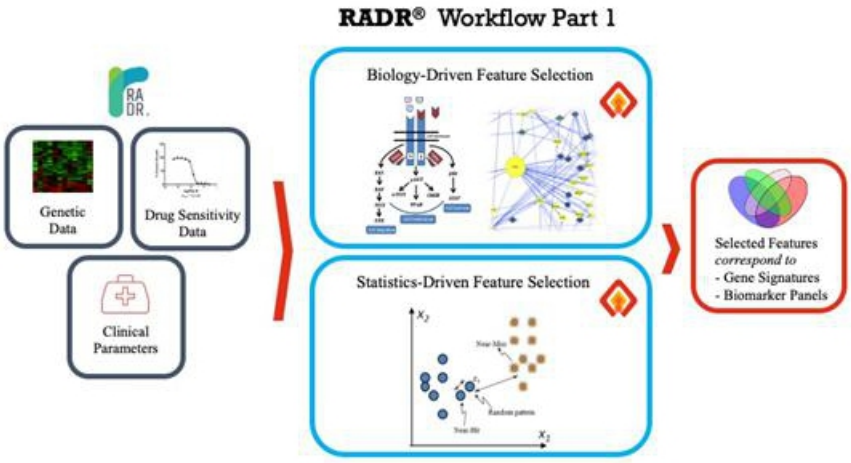
Our RADR® platform's proprietary workflow involves preliminary statistical analysis on approximately 18,000 features typically from whole transcriptomic datasets reducing the set to approximately 2,000 features. This is followed by gene filtering via biological and statistical methodologies yielding approximately 200 significant genes. Feature selection ensures that genes that do not contribute to response prediction are excluded from the output dataset. The prediction component subsequently applies an A.I.-driven reduction algorithm to the previously filtered genes generating a targeted set of typically less than 50 candidate biomarkers predictive of response to a particular molecule.

A distinct and unique benefit of the RADR® platform is its ability to integrate biological knowledge and data-driven feature selection to generate hypothesis-free biomarker signatures. This can then aid in identifying novel targets for predictive screening and drug development.

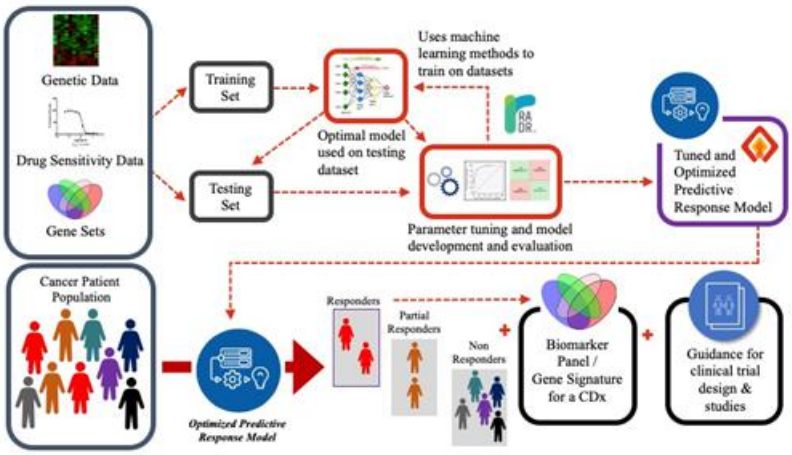
Our RADR® platform is enabled through access to, and analysis of, a number of key datasets: (i) publicly available databases (ii) data from commercial clinical studies and trials and (iii) our proprietary data generated from *ex vivo* 3D tumor models specific to drug-tumor interactions. We incorporate automated supervised machine learning strategies along with big data analytics, statistics and systems biology to facilitate identification of new correlations of genetic biomarkers with drug activity. The value of the platform architecture is derived from its validation through the analysis of over 275 million oncology-specific clinical and preclinical data points, more than 120 drug-cancer interactions, and over 4,100 patient records from five data bases, one of which is our internal data base. Our long-term objective is to collect and analyze over one billion oncology-specific clinical and preclinical data points to further enhance the prediction power of our RADR® platform. We use cancer cell line gene expression profiles and drug sensitivity data (IC50) as one of its input types. In a population of 10 case studies our platform was able to distinguish responders from non-responders with an average historical accuracy of over 80%. We have also used our platform to generate genetic signatures that we believe to have applicability for the majority of FDA approved drug-tumor indications. External validation, through retrospective data analysis, of patient datasets from 10 independent clinical studies achieved an average response prediction accuracy greater than 80%, and internal analysis of 120 drug-tumor interactions in cell lines achieved an accuracy of greater than 85%.

We have developed our platform in a cloud environment that efficiently uses parallel processing to analyze patient stratification and biomarker selection. Best software engineering practices are followed while designing and developing our platform's architecture. Each component of the platform's architecture is unit tested and then integration tested to ensure functions and programs are working as designed. In order to track modifications in the software, a version control system is in place. Detailed documentation has been created to record the design and architecture of our platform.

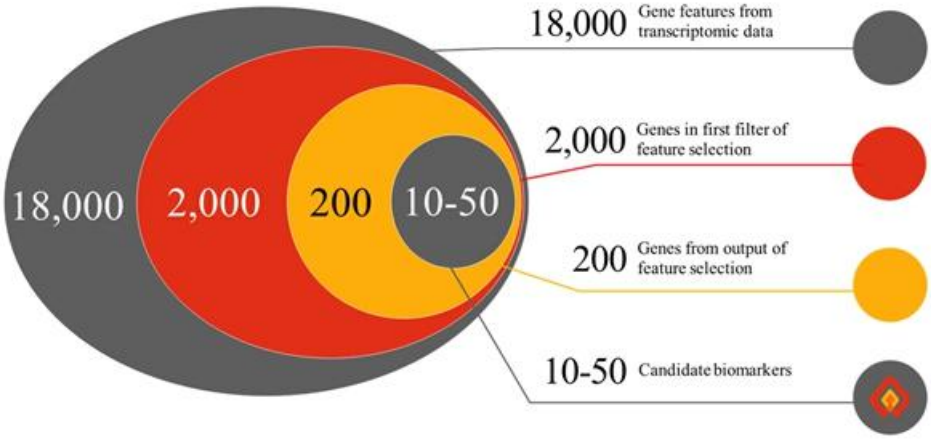
Our platform uses a simple user input and GUI based AI architecture that can be used in many pharmaceutical research areas such as biomarker identification, patient stratification, drug rescue and reposition by bioinformaticians, clinicians and trained wet-lab scientists.



RADR® Workflow Part 2

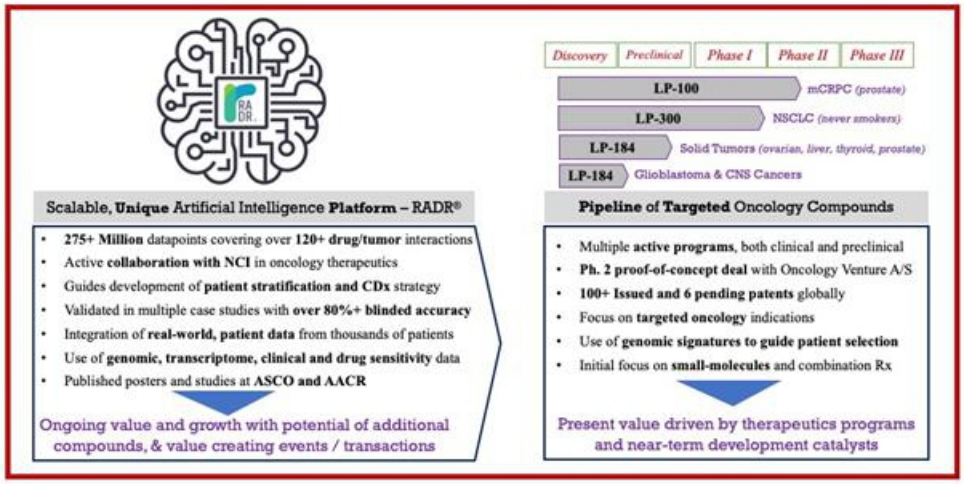


RADR™ Genomic Signature Development



Our Strategy

Our mission is to bring the right cancer drugs to the right patients by transforming the drug development process through the use of artificial intelligence and data-driven development approaches. Our A.I.-enabled, and precision oncology approach, which focuses on developing our own pipeline of compounds by rescuing drug candidates that have previously failed and developing new compounds that are targeted to specific biological activity and genomic pathways, has the potential, we believe, to bring drugs to market faster, with lower costs, and with reduced risk, thereby enabling a change in the cost and availability of precision cancer therapy. We work with leading research laboratories, translational medicine and cancer centers to develop our studies and clinical trials for our portfolio, and actively update and improve our RADR® platform to incorporate additional biomarker data, patient outcome data, cancer drug efficacy studies and computational models that relate to oncology drug development and prediction of patient response.



As part of our growth strategy, we plan to:

- *Pursue existing indications for both LP-184 and LP-300, leveraging our RADR® platform to refine and optimize our trial design and biomarker signatures that correlate to potential patient response.*
- *Expand our pipeline by identifying new drug candidates that have either been abandoned or have failed in late stage clinical trials, and have the potential to benefit from a precision medicine approach that leverages our expertise and A.I. platform.*
- *Identify and design potential combination therapy approaches to use our compounds in conjunction with currently approved drugs by leveraging our RADR® platform to analyze and uncover synergistic mechanisms and biological pathways using genomics and machine learning.*
- *Increase the number of data points powering our RADR® A.I. platform from the current 275+ million to nearly 400+ million by the end of 2020 and approximately 1 billion by the end of 2021.*
- *Advance the algorithms, methodologies and models that underlie our computational and machine learning platform to improve the predictive power, and to develop additional capabilities that are focused on accelerating or de-risking oncology drug development.*
- *Pursue collaborations and partnerships with other biotech and pharma companies where our A.I. and precision oncology expertise can be used to de-risk or accelerate development programs and where our shareholders can receive a significant economic benefit.*
- *Continue to develop and patent intellectual property and advance our intellectual property portfolio associated with both fundamental patents and patents associated with precision, patient stratified, targeted therapies and genomic or biomarker signatures.*
- *Select and launch our next clinical development program in the coming twelve months.*

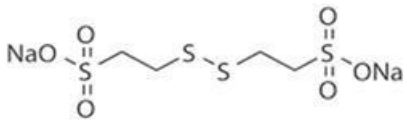
LP-300

General Overview

LP-300 is a cysteine-modifying molecular entity that works to modulate multiple cellular pathways simultaneously and is a potential combination agent for targeted indications in NSCLC. LP-300 is a small molecule (molecular weight 326.4 Da) that was in-licensed from BioNumerik Pharmaceuticals, Inc. in May 2016, and subsequently acquired by us in 2018. We are focused on repositioning LP-300 as a potential combination therapy for non-smoking (or never-smoker) female NSCLC patients with histologically defined adenocarcinoma. Since obtaining LP-300 rights from BioNumerik, we have not yet conducted further clinical testing of LP-300. We are currently evaluating LP-300 for the launch of a phase II trial, in combination with paclitaxel and cisplatin under an existing IND. Prior clinical trials conducted by BioNumerik for LP-300 did not meet their primary clinical endpoints, and at least one or more future clinical trials that meet their pre-specified primary endpoints with statistical significance will be required before we can obtain a regulatory marketing approval, if any, to commercialize LP-300. Safety and efficacy determinations are solely within the authority of the FDA in the U.S. or other regulatory agencies in other jurisdictions. Currently there is no approved therapy specifically for the growing indication of non-smokers (or never-smokers) with NSCLC, and female non-smokers appear to be uniquely responsive to LP-300. With both chemosensitizing and chemoprotective activity, LP-300 has potential as a combination agent or adjuvant in front line, second line or salvage therapy in newly diagnosed, relapsed, metastatic or advanced NSCLC for overall survival enhancement and toxicity alleviation from primary chemotherapy or standard of care. We are currently in the early stages of defining a specific biomarker signature that correlates heightened sensitivity to LP-300. We believe that this signature may help accelerate the clinical development of LP-300 and has the potential to guide patient selection for targeted clinical trials.

LP-300 has been administered in multiple clinical trials to more than 1,500 patients and has been generally well-tolerated. Retrospective analyses of the results of a multi-country phase III lung cancer trial (study ID DMS32212R) in subgroups of adenocarcinoma patients receiving LP-300, paclitaxel and cisplatin demonstrated substantial improvement in overall survival, particularly among female non-smokers, where a 13.6 month improvement in overall survival (p-value 0.0167, hazard ratio 0.367) in favor of LP-300 was observed, as compared to placebo in the subgroup of paclitaxel/cisplatin-treated patients. Similar retrospective findings of increased overall survival in the subgroup of LP-300/paclitaxel/cisplatin treated female Asian patients with adenocarcinoma of the lung were observed in a randomized, double-blind, placebo-controlled trial in Japan. Prior historical clinical trial observations are not necessarily predictive of the outcome of future trials. No assurances can be given that we will be successful in obtaining marketing approval for LP-300. The chemical structure of LP-300 is depicted below.

LP-300 Chemical Structure



Based on the subgroup observations of increased overall survival described above, we believe LP-300 has potential for an orphan indication designation in treating non-smoking females with advanced NSCLC adenocarcinoma. Summarized below are some key findings from LP-300's prior clinical trials:

- **LP-300 targets molecular pathways that are more common in female non-smokers than in any other group.**Key mechanisms have been elucidated to support LP-300's role in the observed treatment benefits for females and non-smokers noted in the Phase III NSCLC adenocarcinoma trial. The rationale for these observations includes the following: (1) Met/ALK & EGFR alterations are more common in non-smokers, who are most commonly female and present with advanced stage adenocarcinoma; (2) laboratory data indicate that LP-300 targets both EGFR WT/mut+ and Met/ALK; and (3) a high percentage of adenocarcinoma patients are either EGFR mutants or Met/ALK positive.

- **There are several key pathways in NSCLC adenocarcinoma whose targets are often overexpressed in females, and LP-300 modulates these pathways** LP-300 targets the following key pathways: (1) kinases involved in key signaling pathways (ALK, ROS, MET); (2) enzymes critical for DNA synthesis and repair (ERCC1, RNR1, RNR2); and (3) enzymes and proteins important in regulating cell redox status (TRX, PRX, GRX, PDI). The alterations that are targeted and modulated by LP-300 are more likely in women with lung adenocarcinoma, especially non-smokers.

- **LP-300 showed that females had a survival increase from 13 months to 25 months, based on a retrospective subgroup analysis of a Phase III NSCLC adenocarcinoma trial.** Results from a Phase III NSCLC adenocarcinoma trial exhibited an overall survival of 25.0 months, with a 2-year survival of 51.4%, in the subgroup of females with advanced adenocarcinoma of the lung receiving paclitaxel/cisplatin and LP-300. The observed results were statistically significant (p-value = 0.0477; HR=0.579) and were observed in a subgroup of 114 patients in retrospective analyses. Consistent statistically significant retrospective subgroup analysis results were observed in female NSCLC adenocarcinoma patients receiving paclitaxel/cisplatin and LP-300 in a prior LP-300 double-blind, placebo-controlled phase III trial conducted in Japan.

- **LP-300 exhibits potential to reduce anemia and protect against chemotherapy-induced kidney toxicity, both of which are conditions that disproportionately affect females.** The LP-300 arm of the Phase III NSCLC adenocarcinoma trial also demonstrated the potential for LP-300 to protect against chemotherapy-induced kidney toxicity and anemia. These findings complement earlier clinical observations regarding LP-300's potential to protect against neuropathy and other chemotherapy-induced toxicities.

Background-Scope of Prior Phase III NSCLC Adenocarcinoma Trial (LP-300)

LP-300 was studied in a randomized, multi-center (trial locations in four US states and five European countries), double-blind and placebo-controlled Phase III trial from 2010 to 2013 in patients with adenocarcinoma of the lung (the "Phase III NSCLC adenocarcinoma trial"). The aim of the trial was to determine whether LP-300, combined with a standard combination of chemotherapy drugs, would increase survival in patients with advanced NSCLC adenocarcinoma. The secondary aim of the trial was to determine if the chemoprotective properties of LP-300 were effective in preventing or reducing common side-effects of cancer treatment, including kidney damage, anemia, nausea and vomiting that can occur with these drug combinations. The trial enrolled NSCLC patients with newly diagnosed or recurrent advanced (stage IIIB/IV) primary adenocarcinoma of the lung. Patients with confirmed histopathological diagnosis of inoperable and measurable advanced primary adenocarcinoma (including bronchioalveolar cell carcinoma) of the lung, and no prior systemic treatment for NSCLC including chemotherapy, immunotherapy, hormonal therapy, targeted therapies or investigational drugs, were included in the trial. Overall survival was the primary outcome measure. Patients in the control arm received standard of care (cisplatin and either paclitaxel or docetaxel) plus placebo, whereas patients in the treatment arm received standard of care (cisplatin and either paclitaxel or docetaxel) plus LP-300. The primary results of the trial for patients receiving cisplatin and paclitaxel are outlined in the table below. While the overall results of the phase III NSCLC adenocarcinoma trial did not meet the specified endpoint of the trial in increasing overall survival in all patients, when the data were retrospectively separated by gender and smoking status, the trial data demonstrated that all non-smokers, especially female non-smokers, saw increased survival with LP-300 combination treatment with paclitaxel and cisplatin. Furthermore, the LP-300 group in the phase III NSCLC adenocarcinoma trial exhibited well-tolerated advantages relating to the potential to protect against chemotherapy-induced nephrotoxicity, neuropathy and nausea along with reduced anemia.

Summary of LP-300 Phase III Clinical Outcomes Among Cisplatin/ Paclitaxel Treatment Arms

LP-300 / Tavocept Trial Details

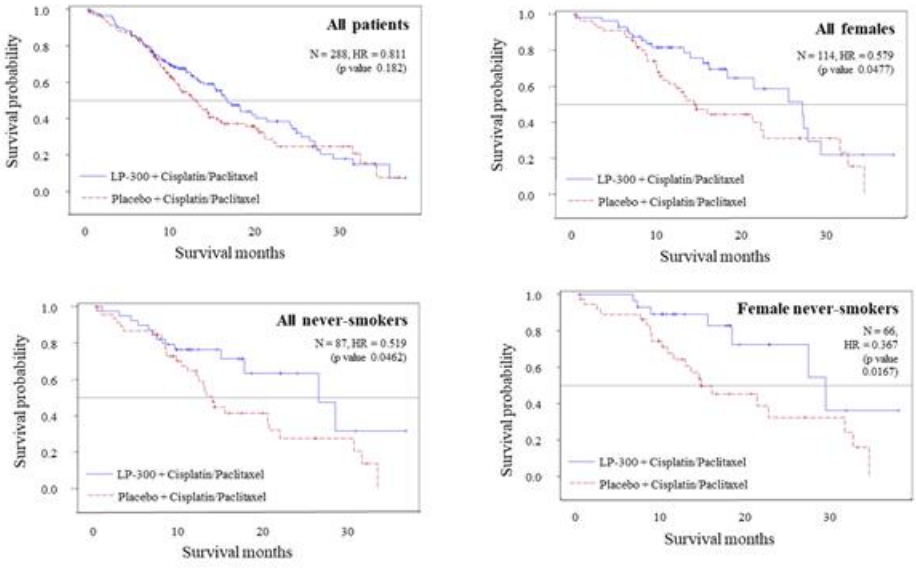
Study ID: DMS32212R
Location: USA + Europe
Phase: Phase 3

Treatment Arm: LP-300 + SOC
Control Arm: Placebo + SOC
SOC: Paclitaxel + Cisplatin
Cycle: 3 week treatment cycle

Patient Subgroup(s)*	(N) Patients in Subgroup(s)	Improvement in Overall Survival (OS) over SOC in months	p-value	hazard ratio
All	288	4	0.1820	0.811
Male	174	1	0.8454	0.963
Female	114	12	0.0477	0.579
Female Never Smokers	66	13	0.0167	0.367
All Never Smokers	87	12	0.0462	0.519

The figure below depicts the survival curves for cisplatin/paclitaxel subgroups for the Phase III NSCLC adenocarcinoma trial that ended in 2013, as summarized. The Kaplan Meier curves maintain consistent separation between treatment arms for the non-smokers, females, and female non-smokers.

Results From Study ID DMS32212R Show Maximum Tavocept Benefit in Female Never-smokers with Adenocarcinoma



Source: Phase 3 clinical trial, study ID DMS32212R, conducted by BioNumerik Pharmaceuticals, subpopulations receiving Cisplatin/ Paclitaxel

Strongest early sustained separation of survival curves was observed in the LP-300 treatment subgroup of female never-smokers

Rationale Behind LP-300 Rescue and Repositioning Efforts

Based on the results from the prior Phase III NSCL adenocarcinoma trial, we are in the process of designing a new Phase II clinical trial to target the population of female non-smokers with adenocarcinoma that saw the greatest benefit in the previous Phase III trial. Although the incidence of non-smokers with NSCLC is rising currently there is no approved therapy specifically for the growing indication of non-smokers (or never-smokers) with NSCLC. Preclinical observations support that LP-300 preferentially modulates ALK and EGFR, two commonly mutated genes in non-smokers with adenocarcinoma. Based on the findings from the previous Phase III NSCL adenocarcinoma trial, it is possible that the benefits of combining LP-300 with standard of care chemotherapy could be further improved by identifying additional molecular biomarkers in patients who respond well to LP-300 combination treatment. We continue to seek additional opportunities for LP-300. Some of our considerations include a non-smoker population with a specific genetic signature that correlates to increased LP-300 sensitivity. We believe that this may also qualify as a orphan (rare disease) designation being a defined subset of NSCLC.

Clinical Translation Strategies

We have identified at least ten key opinion leaders (KOLs) in the US, UK and India who have identified female non-smokers with NSCLC adenocarcinoma as a unique population that could benefit from targeted precision oncology therapy. We intend to invite active participation and input from clinical and regulatory experts including KOLs and FDA authorities to facilitate evaluation of parameters important for repositioning our LP-300 program and conducting precision clinical trials.

Disease Background and Opportunity

Lung cancer remains one of the most common and deadly cancers worldwide. Lung cancer accounts for 13% of all new cancer diagnoses but 24% of all cancer deaths. Lung cancer kills more people annually than cancers of the breast, prostate, colon, liver, kidney, and melanoma combined. The American Cancer Society's estimates for lung cancer in the US for 2019 are:

- Approximately 228,150 new cases of lung cancer (116,440 in men and 111,710 in women)
- Approximately 142,670 deaths from lung cancer (76,650 in men and 66,020 in women)

The most common type of lung cancer is called non-small cell lung cancer ("NSCLC"), which represents about 85% of all lung cancer.

Lung adenocarcinoma, a histological subtype of NSCLC that originates within the glands that line the lung, is the most common subtype of lung cancer in the world inflicting approximately 50% to 65% of non-Asians and approximately 70% to 85% of Asians diagnosed with lung cancer. According to the SEER Cancer Statistics Review (November 2018) published by the National Cancer Institute and other published literature, 60% to 65% of all new lung cancer diagnoses are among people who are former smokers or have never smoked, while 10-15% of new lung cancer cases are among never-smokers.

Over one-half of the patients diagnosed with NSCLC in any given year will present with inoperable advanced (stage IV) disease, for which there is no cure. Patients with stage IV NSCLC exhibit a median overall survival time of 8 to 10 months; approximately one-third of patients will survive for year, and only 10% to 21% of those patients will survive for two years.

Lung cancer is the most common cause of global cancer-related mortality, leading to over a million deaths each year and adenocarcinoma is its most common histological subtype. Worldwide, lung cancer occurred in approximately 2.1 million patients in 2018 and caused an estimated 1.8 million deaths. NSCLC is described as any type of epithelial lung cancer other than small cell lung cancer ("SCLC"). The 5-year survival rate for NSCLC is 16%. Rapid advances in understanding the molecular pathogenesis of NSCLC have demonstrated that NSCLC is a heterogeneous group of diseases. Although the initial treatment of localized disease is the same, the molecular characterization of tumor tissue in patients with NSCLC serves as a guide to treatment both in those who present with metastatic disease and in those who relapse after primary therapy. Molecularly targeted therapies have dramatically improved treatment for patients whose tumors harbor somatically activated oncogenes such as mutant EGFR1 or translocated ALK, RET, or ROS1. Mutant BRAF and ERBB2 are also investigational targets. Smoking is the major cause of lung adenocarcinoma but, as smoking rates decrease, proportionally more cases occur in never-smokers (defined as less than 100 cigarettes in a lifetime). KRAS mutations in lung cancer cases are nearly exclusive to smokers. KRAS, "Kristen rat sarcoma viral oncogene homolog," is a protein involved in regulating cell division. KRAS mutation is a gain-of-function mutation (i.e. somatic mutation turns RAS, a benign gene "proto-oncogene" into KRAS, an oncogenic driver of many tumors). KRAS-mutated non-small cell lung cancer represents 20% to 25% of all NSCLC. There are no current KRAS-mutated NSCLC-targeted therapies but there are targeted therapies for the indication by targeting downstream pathways - for example mTOR inhibition. Tumor suppressor gene abnormalities, such as those in TP53, STK11, CDKN2A8, KEAP1, and SMARCA4 are also common but are not currently clinically actionable.

In reviewing lung cancer incidence and mortality rates among never-smokers in the Journal of Clinical Oncology, Wakelee, H.A. et al. have reported that the age-adjusted incidence rates of lung cancer among never-smokers aged 40 to 79 years from large population-based cohorts ranged from 14.4 to 20.8 per 100,000 person-years in women and 4.8 to 13.7 per 100,000 person-years in men, supporting earlier observations that women are more likely than men to have non-smoking-associated lung cancer. The biology of lung cancer in never-smokers is apparent in differential responses to epidermal growth factor receptor inhibitors and an increased prevalence of adenocarcinoma histology in never-smokers. Lung cancer in never-smokers is an important public health issue needing further exploration of its incidence patterns, etiology, and biology. Due to the fact that there are no known therapy options for this group, we believe that aggressive development of therapy options is needed and is a high unmet clinical need.

The table below illustrates the growing concern of lung cancer in nonsmokers and never smokers, and is a sample of the recent literature on the topic of never smokers that the Company has used in assessing the potential patient and unmet clinical needs in this cancer.

Source	Date of Study / Publication	Illustrative Quote
American Cancer Society	Oct. 31, 2019	*"As many as 20% of people who die from lung cancer in the United States every year have never smoked or used any other form of tobacco."*
Journal of Royal Society of Medicine	Aug. 25, 2019	*"Globally, there is wide variation in the proportion of lung cancers in never-smokers, in the range of 10% to 25%. With declining rates of smoking, the relative proportion of lung cancers in never-smokers are increasing and this does not appear to be confounded by passive smoking or misreported smoking status."*
Roswell Park	Apr. 3, 2019	*"…15% of lung cancers are found in people who have never smoked."*
Cancer Research U.K.	Nov. 16, 2018	*"Around 10-15% of the lung cancer patients I see have never smoked."*
ASCO – The Asco Post	Dec. 25, 2017	*"In the United States, about 20% of women with lung cancer are never smokers, and about 7% of men with lung cancer are never smokers."*
Clinical Cancer Research ***September 2009*** ***Volume 15, Issue 18***	Sep. 15, 2009	*"The lung cancer death rates among never smokers, although "rare" by conventional definitions (<40,000 US deaths per year), is similar to the death rates from leukemia, and endometrial cancer in women and cancers of the esophagus, kidney, and liver in men in the United States, and may be even more important in other populations, including Chinese women*

In 2019 in the US, 9,034 cases of NSCLC adenocarcinoma cases are estimated to be diagnosed in female non-smokers, accounting for approximately 3.9% of all lung cancer cases. With an estimated 120,000 globally projected adenocarcinoma cases of NSCLC in non-smoking females in 2019, this specific indication may possibly be classified as a rare disease. When attempting to explain some gender susceptibility differences, research has demonstrated that women with NSCLC tend to be:

1) Younger;

2) Asian;

3) 2-3 times more likely to be non-smokers;

4) more likely to develop adenocarcinoma and;

5) having metastatic disease.

The high rate of adenocarcinomas in non-smoking women suggests the possible existence of other etiological factors in addition to smoking. Some factors that have been considered include gender-specific genetic alterations and predispositions, passive smoke effects, different nicotine metabolism in women, occupational exposure, diet, and chronic obstructive pulmonary disease. Based upon 2018 estimates published by Global Cancer Observatory and 2019 estimates published by the American Cancer Society, below is an overview of relevant potential patient population and market sizes that we believe LP-300 could address, if approved:

Lung cancer	**Global**	**US**
Total 2019 lung cancer estimated incidence (new cases)	2,000,000	228,150
NSCLC adenocarcinoma incidence (~40% of all lung cancers)	800,000	91,260
Never-smokers estimate (~15% of adenocarcinoma)	120,000	13,689
Female never-smoker estimate (~66% of never-smokers with lung cancer are female)	84,150	9,034
Total Patient Segment in New Lung Cancer	4.2%	4.0%

Limitations on Current Treatment

Treatment of patients with advanced NSCLC in the first-line setting usually consists of chemotherapy (including taxanes, vinorelbine, or gemcitabine) in combination with a platinum doublet (cisplatin or carboplatin). According to the clinical practice guidelines published by the National Comprehensive Cancer Network, many of these combinations have reached a plateau in terms of overall response (≥ 25% to 35%), time to progression (four to six months), median survival time (eight to ten months), one-year survival rate (30% to 40%), and two-year survival rate (10% to 15%) in patients with good performance status. Treatment remains palliative and is limited due to inherent toxicities that may affect the quality of life resulting from treatment. Toxicities can be life-threatening or cause treatment delays, thereby limiting the intensity of treatment delivered and affecting its efficacy. Common and serious chemotherapy-induced toxicities, such as anemia, emesis, and peripheral neurotoxicity resulting from treatment with platinum and taxanes, and nephrotoxicity due to cisplatin can result in treatment delays, dose modifications, and in severe cases, discontinuation of treatment. We believe it is important to pursue the development of novel therapies and combinations thereof that can substantially improve patient survival and quality of life by potentiating the antitumor activity of chemotherapy treatment while protecting against chemotherapy-induced toxicity.

Market Opportunity

Most non-smoker patients with lung cancer are women, and adenocarcinoma is the most common type. Non-smoker patients with non-small-cell lung cancer ("NSCLC") have a better response to inhibitors of epidermal-growth-factor receptor (EGFR) tyrosine kinase, such as gefitinib and erlotinib, than do those with a history of tobacco smoking. Studies have identified differences in chromosomal aberrations, genetic polymorphisms, gene mutations, and methylation status between lung cancer in non-smokers and tobacco-associated lung cancer. These clinical and biological differences suggest that the two cancers have overlapping but unique pathways of carcinogenesis. The EGFR mutation is one of the most important genetic change in lung cancer in people who have never smoked because it is more common in lung cancer in never-smokers than in tobacco associated lung cancer and is associated with greater therapeutic benefit from inhibitors of EGFR. Other alterations associated with never-smokers include mutations, fusions or amplifications in ALK, ROS1, RET and MET genes. Based upon published articles in CA: Cancer Journal for Clinicians and Nature Review Cancer, incidence in never-smokers is 10% to 15% of all lung cancers and globally, NSCLC in never-smokers comprises 15% to 20% cases in men and greater than 50% in women. In Asia, never-smokers with NSCLC are 60% to 80% women and 20% to 40% men.

We are focused on advancing LP-300 as a potential combination therapy for non-smoking, female NSCLC patients with adenocarcinoma by leveraging our AI platform to help uncover the genomic and biomarker networks that are associated with response in the never-smoker and non-smoker groups. Additionally, through our early, preclinical work to define a gene signature that correlates with heightened sensitivity to LP-300, we believe there is potential to further expand the indication to include all NSCLC patients that have this identified genetic profile in their cancer. Currently there is no approved therapy specifically for the growing indication of non-smokers (or never-smokers) with NSCLC, and female non-smokers appear to be uniquely responsive to LP-300. If successful, LP-300 could provide improved patient benefit in terms of improved survival, and secondarily through the concurrent prevention and mitigation of common and serious chemotherapy-induced toxicities.

LP-300 Summary of Preclinical and Clinical Studies

Through partnerships and third-party outsourcing arrangements, we are conducting, or have conducted, the following preclinical studies on LP-300.

Cell line work with third party CROs

A study was conducted to assess whether LP-300 induces or suppresses specific biological pathways or functions that impact tumor cell proliferation, survival or apoptosis. In this study, NSCLC cell lines were exposed to selected concentrations of LP-300 alone and in combination with cisplatin, for defined duration. After exposure to the drugs in cell culture according to the chosen treatment conditions, RNA was obtained and transcriptomic analysis was performed using a NovaSeq 6000 next-generation sequencing platform. Overall, 1.26 million data points were generated and analyzed from this study yielding differential gene expression profiles between LP-300 untreated versus treated samples. Key pathways that emerged as being regulated by LP-300 include redox homeostasis and NRF2/Antioxidant Response Element signaling, among others.

We are working with a preclinical and discovery focused CRO to generate supporting preclinical data on LP-300 anticancer activity profiles in various molecular and demographic brackets of NSCLC cell line models. The goal of this study is to generate dose response curves and associated IC_{50} values for LP-300 alone as well as in combination with Cisplatin (standard of care agent) and selected targeted therapy agents on up to 20 different NSCLC cell lines. Genetic backgrounds of NSCLC drivers and related oncogenes in these cell lines are known, and will help to establish correlations between LP-300 cytotoxicity and specific markers. We intend to evaluate the status of LP-300 as a chemosensitizing agent, whether LP-300 triggers catastrophic oxidative stress, and understand specific transcriptional characteristics of tumors that are sensitive or resistant to LP-300 alone and in combination with other treatments. From this ongoing study, we hope to develop information to assist in further stratifying patients that would be key targets for future clinical trials. LP-300 could potentially be positioned to treat advanced NSCLC adenocarcinoma not just in female never-smokers but also based upon genetic alterations.

Fox Chase Collaboration

We are engaged in discussions with Fox Chase Cancer Center ("FCCC") to identify opportunities for collaborative research, both preclinically and clinically, for advancing LP-300. The objective is to develop studies to further elucidate the mechanism of action of LP-300, and to pursue a Phase II clinical trial in never-smokers with NSCLC. Regarding preclinical studies, we intend to discuss appropriate preclinical studies with cell lines, organoids or patient derived xenograft (PDX) models that are required to move forward to a clinical trial. In pursuing the areas of LP-300 related cysteine modification of EGFR / FGFR and other drivers commonly altered in never-smoking NSCLC, we plan on comparing LP-300 response in cell line models with EGFR exon 3 deletion, EGFR L858R/ T790M, exon 19 or 21 deletions, and EGFR wild type among other genetic backgrounds. We are interested in prioritizing studies that will progress towards a Phase II trial, including a PDX trial testing LP-300 in combination with selected tyrosine kinase inhibitors (TKIs) in addition to cisplatin / paclitaxel as standard of care agents in relevant models and comparing never-smokers and nonsmokers to smokers.

Prior Completed Trials of LP-300

Phase I. LP-300 has been evaluated in five Phase I studies (DMS10001, BioNumerik, 09/1997 through 04/2004; DMS10002, BioNumerik, 12/1997 through 08/2001; DMS12209, ASKA Pharmaceutical, 04/2000 through 12/2001; DMS10011, BioNumerik, 02/2006 through 07/2006; and DMS12307, Baxter, 07/2002 through 07/2005) to determine the maximum tolerated dose ("MTD"), and to evaluate the safety, tolerability, pharmacokinetics, and potential efficacy of LP-300 (alone or in combination with cisplatin, cisplatin/paclitaxel, or carboplatin/paclitaxel). An MTD for LP-300 was not reached in any of the Phase I studies at dose levels of up to 41 g/m^2.

Phase II. In a U.S. multi-center, randomized, open-label trial (n=160 patients) with advanced (Stage IIIB and IV) NSCLC treated with LP-300 or no LP-300 (DMS22210/CALGB 30303, Cancer and Leukemia Group B, 08/2004 through 03/2007), although the overall population did not meet the pre-specified primary endpoint, an analysis of a subgroup of patients with adenocarcinoma revealed that the difference in the median overall survival period between the 2 treatment groups was statistically significant (LP-300 = 15.6 months, no LP-300 = 8.9 months; Log-rank p=0.0326), and the median overall survival for patients who received LP-300 was 6.7 months longer than that of those who did not receive LP-300.

Phase III. LP-300 has been evaluated in five Phase III studies: two in patients with metastatic breast cancer, with a primary endpoint examining the ability to reduce platinum/taxane induced peripheral neuropathy, and three in patients with NSCLC or advanced primary lung adenocarcinoma. (DMS32205R, ASKA Pharmaceutical, 08/2005 through 02/2008; DMS30203R, BioNumerik, 09/2001 through 10/2006; DMS30204R, ASKA Pharmaceutical, 04/2003 through 03/2006; DMS32206R, Baxter, 10/2002 through 04/2006; and DMS32212R, BioNumerik, 04/2010 through 06/2013) Although the overall population did not meet the pre-specified primary endpoints in any of the trials, analysis of subgroups of patients in one multi-country lung adenocarcinoma trial and one Japanese NSCLC trial revealed differences in the median overall survival between the two treatment arms (with or without LP-300 treatment). The results from the two key lung cancer trials obtained from retrospective analyses are described below:

- Multi-country, double-blind, randomized, multi-center & placebo-controlled trial (n=540 patients) with advanced primary lung adenocarcinoma treated with LP-300 or Placebo & paclitaxel or docetaxel with cisplatin (DMS32212R). (the Phase III NSCLC adenocarcinoma trial)

    - Treatment with LP-300 nearly doubled the Overall Survival in women receiving paclitaxel/cisplatin (25.0-month median OS in LP-300 arm vs. 13.2-month OS in control arm) and the results in this subgroup were statistically significant (P-value = 0.0477; HR = 0.579)

    - For Non-Smoking Women with adenocarcinoma of the lung receiving paclitaxel/cisplatin, the Overall Survival in the LP-300 arm was more than double the control arm (27.0 months vs. 13.4 months, respectively) also being statistically significant in favor of LP-300 (P-value = 0.0167; HR = 0.367) and the 2-year survival was 72.4% in the LP-300 arm vs. 32.3% in the control arm.

- Statistically significant subgroup analyses and trends from this LP-300 Phase III NSCLC adenocarcinoma trial support repositioning LP-300 for female non-smokers with adenocarcinoma of the lung.

- Randomized, double-blind, placebo-controlled & multi-center trial in patients with advanced NSCLC receiving paclitaxel & cisplatin (Japan Trial) (DMS32205R). The Japan Trial observations support and complement observations in the multi-country Phase III Lung Trial. The observations for the female adenocarcinoma patient population in the LP-300 multi-country Phase III Lung Trial are consistent with observations made for the subgroup of females with adenocarcinoma of the lung receiving paclitaxel/cisplatin and LP-300 or placebo in the Japan Trial. Although the overall population in the Japanese trial did not meet the pre-specified primary endpoint, a retrospective analysis of the subgroup consisting of female patients with adenocarcinoma revealed that the difference in the median overall survival period between the two treatment arms in this subgroup was significant (P-value = 0.0456, HR = 0.376).

The LP-300 arm of the multi-country Phase III Lung Trial also demonstrated safety profile advantages in terms of the potential to protect against chemotherapy-induced kidney toxicity and chemotherapy-induced anemia. These observations complemented earlier clinical observations regarding LP-300's potential to protect against neuropathy and other chemotherapy-induced toxicities. Results from these trials indicate that treatment with LP-300 may, in further clinical testing, lead to improved survival in female and non-smoking patients with primary adenocarcinoma of the lung receiving cisplatin/paclitaxel combination chemotherapy.

Phase II and III LP-300 Adverse Events Summary

The following summarizes adverse events reported from a total of 1,712 patients enrolled in five randomized multi-center phase II and phase III studies with chemotherapy, with or without LP-300. A total of 1,712 patients were enrolled in these studies, of which 856 patients received LP-300 with chemotherapy.

- *All Adverse Events (AEs)*. The most frequently-occurring adverse events in patients receiving LP-300 with chemotherapy were generally similar to patients receiving placebo or chemotherapy alone. These events included blood and lymphatic system disorders (myelosuppression manifested as anemia, leukopenia, lymphopenia, neutropenia, and thrombocytopenia; also including decreased hematocrit, hemoglobin, lymphocyte count, neutrophil count, red blood cell count, platelet count, and white blood cell count), with an incidence ranging from 12% to 83%; gastrointestinal disorders including constipation, abdominal pain, diarrhea, nausea, stomatitis, and vomiting, with an incidence ranging from 22% to 83%; general disorders and administrative site conditions including fatigue (ranging from 17% to 85%); infusion/injection site pain/reactions (ranging from 12% to 18%); malaise (ranging from 16% to 28%); peripheral edema (ranging from 13% to 22%); pyrexia (ranging from 10% to 17%); infections and infestations disorders including nasopharyngitis (ranging from 11% to 16%); investigations including increased liver function tests including ALT, AST, and alkaline phosphatase (ranging from approximately 10% to 55%); increased blood lactate dehydrogenase (ranging from approximately 17% to 26%); increased blood urea or blood uric acid (ranging from approximately 11% to 32%); increased gamma-glutamyltransferase (ranging from approximately 23% to 33%); decreased total protein (ranging from approximately 12% to 21%); metabolic and nutritional disorders including weight decreased (ranging from 15% to 22%), anorexia (ranging from 14% to 82%), and hypomagnesemia (ranging from 22% to 30%); musculoskeletal and connective tissue disorders including arthralgia, back pain, and myalgia (ranging from 7% to 80%); nervous system disorders including dysgeusia (ranging from 12% to 22%), headache (ranging from 14% to 17%), and peripheral neuropathy (motor and sensory – ranging from 22% to 86%); psychiatric disorders including insomnia (ranging from 12% to 17%); respiratory, thoracic, and mediastinal disorders including dyspnea (ranging from 12% to 40%); skin and subcutaneous disorders including alopecia (ranging from 33% to 92%); rash (ranging from 22% to 29%); nail disorder/discoloration (10%); and vascular disorders including angiopathy (ranging from 64% to 69%) and flushing (ranging from 15% to 39%).

- *Treatment-Related Adverse Events.* Frequently occurring treatment-related AEs experienced by patients receiving LP-300 with chemotherapy included gastrointestinal disorders manifesting as nausea and vomiting (ranging from 12% to 67%, and 12% to 32%, respectively); fatigue (ranging from 22% to 82%); infusion/injection site pain/reactions (ranging from 11% to 18%); increased ALT (alanine aminotransferase) and gamma-glutamyltransferase (ranging from approximately 13% to 18%, and approximately 11% to 12%, respectively); peripheral neuropathy (motor and sensory – ranging from 14% to 54%); and vascular disorders including angiopathy (ranging from 60% to 69%), and flushing (ranging from 8% to 11%).

- *Serious Adverse Events (SAEs).* 11% to 49% of patients receiving LP-300 with chemotherapy, and 7% to 42% of patients in control groups receiving chemotherapy alone experienced SAEs during randomized multicenter studies. Frequently-occurring SAEs in patients receiving LP-300 with chemotherapy included pneumonia, hypersensitivity or drug hypersensitivity, dyspnea, pyrexia and dehydration, diarrhea, anaphylactic shock or anaphylactic reactions, vomiting, disease progression, infection, bronchospasm, pleural effusion, pulmonary embolism, thrombosis, hemolysis, nausea, chills, fatigue, sudden death, neutropenic infection, sepsis, anorexia, neutropenia, febrile neutropenia, pneumonitis, rash, and hypotension. Multiple allergic reactions have been reported in clinical trials of LP-300, and some of these reactions have been severe. It is possible that patients could experience an allergic reaction that is life-threatening. Five reports of grade 3 or 4 hemolysis events with three fatal outcomes were reported in patients receiving LP-300 with chemotherapy in a study involving the weekly drug administration schedule. Two events of hemolysis were reported in a study involving drug administration every two weeks. No events of hemolysis were reported in studies using the every three weeks schedule of administration, which is the administration schedule used for the multi-country phase III NSCLC adenocarcinoma trial.

- *Treatment-Related Serious Adverse Events.* Approximately 7% of patients receiving LP-300 with chemotherapy experienced treatment-related SAEs during randomized multicenter studies. The most frequently-occurring treatment-related SAEs experienced by patients receiving LP-300 with chemotherapy were hypersensitivity or drug hypersensitivity (five and two patients, respectively) and neutropenia (six patients). Other treatment-related SAEs experienced by patients receiving LP-300 with chemotherapy included hemolysis, bronchospasm, febrile neutropenia, anemia, nausea, and pulmonary edema (three patients, each); chills, diarrhea, pyrexia, neutropenic infection, hyperglycemia, acute respiratory distress syndrome, pulmonary embolism, sudden death, infection, and rash (two patients, each); and angina pectoris, cardiac arrest, tachycardia, sudden hearing loss, abdominal pain, vomiting, adverse drug reaction, anaphylactic shock, *C. difficile* colitis, pneumonia, sepsis, chemical cystitis, thrombosis in device, dehydration, leukopenia, anorexia, atrial fibrillation, fatigue, weight decrease, muscle disorder, pain in extremity, dizziness, peripheral sensory neuropathy, dyspnea, hypotension, and thrombosis (one patient, each).

Clinical Evidence of Toxicity Protection by LP-300

The data from randomized multicenter studies of LP-300 and chemotherapy demonstrates objective evidence of several instances where treatment with LP-300 appears to provide potential benefit in terms of preventing and mitigating chemotherapy-induced toxicities, particularly in studies of LP-300 and chemotherapy in patients with advanced NSCLC. These data support that LP-300 has the potential to protect against chemotherapy-induced toxicities, including gastrointestinal, renal, electrolyte disturbances, and anemia; and there is data supporting the potential for LP-300 to protect against severe forms of these toxicities. In addition, treatment with LP-300 may protect against severe platinum-induced hearing loss and dehydration.

LP-300 Mechanism of Action

LP-300 is a water-soluble disulfide compound that lacks a free thiol or sulfate moiety. We postulate this unique structure of LP-300 may allow it to potentiate antitumor activity of certain types of cytotoxic chemotherapy, and exert chemoprotective effects, through distinct and interrelated mechanisms. In plasma, the lack of a free thiol prevents untoward reactivity and drug-drug interactions, and thereby may allow chemotherapeutic agents to retain their efficacy. Once inside the tumor cell, LP-300 is metabolized and may then potentiate antitumor activity of cytotoxic certain types of chemotherapy. A significant fraction of LP-300 is taken up by the kidneys, where LP-300's metabolites can interact with chemotherapy drugs, such as cisplatin, and potentially diminish the chemotherapy drug's ability to cause organ damage. We believe the postulated mechanisms that can enhance tumor directed chemosensitivity include restoration of apoptotic sensitivity thereby countering drug resistance; oxidative stress enhancement; anti-angiogenesis; decreased DNA synthesis and gene expression; and decreased glutathione and precursors (limiting glutathione tumor-mediated drug resistance). When LP-300 accumulates in the kidneys it appears to reduce the toxicity of certain drugs, such as cisplatin, that are excreted through the renal system.

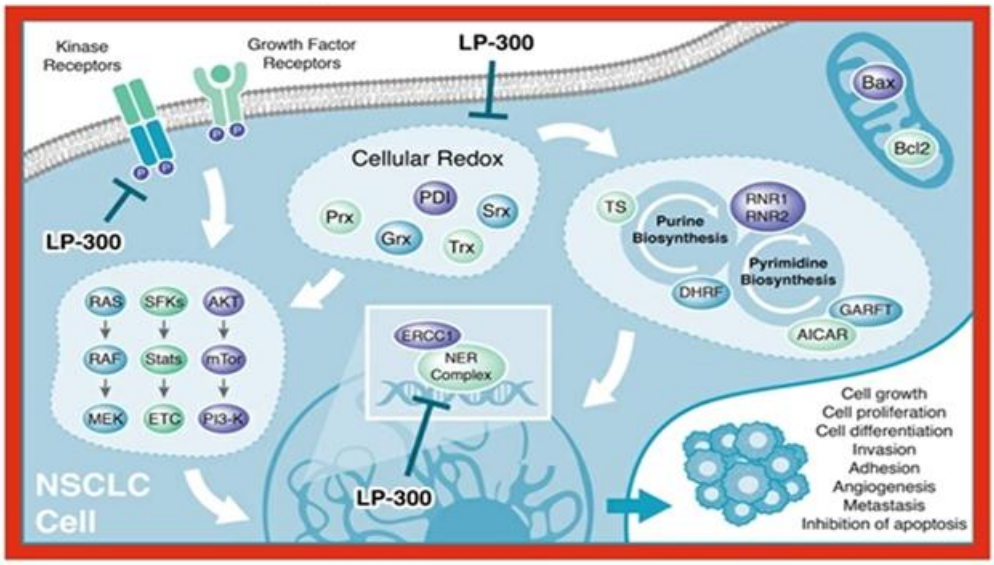
As depicted in the model below, we believe LP-300 and its metabolites can modulate key components of the thioredoxin and glutaredoxin systems, which are believed to be involved as major mechanisms of the potentially enhanced antitumor effects of LP-300 with chemotherapy. The thioredoxin pathway is commonly upregulated in adenocarcinomas, and examination of primary lung tumors from non-smokers have shown significantly increased gene expression of thioredoxin. Overexpression of thioredoxin in cancer cells has been postulated to lead to resistance to apoptosis, increased cellular proliferation, increased gene expression, increased angiogenesis, increased conversion of DNA into RNA, and resistance to oxidative stress induction. We believe the modulation of thioredoxin expression is important for the observed increases in patient survival identified in retrospective analyses of certain subgroups of patients with primary adenocarcinoma of the lung receiving LP-300 in conjunction with cisplatin and paclitaxel chemotherapy. Different glutaredoxin transcript variants have been found to be elevated in transformed cells, and glutaredoxin isoforms (e.g., variants of glutaredoxin 2) have been found to be elevated in NSCLC cell lines, lending evidence for potential roles of glutaredoxin in tumor progression.

We believe LP-300 and its metabolites may potentiate the antitumor activity of chemotherapy by:

(1) shifting the redox balance and concentrations of reduced forms of thioredoxin and glutaredoxin to inactive oxidized forms of thioredoxin and glutaredoxin, thereby restoring apoptotic sensitivity, increasing sensitivity to oxidative stress, inhibiting cell growth and angiogenesis, RNA to DNA synthesis, and growth signaling, and

(2) forming thioredoxin or glutaredoxin adducts, which as inactive forms lead to thioredoxin- and glutaredoxin-mediated reduction of downstream targets in the cell that are important for tumor resistance to chemotherapy, angiogenesis and cell growth.

Working Model for LP-300 Mechanism of Action



We believe that LP-300 may potentiate antitumor activity of certain types cytotoxic chemotherapy, and exert chemoprotective effects through several distinct and interrelated mechanisms of action. LP-300 is a cysteine-modifying agent that appears to modulate multiple cellular pathways simultaneously. Experimental data indicate that LP-300 modifies and/or modulates the following key pathways:

- Kinases involved in key signaling pathways (EGFR, ALK, ROS, MET)
- Enzymes critical for DNA synthesis and repair (ERCC1, RNR1, RNR2)
- Enzymes and proteins important in regulating cell redox status (TRX, PRX, GRX, PDI)

The following key mechanisms have been observed to support our belief that LP-300 has potential to play an important role in the treatment of females and non-smokers with NSCLC adenocarcinoma. We believe these mechanisms help to explain the retrospective subgroup observations for females and non-smokers receiving LP-300 together with cisplatin and paclitaxel in the Phase III NSCLC adenocarcinoma trial:

- *LP-300 targets cysteine residues.* Computational and experimental data indicate that LP-300 demonstrates specificity towards cysteines. LP-300-mediated xenobiotic modulation of protein targets on cysteine results in distinct, (multi)target-specific effects correlated to the role of the cysteine residue(s) in the target.
- *LP-300 alone inhibits human ALK and stimulates the inhibitory effect of crizotinib on human ALK.* Alterations in ALK, along with MET, ROS1 & PDGFRA are thought to underlie nearly 10% of NSCLC adenocarcinoma cancers. Liquid Chromatography (LC), Mass Spectrometry (MS) and X-ray structural data demonstrate that LP-300 covalently modifies human ALK on Cys1156 and Cys1235. Enzyme assay data demonstrates that LP-300 inhibits human ALK's kinase activity and stimulates the inhibitory effect of crizotinib on human ALK's kinase activity.
- *LP-300 inhibits human MET kinase activity and stimulates Staurosporine inhibition of human MET kinase activity.* Mesenchymal Epithelial Transition Factor Kinase (MET) kinase mutations and amplification are an important, specific subset of NSCLC adenocarcinoma. Enzyme assays demonstrate that LP-300 inhibits human MET kinase activity and stimulates the inhibitory activity of staurosporine on human MET kinase.
- *LP-300 inhibits EGFR kinase activity.* EGFR mutations are an important, specific subset of NSCLC adenocarcinoma, particularly in non-smoker females. Enzyme assays demonstrate that LP-300 inhibits EGFR kinase activity and potentiates the inhibitory effect of eErlotinib on wild type as well as mutant EGFR kinase activity.
- *LP-300 modestly inhibits retinal rod outer segment kinase (ROS1) activity.* ROS1 chromosomal rearrangements are a recently identified class of mutations in NSCLC. Estimates of frequency of ROS1 rearrangements range from 1% to 2%. Experimental data are as follows:
    - Enzyme activity data demonstrates that LP-300 has an effect on Human ROS1 activity when ROS1 is preincubated with LP-300. We hypothesize that pre-incubation allows slower reacting cysteine residues to be modulated by LP-300.
    - Based on modeling studies, the cysteines on ROS1 appeared to be in less optimal orientations compared to cysteines in ALK.

- LP-300 appears not to impact ROS1 activity unless ROS1 and LP-300 are pre-incubated prior to kinase assays. Therefore, to see an effect *in vivo*, it may be necessary to administer LP-300 prior to LP-300's effects on ROS1 through preincubation of ROS1 and LP-300, suggesting slower xenobiotic modulation reactions. However, there are several possible explanations for the LP-300 effect on ROS1 and in the absence of an X-ray structure this remains a hypothesis.

- *LP-300 modifies Ribonucleotide Reductase 1 and 2 (RNR1 and RNR2).* Selective, elevated expression of the RNR1 subunit is associated with gemcitabine resistance in NSCLC. RNR1/RNR2 are essential for DNA synthesis, DNA repair & cell proliferation. RNR1/2 catalyzes the formation of deoxyribonucleotides needed for DNA synthesis, from ribonucleotides.

- *LP-300 targets proteins that may result in protection against chemotherapy-induced nephrotoxicity and neuropathy.* The LP-300 derivative-cisplatin/paclitaxel conjugate is inactive and this conjugate is not a substrate for aminopeptidase/γ-Glutamyl-transpeptidase (APN/GGT). These LP-300 heteroconjugates appear to cause potent inhibition of APN/GGT leading to suppression/bypass of renal APN/GGT xenobiotic metabolism pathways promoting protection against chemotherapy-induced nephrotoxicity. In addition, binding of the LP-300 derivative with reactive cisplatin/paclitaxel species, appears to inactivate the platinum-catalyzed microtubule hyper-polymerization. This action may serve to protect against chemotherapy-induced peripheral neuropathy.

- *LP-300 modulates protein function in a way that may promote chemosensitization.* LP-300 appears to promote covalent oxidation of redox proteins Thioredoxin (TRX), Peroxiredoxin1 (PRX1) and Glutaredoxin (GRX). This action may keep these redox proteins in an inactive non-signaling state, which could enhance sensitivity to oxidative stress and apoptosis induced by concomitant chemotherapy.

Using various *in vitro* experimental approaches, LP-300 has been observed to form adducts on cysteines of various protein targets such as those listed below. For several of these targets, studies evaluating enzyme activity associated with the targets have demonstrated inhibition, modulation or impairment of such activity. In addition, X-ray crystallographic studies support LP-300 derived adducts at specific cysteines on these proteins.

Targeted Proteins Modified by LP-300

Cellular Target of LP-300	Cellular consequence of LP-300-modification and/or modulation
Cellular thiol/disulfide balance	LP-300 and LP-300-derived mesna disulfide heteroconjugates are pharmacological surrogate/modulators of physiological thiols and disulfides (e.g., glutathione, cysteine, and homocysteine).
Gamma-Glutamyltranspeptidase Aminopeptidase N	LP-300 and LP-300-derived mesna disulfide heteroconjugates can inhibit gamma-glutamyltranspeptidase and aminopeptidase N enzyme activity.
Tubulin	LP-300 exerts direct and indirect protective interactions with tubulin.
Anaplastic Lymphoma Kinase (ALK)	LP-300 disrupts/blocks ATP binding site resulting in inhibition of ALK kinase activity (vide infra).
Mesenchymal Epithelial Transition (MET) Factor Kinase	Modification of non-active site cysteine(s) resulting in enzyme inhibition (MET).
ROS1 kinase	LP-300 xenobiotically modifies ROS1 kinase in a time dependent manner.
Redox Balance	LP-300 and LP-300-derived mesna disulfide heteroconjugates assist in the maintenance of cellular redox balance and support cellular defenses against oxidative insult.
Thioredoxin (Trx) Glutaredoxin (Grx)	LP-300 modifies non-catalytic cysteines important in redox protein function/structure (Grx and Trx).
Thioredoxin (Trx) Glutaredoxin (Grx)	LP-300 and/or LP-300-derived mesna disulfide heteroconjugates function as alternative substrates/inhibitors (Trx, Grx) resulting in impaired enzyme activity.
Peroxiredoxin (Prx)	LP-300 disrupts active site structure (Prx) resulting in impaired enzyme activity.

Mechanistic evaluation of LP-300 revealed that it has cysteine-modifying activity on select Receptor Tyrosine Kinases (RTKs) initiating proliferative signaling such as ALK, EGFR, MET and ROS1. LP-300 may also serve as a potential chemosensitizer for certain combination chemotherapies by inactivating proteins such as Thioredoxin (TRX), Glutaredoxin (GRX) and Peroxiredoxin (PRX) that are important in modulating cellular redox status and in turn drug resistance. Higher levels of PRX gene expression have been shown to correlate significantly with the absence of smoking history and with the female gender.

We believe well-tolerated profile advantages of LP-300 are imparted through its chemoprotective action via production of inactive LP-300-chemotherapeutic conjugates and preventing toxic taxane/platinum metabolites in the kidney, and targeting toxicity-inducing molecules and pathways (e.g. APN, GGT, Tubulin).

We plan to conduct additional mechanism of action studies aimed at identifying and validating signaling molecules and pathways selectively triggered by or responding to LP-300, as well as identifying additional potential drug combinations for clinical applications. Using female non-smoker-derived lung adenocarcinoma cell lines that are sensitive to the combination of cisplatin, paclitaxel and LP-300, we intend to analyze the induction of expressed genes in a time and concentration-dependent manner. Identification of a pharmacodynamic biomarker that would be relevant at a lower dose of LP-300 could be a potentially valuable outcome of this investigation. We intend to employ established cell lines with known genetic backgrounds as well as fresh patient tumor specimens as *in vitro* or *ex vivo* model systems to perform drug response assays and genomic/ transcriptomic profiling. We believe these studies may assist with determination of correlations between frequently occurring known driver mutations or resistance-related alterations in ALK, EGFR, MET, ROS1 etc. and sensitivity to LP-300.

Planned Phase II Clinical Trial for LP-300

We intend to conduct a Phase II clinical trial of LP-300 in patients with adenocarcinoma NSCLC that are believed most likely to respond to treatment based on the development of our gene signature and other preclinical studies being conducted with CROs and key collaborators. This proposed clinical trial will be subject to obtaining input from the FDA and other regulatory bodies, as well as approval by investigators and Institutional Review Boards. We anticipate employing a combination therapy approach similar to the prior Phase II and Phase III clinical trials conducted by BioNumerik. Our planned clinical trial of LP-300 may span over a two year period or more in either a single center or in multi-center locations involving between 60 and 200 patients diagnosed with adenocarcinoma NSCLC with little to no history of smoking and no prior chemotherapy treatment. We further anticipate that the primary objective of the study will be to investigate the response to treatment with a recommended Phase II dose of LP-300 in combination with chemotherapy in non-smoking patients with NSCLC. Secondary objectives may include (i) to assess the efficacy of LP-300 in combination with chemotherapy in patients with NSCLC and non-smoking status, (ii) to assess the efficacy of LP-300 in combination with chemotherapy in non-smoking females versus non-smoking males with NSCLC, (iii) to further investigate the safety and toxicity profile/tolerability of the LP-300 and chemotherapy combination, and (iv) to investigate biomarkers correlated with potential efficacy of LP-300 in paired tumor biopsies. We expect that the primary endpoint of the study will be overall survival with possible secondary endpoints of (i) progression-free survival, (ii) objective response rate, (iii) identification of gene signatures correlated with potential LP-300 efficacy from matched tumor tissue analysis, and (iv) protection against chemotherapy-induced nephrotoxicity.

Our RADR® Platform's Approach to LP-300 Repositioning

Our RADR® platform is being implemented with the objective of uncovering insights from LP-300 rescued preclinical data as well as from lung cancer clinical trial data regarding actionable bioinformatics, biomarkers, target population demographics and smoking history. Differential expression analyses of RNAseq data on LP-300 pre- and post-exposure in selected NSCLC cell lines has revealed gene sets that could be upregulated and downregulated in response to LP-300 treatments involving the mapping of genes performing cellular redox functions, kinases involved in proliferating signaling, and apoptotic markers. We are currently in the early stages of defining a specific biomarker signature that correlates with heightened sensitivity to LP-300. We believe that this signature may help accelerate the clinical development of LP-300 and has the potential to guide patient selection for targeted clinical trials. We are also developing a list of approved cancer drugs that, when used in combination with LP-300, may have potential to improve the overall benefit to patients through either potentially greater anticancer properties or improved tolerability. We believe identifying such combinations would be attractive to established pharmaceutical and biotech companies.

Acquisition of Tavocept® (LP-300) Rights from BioNumerik

In January 2018, we entered into an Assignment Agreement (the "Assignment Agreement") with BioNumerik Pharmaceuticals, Inc. ("BioNumerik"), pursuant to which we acquired rights to domestic and international patents, trademarks and related technology and data relating to LP-300 for human therapeutic treatment indications. Mr. Margrave, our Chief Financial Officer and Secretary, formerly served as the President, Chief Administrative Officer, General Counsel and Secretary of BioNumerik and has a minority ownership interest in BioNumerik. The Assignment Agreement replaced a License Agreement that was entered into between us and BioNumerik in May 2016. We made upfront payments totaling $25,000 in connection with entry into the Assignment Agreement.

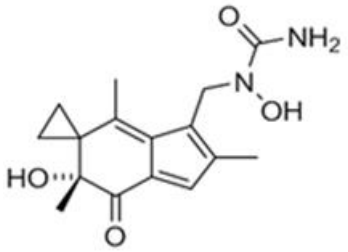
If we commercialize LP-300 internally, we will be required to pay to the BioNumerik-related payment recipients designated in the Assignment Agreement a percentage royalty in the low double digits of cumulative net revenue up to $100 million, with incremental increases in the percentage royalty for net cumulative revenue between $100 million and $250 million, $250 million and $500 million, and $500 million and $1 billion, with a percentage royalty payment that could exceed $200 million for net cumulative revenue in excess of $1 billion. In addition, we have the right to first recover certain designated portions of patent costs and development and regulatory costs before the payment of royalties described above. We are obligated to make royalty payments under the Assignment Agreement during the "Agreement Term**"** that started on January 5, 2018 and continues (on a country-by-country and product-by-product basis) until the later to occur of (i) five (5) years after the expiration of the last to expire Patent Rights, as defined in the Assignment Agreement, in an applicable country in the Territory, as defined in the Assignment Agreement, and (ii) if no Patent Rights exist in such country, fifteen (15) years after May 31, 2016.

If we enter into a third party transaction for LP-300, we are required to paythe BioNumerik-related payment recipients a specified percentage of any upfront, milestone, and royalty amounts received by us from the transaction, after first recovering specified direct costs incurred by us for the development of LP-300 that are not otherwise reimbursed from such third party transaction. In addition, the Assignment Agreement provides that we will use commercially diligent efforts to develop LP-300 and make specified regulatory filings and pay specified development and regulatory costs related to LP-300. The Assignment Agreement also provides that we will provide TriviumVet DAC ("TriviumVet") with (i) specified data and information generated by us with respect to LP-300, and (ii) an exclusive license to use specified LP-300-related patent rights, trademark rights and related intellectual property to support LP-300 development in non-human (animal) treatment indications. Under the Assignment Agreement, we are required to pay all patent costs on covered patents related to LP-300. Patent costs paid by us with respect to LP-300 related patents amounted to approximately $59,000 and $74,000 for the years ended December 31, 2018 and December 31, 2019, respectively. These patent costs are fully recoverable at the time of any net revenue from LP-300, with up to 50% of net revenue amounts to be applied towards repayment of patent costs until such costs are fully recovered. In addition to the recovery of patent costs, we have the right to recover the $25,000 upfront payments made in connection with entry into the Assignment Agreement, which payments are recoverable prior to making any royalty or third-party transaction sharing payments. We also have the right to recover all previously incurred LP-300 development and regulatory costs, with up to a mid-single digit percentage of net revenue amounts to be applied towards repayment of development and regulatory costs until such costs are fully recovered.

LP-184

General Overview

LP-184 (hydroxyureamethylacylfulvene) is currently in preclinical development. LP-184 is a small molecule drug candidate that is a next generation alkylating agent that preferentially damages DNA in cancer cells that overexpress certain biomarkers. It is from the fulvene class of compounds. LP-184 has nanomolar potency and it is a member of a new generation of acylfulvenes, a family of naturally-derived anticancer drug candidates. Earlier generations of acylfulvenes showed great promise in preclinical studies, but were hampered in human clinical studies because of the inability to deliver effective therapeutic doses due to unacceptable toxicities to normal cells. In preclinical studies, LP-184 has shown significantly enhanced antitumor activity and substantially reduced toxicity as compared to earlier generation acylfulvenes. In addition, we have used our RADR® platform, together with work of collaborators, to develop a patient-specific biomarker test we believe will be predictive of LP-184's anticancer activity in targeted patient populations. We plan on using this test to facilitate patient selection in our planned Phase 1 clinical trial for LP-184. The chemical structure of LP-184 is depicted below.



LP-184 Chemical Structure

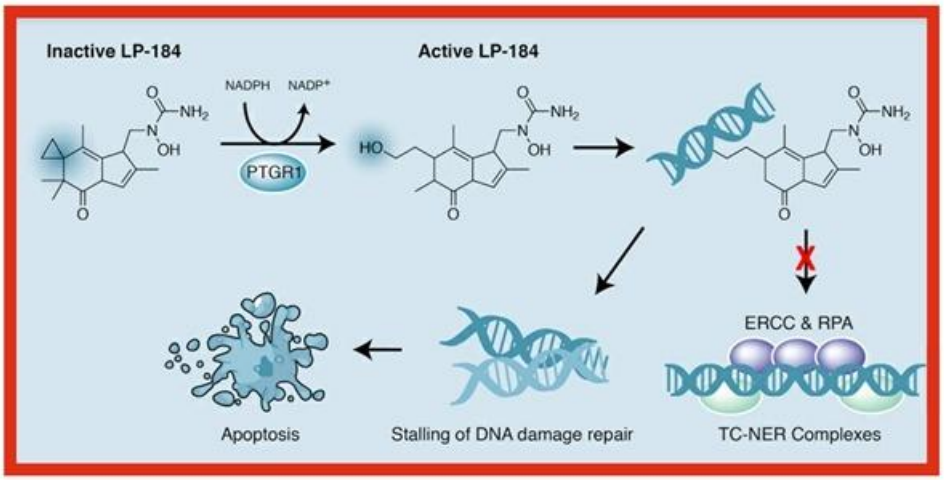
We are advancing LP-184 in preclinical studies using fresh biopsy material from patients with advanced prostate cancer, as a potential indication. In addition, we are also evaluating LP-184 in a number of solid tumors that overexpress certain biomarkers that have been identified as correlating with potential response to LP-184. Preliminary analysis suggests that LP-184 is also expected to be a pro-drug likely activated by the enzyme Prostaglandin Reductase 1 ("PTGR1"). We believe LP-184's mechanism of action is to alkylate DNA and protein macromolecules, form adducts, and arrest cells in the S-phase of the cell cycle.

In preclinical studies, LP-184 has demonstrated tumor regression in a xenograft mouse model of multi-drug resistant lung adenocarcinoma without dose-limiting toxicities. In mouse model studies, LP-184 further demonstrated favorable *in vivo* pharmacokinetic properties including increased half-life, plasma stability and bioavailability with reduced total body clearance. Further preliminary results from mouse studies reveal a better *in vivo* hematological profile for LP-184 with decreased neutropenia and thrombocytopenia events.

Using our RADR® platform, we have derived a 10-gene signature composed of candidate biomarkers determining sensitivity to LP-184. Genes from this signature, such as PTGR1, were found to be implicated in the potential induction of bioactivation of LP-184. We believe LP-184 may be well positioned as a new drug candidate for individual patient genetic profiles identified as having DNA repair complex deficiencies or other commonly prevalent gene signatures. LP-184 displayed less bone marrow toxicity in preclinical studies (dog and mouse), had an improved pharmacokinetic profile (increased bioavailability as reflected by increased AUC), was stable in plasma, and had an increased shelf life or stability in pharmaceutical grade material (sterile glass containers) for its class of compounds. LP-184 retained selective cytotoxicity towards solid tumor derived cell lines *in vitro*. LP-184 can be synthesized from original stock material (Illudin S) with additional steps.

We believe LP-184 is a non-hormone, non-chemotherapy, next generation alkylating agent with nanomolar potency that preferentially damages DNA in cancer cells that overexpress certain biomarkers indicated primarily in solid tumors such as those in prostate and ovarian cancers. LP-184 was developed using combinatorial chemistry approaches. Based on screening against conventional therapies both *in vitro* and *in vivo*, LP-184 cytotoxicity appears to be mediated through the Transcription Coupled Nucleotide Excision Repair (TC-NER) pathway, via alkylation of DNA leading to cell cycle arrest in S phase. Additional cytotoxic effects on tumors may include the generation of reactive oxygen species, chemical modification of various intracellular proteins, and induction of the Mitogen Activated Protein Kinase ("MAPK") pathway followed by apoptosis. A proposed model for the mechanism of action of LP-184 is illustrated below.

Proposed LP-184 Mechanism of Action



We are collaborating with the Clinical Trials and Research Innovation Center in Northern Ireland ("C-TRIC") on a novel preclinical *ex-vivo* study focused on determining gene signatures correlated with LP-184 anticancer activity in human fresh prostate tumor tissue biopsies. The study, which is supported in part by a grant from Invest Northern Ireland ("INI"), is the first of its kind in Northern Ireland. With the first tumor biopsy obtained and treated in June 2019, we anticipate that the study will ultimately treat approximately 250 fresh prostate tumor biopsies from patients with Gleason score 6 or higher. We anticipate that the results from the trial may provide IC_{50}, RNA sequencing data, and follow-up data from patients for five years following biopsy.

We anticipate that the results from ongoing preclinical cell line studies will inform the targets for broader indications for LP-184 in solid tumors. Our RADR® platform has identified multiple solid tumor cancer indications that highly express PTGR1, including prostate, ovarian, kidney, liver, lung, pancreatic and thyroid cancers. Our RADR® platform will be employed to correlate results from ongoing preclinical studies with gene expression data to attempt to determine the likely anticancer activity of LP-184 in these cancer indications. Based on these results, we intend to conduct follow-up studies in patient derived xenografts (PDX) models to further elucidate precise targets and potential patient groups for future LP-184 clinical trials.

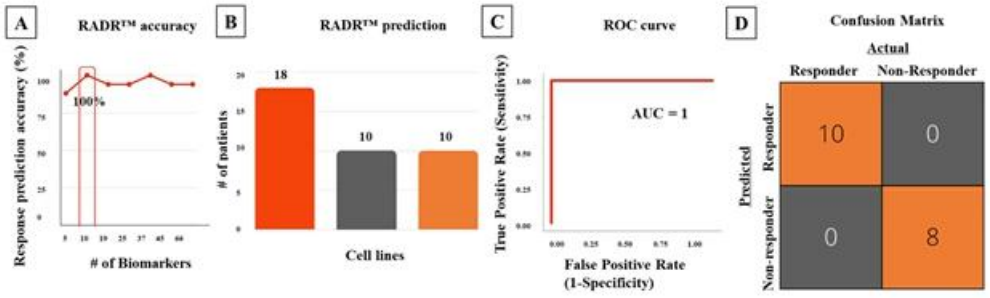
LP-184 Biomarker Background Using Our RADR® platform

LP-184 biomarker studies are being conducted by us to investigate the validity of relevant biomarkers. An NCI-60 cell line panel is being used to obtain gene expression data and sensitivity data (GI_{50}). Determination of potential biomarkers for LP-184 target indications is performed by correlation analysis between normalized gene expression and GI_{50} values followed by biological and statistical filtering. For further testing, we intend to acquire biopsy tissues (from prostate and ovarian cancer patients) to perform gene expression analysis, predict potential drug response using Artificial Intelligence and machine learning and validate the results experimentally by preclinical drug sensitivity testing.

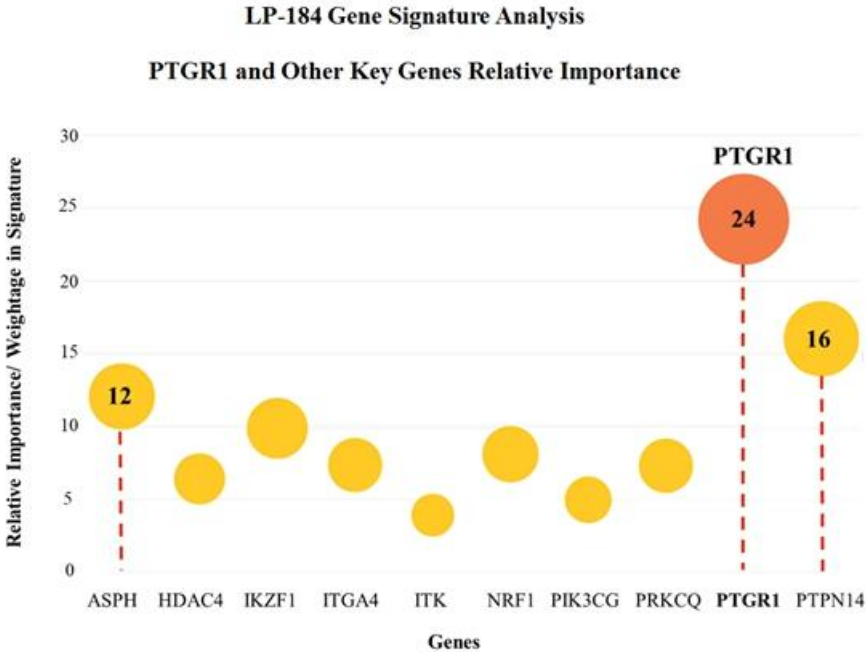
Our RADR® platform was used to analyze our dataset on preclinical LP-184 sensitivity to and baseline gene expression profiles of 57 cell lines from the NCI-60 panel. Panel A in the figure below highlights the comparison of LP-184 sensitivity prediction accuracy across a range of biomarker numbers. Starting from greater than18,000 genes, our RADR® platform identified the 10 most significant genes as predictive of response to LP-184 treatment. As depicted in panel B below, out of 18 cell lines included in the blinded test set, our RADR® platform correctly predicted all 10 out of the actual 10 sensitive cell lines. Panels C and D show model performance metrics such as area under curve (AUC) and confusion matrix representation, respectively. Model training was performed using an initial set of 66 genes derived from 39 cell lines from the NCI-60 dataset. Model testing was conducted on 18 cell line records isolated as the blinded hold-out set.

We believe that genes from the 10 identified by our RADR® platform have been shown to be functionally involved in the postulated mechanism of action of LP-184, thereby reaffirming our belief in the utility and value of our RADR® platform. We intend to further extend and validate these cell line-derived preliminary biomarker analyses using LP-184 sensitivity and gene expression data derived from fresh tumor biopsy samples. Our goal is to determine the molecular profiles of patient tumors that predict potential drug response and to derive a diagnostic assay for stratifying patients. We believe that precision biomarker approaches increase the likelihood that a treatment will be found to be effective in a relatively small phase II cohort by eliminating the most likely non-responders and selecting the most likely responders. We anticipate that our RADR® platform driven determination of molecular profiles of tumor tissues that are sensitive to LP-184 will greatly assist with stratification of patients in a future phase II clinical trial.

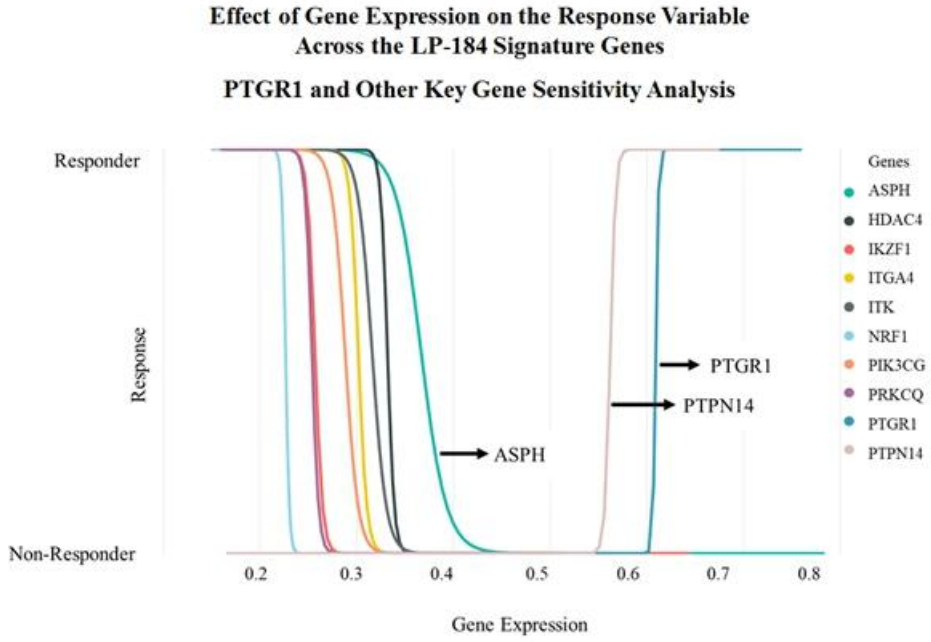
RADR™ Performance in Generating LP-184 Gene Signature



As described above, analysis of LP-184 using our RADR® platform yielded a 10-gene pan-cancer signature of candidate biomarkers associated with LP-184 sensitivity. We intend to further validate these preliminary biomarker analyses using LP-184 sensitivity and pre-treatment gene expression data derived from *ex vivo* models of fresh tumor biopsy samples from selected cancer indications. Furthermore, gene weightage analysis was performed using Garson's function to analyze the relative ranking of 10 genes in the LP-184 signature associated with anticancer sensitivity. We believe that PTGR1 stands out as the gene with the highest relative importance for purposes of determining LP-184 sensitivity.



The effect of gene expression on the response variable was also studied across the identified LP-184 signature genes using the Lek's profile function as depicted below. We believe that the high expression of PTGR1 is significantly correlated to a possible positive anticancer response to LP-184. The Lek's profile method explores the relationship of the outcome variable and a predictor of interest, while holding other predictors at constant values.



Numerous studies have determined that PTGR1 expression is elevated in several tumor types, including prostate. Our RADR® platform analyses indicate that tumor cells with high PTGR1 expression may be more sensitive to DNA damaging drugs like LP-184. Independent studies suggest that PTGR1 may be responsible for converting LP-184 to its active form. These two results support our belief that PTGR1 is the most prominent biomarker for predicting LP-184's potential anticancer activity in targeted tumor types. Clinical mapping of PTGR1 expression profile was performed in independent historical datasets of unselected prostate cancer patients. Using our RADR® platform, we analyzed historical data from a total of 2,204 prostate cancer patients from 14 different studies and identified that on average 30% of the patient population showed high PTGR1 expression, and 39% of the patient population showed intermediate PTGR1 expression, representing a group of patients that has the potential to be at least partial responders to LP-184.

Disease Background for Prostate, Ovarian and Liver Cancer

Initial target patient populations for LP-184 include advanced cancers of the prostate and ovary. Based on computational analysis of*in vitro* cell line sensitivity data, we believe additional cancer types, including liver, kidney and thyroid, deserve further consideration as target indications in which LP-184 is predicted to have potential anticancer activity.

Prostate Cancer

Prostate cancer is the most commonly diagnosed cancer in men in the US and the second leading cause of cancer-related death in men in the US. The American Cancer Society's estimates for prostate cancer in the United States for 2019 are:

- Approximately 174,650 new cases of prostate cancer
- Approximately 31,620 deaths from prostate cancer

Approximately 50% of patients who die from prostate cancer have metastases at diagnosis. The survival gains over the last decade have been modest with acceleration in life-extending drug development occurring in the last three years. Hormonal therapy works to reduce testosterone levels in the body to a level equal to that seen if physical castration were to occur. However, hormonal therapy can become refractory after one to three years and tumor growth may resume. This is referred to as Castration-Resistant Prostate Cancer ("CRPC"). About 10 - 20 % of prostate cancer patients develop CRPC within five years. According to JP Morgan, in 2011, approximately 136,000 men were treated for CRPC. Typically, standard hormonal therapy involving Androgen Deprivation Therapy (ADT) was prescribed in the past for all comer patients. Current prescribed regimens involve intensified therapy for most patients (docetaxel for high volume disease, and Zytiga for low and high volume disease) whereas upcoming molecularly selected agents in addition to hormonal therapy are used in an individualized approach to metastasis-directed or local therapy. Standard of care agents for prostate cancer include (i) Androgen production suppressors, such as Leuprolide (Lupron, Eligard), Goserelin (Zoladex), Triptorelin (Trelstar), Histrelin (Vantas), Abiraterone (Zytiga), (ii) Androgen signaling blockers, such as Flutamide (Eulexin), Bicalutamide (Casodex), Nilutamide (Nilandron), and Enzalutamide (Xtandi), and (iii) chemotherapeutics such as docetaxel and cabazitaxel. Drug classes of new small molecules in development include PARP inhibitors, PI3K inhibitors and DNA Damage Repair (DDR) inhibitors. The identification and characterization of new molecular targets, agents exploiting new or non-parallel mechanisms of action, and the discovery of predictive biomarkers for mCRPC, are three of the major unmet needs in the prostate cancer space in the era of precision medicine that we believe LP-184 may address.

Ovarian Cancer

According to the American Cancer Society and other published sources, ovarian cancer is the second most common gynecologic cancer in the US. Ovarian cancer ranks fifth in cancer deaths among women, accounting for more deaths than any other cancer of the female reproductive system. Ovarian cancer is the second most common gynecologic malignancy in developed countries, with an incidence of 9.4 per 100,000 women and a mortality rate of 5.1 per 100,000. In developing countries, it is the third most common gynecologic malignancy, with an incidence of 5.0 per 100,000 and a mortality rate of 3.1 per 100,000. About 85% of ovarian cancer patients stop responding to or relapse within two years after first line therapy. The American Cancer Society estimates for ovarian cancer in the US for 2019 are:

- Approximately 22,530 women will receive a new diagnosis of ovarian cancer.
- Approximately 13,980 women will die from ovarian cancer.

A woman's lifetime risk of developing ovarian cancer is 1 in 75, and her chance of dying of the disease is 1 in 1004. The disease typically presents at late stage when the 5-year relative survival rate is only 29%. Few cases (15%) are diagnosed with localized tumor (stage 1) when the five-year survival rate is 92%. The overall five-year relative survival rate generally ranges between 30%–40% across the globe and has seen only modest increases (2%–4%) since 1995.

Carboplatin in combination with paclitaxel has been the standard of care in the adjuvant and first-line settings for ovarian cancer, and, despite all relevant efforts, improving upon this standard in clinical practice has proven extremely hard. Attempts to improve survival and response rates using a triplet rather than the traditional doublet have failed to demonstrate any effective advantage. Prolonging antineoplastic therapy after the conventional 5 to 6 cycles also was not reported to provide significantly better outcomes. Intraperitoneal or dose-dense chemotherapy, and alternative platinum doublets, have been tested alongside targeted therapies such as bevacizumab, pazopanib, nintedanib and PARP inhibitors (olaparib/ rucaparib) with limited success to date. At present, alternatives to standard therapy do exist, but none has proven to be superior to conventional treatments, with the notable exception of carboplatin-paclitaxel plus bevacizumab. In light of available data, none of the other options can be considered a "new standard" that fits all. We believe that LP-184 has the potential to serve patient subgroups from multiple cancer types based on their gene signature status in a tissue-agnostic manner.

Liver Cancer

According to estimates published by the American Cancer Society and other published sources, liver cancer incidence has more than tripled since 1980. Liver cancer develops approximately three times more often in men than in women. Liver cancer death rates have increased over 2% per year since 2007. The American Cancer Society's estimates for primary liver cancer (hepatocellular carcinoma) and intrahepatic bile duct cancer (cholangiocarcinoma) in the US for 2019 are:

- Approximately 42,030 new cases (29,480 in men and 12,550 in women) will be diagnosed
- Approximately 31,780 people (21,600 men and 10,180 women) will die of these cancers

Market Opportunity for LP-184

We are targeting a set of indications for LP-184 based on combining the factors of predicted response, unmet clinical need and market opportunity. These include prostate, ovarian and liver cancers. Below is an overview of relevant patient numbers and market sizes that we believe LP-184 may potentially address, if approved, based upon published estimates by the Global Cancer Observatory and other published sources:

Prostate cancer	**Global**	**US**
Total 2019 prostate cancer estimated incidence (new cases)	1,300,000	174,650
CRPC incidence, ~20% of all prostate cancer	260,000	34,930
Metastatic CRPC incidence, ~80% of newly diagnosed CRPC	208,000	27,944
Patient fraction in target segment	16%	16%

Ovarian cancer	**Global**	**US**
Total 2019 ovarian cancer estimated incidence (new cases)	300,000	22,530
Estimated patients not responding to or relapsing within 2 years after first line therapy (85% of all ovarian cancers)	255,000	19,150
Patient fraction in target segment	85%	85%

Liver cancer	**Global**	**US**
Total 2019 liver cancer estimated incidence (new cases)	841,000	42,030
Estimated patients with hepatocellular carcinoma (75% of all liver cancers)	630,750	31,522
Patient fraction in target segment	75%	75%

Summary of LP-184 Preclinical Studies

Below is a summary of preclinical studies conducted on LP-184:

LP-184 screening studies using MV522 lung cancer line.

In cell line screening studies, LP-184 retained toxicity against the MV522 lung cancer line but displayed reduced toxicity against the normal 8392 B cell and CHRF 288-11 megakaryocyte lines (platelet precursors). From the NCI-60 cell line panel, LP-184 demonstrated increased tumor-killing activities against a variety of cancer cell lines, notably prostate, ovarian, lung and renal cancers. These observations are summarized below.

Cell Line	LP-184 IC_{50} (nM)
8392 Normal B Cells	>100,000
CHRF 288-11 Megakaryocytic Cells	8,800
PC3 Prostate	140
DU145 Prostate	14
OVCAR3 Ovarian	100
OVCAR5 Ovarian	45
A549 Lung	70
A498 Renal	25
MV522 Lung (multi-drug resistant)	210

In hematotoxicity studies, animals were treated 3 times per week for 3 weeks with control (sterile saline), or LP-100 at 10 mg/kg (MTD), or LP-184 at 10 mg/kg (80% MTD). N=6, mean + SD. LP-184 neutrophil and platelet results vs LP-100; p <0.02. Based on these studies, we believe LP-184 shows potential for an enhanced *in vivo* hematological safety profile. LP-184 appears less toxic to normal blood cells than LP-100. Studies in mice showing WBC differentials data indicated that LP-184 induces less thrombocytopenia and neutropenia than LP-100. The tables and figure below summarize these observations.

Groups of 6 mice treated 3X per week for 3 weeks with 10 mg/kg drug

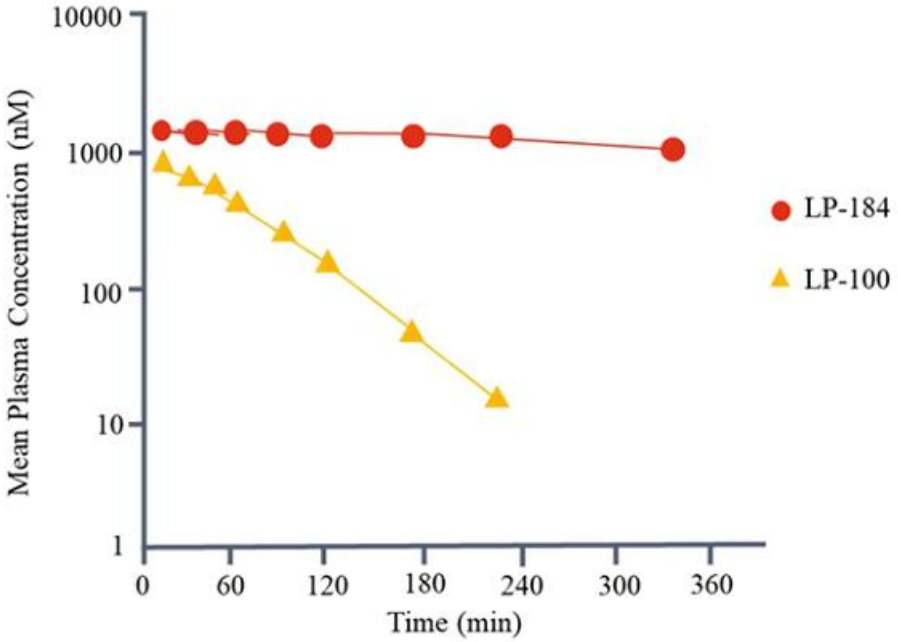
Analyte	Control	LP-100	LP-184
White blood cell count*	4.57±0.82	1.97±0.44	3.02±0.67
Neutrophil count*	1.61±0.19	0.51±0.03	1.03±0.11
Hemoglobin (g/dL)	9.9	8.2	10.6
Platelet count*	574±127	384±64	587±149

* Cells per microliter

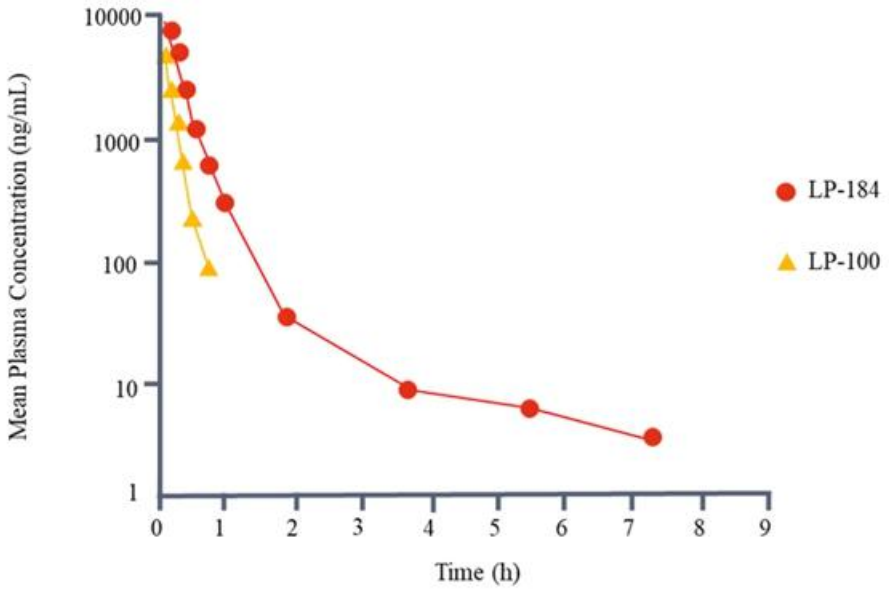
In both human plasma and in mice, LP-184 demonstrated a superior pharmacokinetic property profile compared to LP-100.

Pharmacokinetic property	LP-100	LP-184
Half life (h)	0.1	2.4
AUC (ng*h)	695	2200
Cmax (ng/ml)	5650	9730

LP-184 *in vitro* Plasma Stability Data



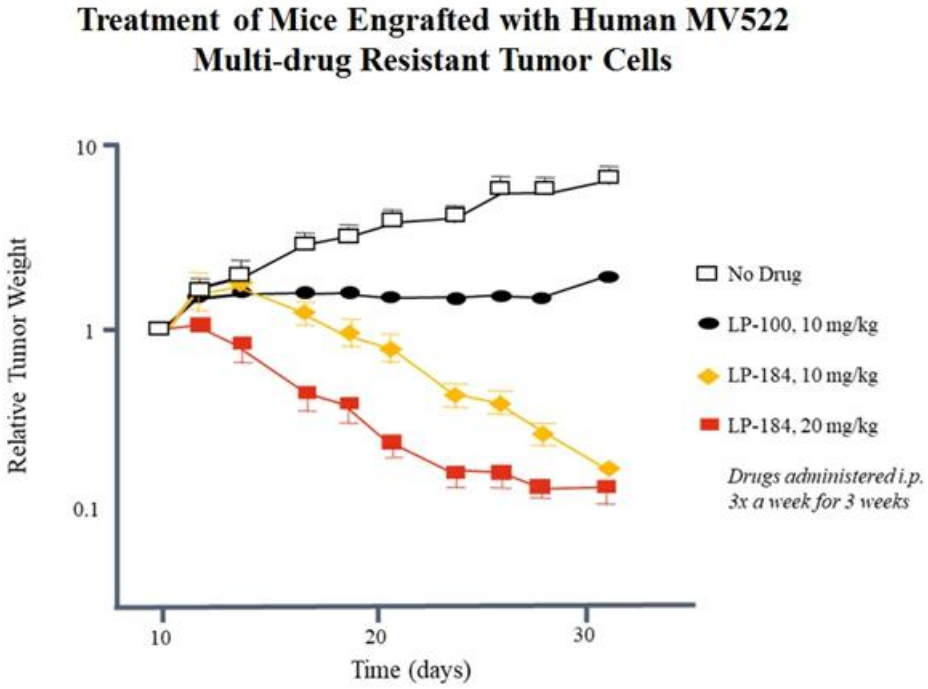
LP-184 *in vivo* Pharmacokinetic Profile



Xenograft studies by Staake, et al. 2016

In a preclinical animal study by Staake MD, et al. of Hydroxyurea derivatives of irofulven with improved antitumor efficacy reported in Bioort Med Chem Lett. 2016: 26(7): 1836-1838, LP-184 treatment indicated a greater tumor regression in a mouse model with human cancer than LP-100.

LP-184 was tested in a variety of xenograft models including MV522 lung adenocarcinoma and was found to be superior to LP-100 in its ability to induce tumor regression or complete tumor remission. As described in the following figure, treatment with LP-184 demonstrated substantial regression of lung cancer tumors in mice treated with the 10 mg/kg and 20 mg/kg doses.



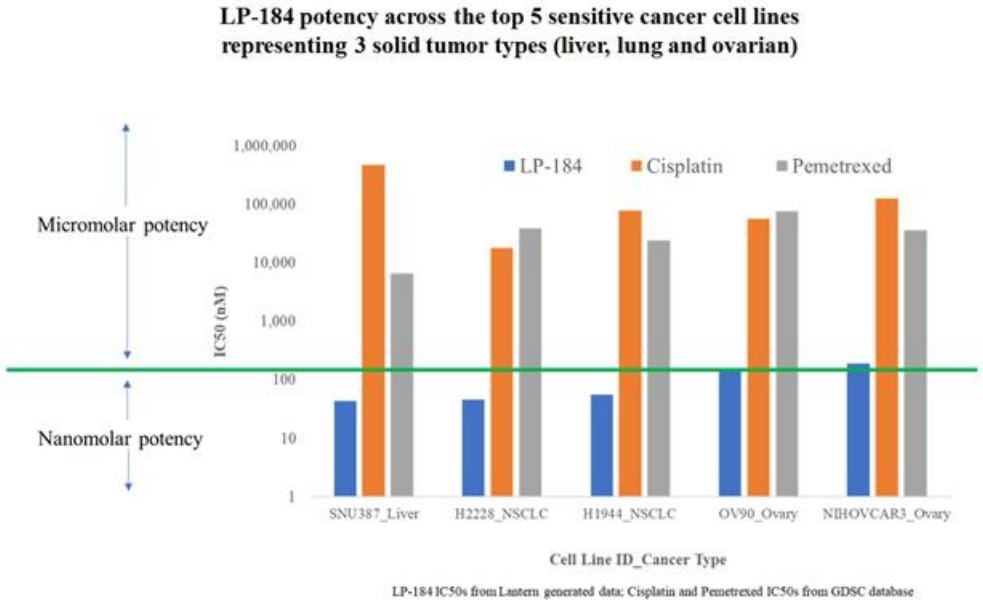
Glioblastoma

Glioblastoma is a fast-growing, aggressive type of CNS (Central Nervous System) tumor that forms on the supportive tissue of the brain. Glioblastoma is the most common grade IV brain cancer. The National Cancer Institute estimates that 22,850 adults (12,630 men and 10,280 women) were diagnosed with brain and other nervous system cancers in 2015. It also estimates that in 2015, 15,320 of these diagnoses resulted in death. Glioblastomas usually affect adults. Treating glioblastoma is very difficult due to the brain-blood barrier and often focuses primarily on relieving symptoms. Other treatments include surgery and radiation. Most studies have typically indicated little to no benefit from chemotherapy. Based on recent observations and a preclinical study, we also believe that LP-184 could have potential as treatment (alone or in combination with other treatments) for glioblastoma, which is an aggressive type of cancer that begins in the brain and accounts for more than half of all brain cancers. Our A.I platform has helped to uncover biomarkers that may make a patient more responsive to LP-184 for the treatment of glioblastoma as well as LP-184 in combination with other approved therapies. We have filed a patent application on this discovery.

Ongoing and Planned Preclinical Studies for LP-184

For LP-184, we have conducted and planned the following preclinical studies:

Cell line sensitivity studies. We have partnered with a CRO to generate key preclinical data on LP-184 anticancer activity profiles in various cancer types. The goal of this study is to generate dose response curves and associated IC_{50} values for LP-184 as monotherapy on 41 different cancer cell lines representing prostate, NSCLC, ovarian, liver, kidney and thyroid cancer indications. PTGR1 transcript levels in these cell lines are generally known, and will help to determine correlations between LP-184 cytotoxicity and PTGR1 gene expression. LP-184 sensitivity profiles in cell lines from various cancer types, including liver, NSCLC and ovarian, were compared with publicly available data for standard of care chemotherapy agents cisplatin and pemetrexed that are commonly prescribed in NSCLC. In this cell line panel, LP-184 showed nanomolar potency whereas cisplatin and pemetrexed were less effective. A representative chart demonstrating the superior potency of LP-184 is depicted in the graph below. From this ongoing study, we hope to identify tumor types in addition to prostate that would be key potential targets for future clinical trials. LP-184 could potentially be positioned to treat tumors not just based upon tissue of origin or histology, but upon the PTGR1 expression status of the tumors.



Fresh tumor biopsy studies. We have initiated a PRAISE (Prostate cancer Artificial Intelligence Study using *ex vivo* models) preclinical study in which the efficacy of LP-184 is being tested on fresh prostate tumor biopsy samples. This study is being conducted at C-TRIC on the Altnagelvin Hospital site in Derry, Northern Ireland. We have been awarded a pilot study grant from Invest Northern Ireland ("INI") to test fresh tissues from fresh biopsy samples for LP-184 sensitivity and molecular profiles. The full project seeks to collect biopsy samples from 250 prostate cancer patients having Gleason scores of 6 (combined score) or higher. The analysis of fresh *ex-vivo* tumor samples for drug sensitivity and molecular profiles bridges the gap between cell lines and retrospective patient data. We anticipate that the sensitivity assays will derive the GI_{50} concentrations for each patient sample and the molecular analysis will determine the expression levels of gene transcripts and identify point mutations of interest. The patient samples will be stratified by GI_{50} values and the molecular data analyzed for correlates of sensitivity that we intend to develop as biomarkers using our RADR® platform. We intend to compare genes that correlate with LP-184 sensitivity to the data derived from cell line analyses to fine-tune the biomarker identification. The medium-term goal of the project is to assist with development of an accurate biomarker diagnostic assay that we intend to use to predict patient responses to LP-184 for the purpose of selecting those patients predicted to be responsive to the drug candidate for inclusion in the treatment arm of a Phase II clinical trial, subject to FDA approval. The long-term goal is to help determine the safety and efficacy profiles of LP-184, as a monotherapy and in combination with other prostate cancer drugs, and to develop a companion diagnostic assay that we intend to use to identify patients who may benefit from LP-184 treatment. Patients with tumors that are sensitive to LP-184 will be tracked by their urologists/oncologists for potential inclusion in future clinical trials of LP-184. The objectives of this study are to:

- Develop the processes and technologies needed to obtain fresh prostate tumor biopsies and perform drug sensitivity and molecular analyses of the tissues;

- Derive drug sensitivity data on tumor samples using standard growth inhibition assays;
- Obtain transcriptomic profiles from next generation sequencing of tumor samples;
- Cryopreserve tumor samples for future analyses;
- Analyze the drug sensitivity and molecular data to derive correlative biomarkers; and
- Compare the new biomarker identifications with existing cell line-based biomarkers.

Strategic Academic Collaborations for LP-184

We are or have been involved in the following academic collaborations for LP-184:

- *Georgetown University*. We have entered into a collaboration with Georgetown University with the objective of determining the efficacy of LP-184 in a panel of prostate cancer organoid models and engineered pancreatic cancer cell lines. This project will extend our repertoire of preclinical cancer models from cell lines to organoids. From these studies, we intend to gather data on LP-184 responses and drug sensitivity across a range of prostate and pancreatic cancers. These studies will be conducted on: (1) annotated prostate cancer organoid models covering established molecular / histopathologic subsets of prostate cancers, and (2) engineered and annotated pancreatic cancer cell lines. These studies may also provide insights into differences in LP-184 sensitivity profiles in cell lines versus organoids and correlations with PTGR1 expression and other biomarker signatures. We expect that the drug sensitivity data and genomic data from these studies will further guide optimal positioning of LP-184.

- *Memorial Sloan Kettering Cancer Center*. We collaborated with the Memorial Sloan Kettering Cancer Center to evaluate LP-184 efficacy in preclinical models of cancer with defective DNA damage repair backgrounds, specifically ERCC3 mutations that are relatively common in hereditary breast and ovarian cancers. This study helped us in our efforts to (i) identify biomarkers (genomic, transcriptomic and/ or proteomic) associated with transcription-coupled nucleotide excision repair (TC-NER), the DNA repair pathway that acylfulvenes are known to target, and (ii) develop strategies for targeting vulnerabilities in this pathway during tumor growth (i.e. identify additional genetic backgrounds in this DNA repair pathway that can act with LP-184 in a synthetically lethal manner to inhibit tumor growth). Evidence from *in vitro* cell line work provided independent support for our belief in LP-184 anticancer activity in an engineered ERCC3 mutant breast cancer cell line model. The observed growth inhibition in this model fit well with the previously reported sensitivity range for LP-184 in the NCI-60 breast cancer cell line panel. This project provides a foundation to explore hereditary cancers with certain DNA damage repair deficiencies as potential indications for future LP-184 studies.

- *Fox Chase Cancer Center ("FCCC")*. We are engaged in discussions with FCCC to identify opportunities for collaborative research, both preclinically and clinically, for advancing LP-184. Our objective is to develop studies to further elucidate the efficacy profile of LP-184 and evaluate the correlation of sensitivity with PTGR1 status using cell lines and patient derived xenograft (PDX) model studies in different cancer types, particularly PTGR1 expressing tumors. Additionally, we are in the process of designing experimental strategies to obtain LP-184 mechanistic insights involving induction of bioactivation through PTGR1-driven metabolism and increased sensitivity or potency in DNA repair-deficient backgrounds such as ERCC2/3. We intend to focus on testing LP-184 in established cell lines and molecularly annotated PDX models of pancreatic cancers available at FCCC. Also, immunohistochemical detection of PTGR1 in tissue microarrays prepared from PDXs representing chosen cell lines may provide an estimate of the percentage of patients expressing PTGR1 across the clinical and histopathological spectrum of pancreatic cancers and an indication of those who may be considered potential responders to LP-184.

Ongoing pre-IND Enabling and Planned IND Enabling Animal Studies

We intend to obtain toxicity data on fully synthetically produced (-) and (+) or R and S enantiomeric forms of LP-184 from cell line efficacy studies as well as non-GLP dose range finding studies in rats. We expect to select the enantiomer with the most favorable safety and antitumor profiles for continued analyses and further studies. Enantiomers are molecules that are non-superimposable mirror images of each other. We have planned an animal study to determine the selection of the desired LP-184 enantiomer involving non-GLP dose range finding in rats to compare toxicity of the enantiomers. Pursuant to the planned study, Sprague-Dawley rats will be given intravenous (over 30 min) doses of the two compounds in sterile saline on Days 1 and 8, using a syringe pump or infusion pump. We anticipate that the high dose will cause detectable toxicity to permit comparison between the two (+S) and (-R) enantiomers. Once an enantiomer selection decision is made, we intend to conduct further IND-enabling animal studies involving some or all of the following: (i) non-GLP dose range finding in rats, (ii) GLP analysis of toxicity in rats, (iii) non-GLP dose range finding in dogs, (iv) GLP analysis of toxicity in dogs, (v) LC-MS/MS Method development for the determination of LP-184 levels in Rat and Dog Plasma, (vi) HPLC Method development, (vii) Compatibility study of dose formulations and infusion systems (GLP), and (viii) Hemolytic potential (GLP).

Planned Phase I Clinical Trial for LP-184

Once regulatory clearance has been obtained to move forward under a future IND and subject to any changes or modifications in the IND in response to comments from the FDA, we intend to conduct a Phase I clinical trial to study LP-184 versus placebo in combination with neoadjuvant chemotherapy for the treatment of late stage solid tumors expected to include ovarian, prostate and liver cancer with high expression of the protein coding gene PTGR1 (Prostaglandin Reductase 1). We anticipate that the study will have a duration of 6 to 12 months and be located in a single center or multiple centers. We intend to conduct the study in two phases. In Phase 1A, we intend to perform a dose escalation using a standard 3 + 3 escalation strategy with a primary objective to assess the safety and toxicity profile of LP-184 in patients with solid tumors using the NCI CTCAE v.4.03 and to determine the maximum tolerated dose (MTD). In Phase IB we intend to perform a dose expansion involving treatment with LP-184 at the MTD in patients with metastatic solid tumors, with a primary objective to assess the safety and toxicity profile of LP-184 at the targeted MTD in patients with advanced solid tumors. Further planning and development of secondary objectives and primary and secondary endpoints are in process and will be subject to FDA review and comment.

LP-100

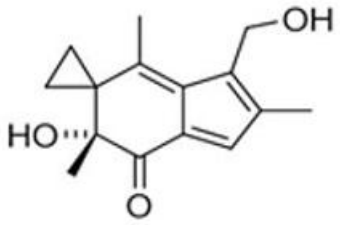
General Overview

LP-100 or 6-hydroxymethylacylfulvene exploits cancer cells' deficiency in DNA repair mechanisms. We have out-licensed LP-100 to Oncology Venture. LP-100 is in an active phase II clinical trial in androgen receptor (AR)-targeted and Docetaxel-pretreated metastatic castration-resistant prostate cancer (mCRPC) patients. We hold an exclusive license for the development and commercialization of LP-100.

LP-100 shows multiple cytotoxic effects on tumor cell biology such as DNA adduct formation, RNA polymerase stalling and redox protein modification. It demonstrates enhanced sensitivity in DNA repair deficient (e.g. ERCC3 mutant or knockout) *in vitro* and *in vivo* models. In historical testing, clinical antitumor activity for LP-100 was observed in approximately 10-12% of patients with multidrug resistant advanced prostate cancer with notable resolution of bone metastases.

History of LP-100

LP-100 belongs to the family of compounds and small molecular entities (molecular weight <330) that represent a class of anticancer agents derived from fungal toxins called Illudins. Acylfulvenes were originally synthesized and developed by Drs. Michael J. Kelner and Trevor C. McMorris at University of California at San Diego ("UCSD"). In 1987, Professor McMorris published the first preclinical evaluation of the Illudins as anticancer agents and a library of hundreds of acylfulvene derivatives was created, many with significant *in vitro* and *in vivo* antitumor activity and potentially improved selectivity for tumor cells versus normal cells. The compound Illudin S was found to be highly cytotoxic against cancer cells, but demonstrated a poor therapeutic index. Better understanding of the mechanism of action led to the development of a novel family of semisynthetic antitumor agents, or next-generation acylfulvenes such as 6-hydroxymethylacylfulvene, now designated as LP-100. LP-100 is a semisynthetic derivative of Illudin S, one of a series of sesquiterpene natural products (Illudins) isolated from the Lantern mushroom *Omphalotus illudens*. LP-100 was selected for further study based on its potential to demonstrate promising antitumor activity while maintaining a more favorable therapeutic index, compared to previously studied Illudins. The chemical structure of LP-100 is depicted below.



LP-100

Mechanism of Action

LP-100 leads to rapid inhibition of DNA synthesis and induction of DNA damage. LP-100 is a monofunctional covalent DNA binder that inhibits DNA synthesis and replication, affects cell cycle and induces apoptosis. DNA repair of LP-100-induced lesions is mediated by components of the transcription-coupled nucleotide excision repair (TC-NER) pathway. LP-100 produces damage to DNA that can only be repaired by the TC-NER pathway. The DNA damage is unique, as two enzymes, RNA Polymerase III and Topoisomerase I (Topo 1), associated with the TC-NER are displaced leading to irreversible inactivation of the repair pathway. Other conventional DNA damaging chemotherapeutic agents, such as cisplatin, etoposide, doxorubicin and others, produce general damage that can be repaired by the Global Genome Nucleotide Excision Repair (GG-NER) pathway. Tumor cells often develop multidrug resistance (MDR) making them impossible to kill using conventional drugs. LP-100 appears to retain activity against MDR tumor cells regardless of the mechanism of resistance and tumor cells appear less likely to become resistant to LP-100. Killing of MDR tumor cells by LP-100 reflects its unique mechanism of disrupting the TC-NER pathway. Cell-based studies have demonstrated selective cytotoxicity of LP-100 towards a variety of solid tumor cell lines. The tumor cells cannot recover from this damage, undergo S-phase arrest, and then irreversibly initiate both caspase-dependent and –independent apoptosis pathways. LP-100 produces DNA damage and induces apoptotic DNA fragmentation in several tumor cell lines. Normal diploid cells, in contrast, do not normally need repair by the TC-NER pathway unless exposed to UV light. Treatment of mouse xenografts of human tumors with LP-100 results in tumor shrinkage. Synergistic or additive activity is observed when LP-100 is combined with various traditional anticancer agents.

LP-100 acts as a DNA damaging agent by causing alkylation of DNA and adduct formation. It modulates the TC-NER DNA repair pathway further activating the MAPK signaling cascade followed by apoptosis of target cells. Also, LP-100 induces RNA Polymerase II stalling in actively transcribed regions, triggering cell death possibly due to collisions between transcriptional machinery and the replication fork. LP-100 is not a substrate for drug efflux pumps, which helps to counteract chemoresistance to LP-100. Sensitivity to LP-100 is unlikely to be influenced by common resistance-inducing phenomena observed for other DNA damaging agents like cisplatin. Antitumor activity of LP-100 is independent of cellular p53 and p21 tumor suppressor gene status (such as loss of p53 or p21). LP-100 also produces redox protein modifications by targeting key redox-controlling proteins TrxR/ GrxR. Distortion of the redox status of cellular proteins serves as a pro-apoptotic stimulus in cancer cells.

LP-100 Clinical Profile

Clinical studies of LP-100 have been conducted in multiple solid tumor indications including prostate, ovarian, colorectal, pancreatic, thyroid, lung, breast and gastric cancers. More than 38 Phase I or Phase II trials involving > 1,300 patients have been conducted with LP-100. In prior clinical trials, LP-100 showed activity and produced regression in a variety of cancers, but failed to meet required endpoints for clinical trial success. Objective responses were reported for LP-100 single agent therapy in drug-resistant prostate (hormone and taxotere refractory), ovarian (platinum resistant), pancreatic, sarcoma, kidney, endometrial, and lung cancers. LP-100 also showed cancer treating potential when administered in combination with a variety of conventional chemotherapeutics including Camptosar, GemZar, Taxotere, Xeloda, Cisplatin, and Oxaliplatin. In a study of patients who failed prior conventional therapies, two rounds of LP-100 therapy led to rapid resolution of ovarian cancer metastasis. In a randomized Phase IIb study of patients with metastatic hormone refractory taxotere-resistant prostate cancer, LP-100 was compared to mitoxantrone. A total of 138 patients were enrolled and specified endpoints included overall survival, response rate, and safety assessment. The median one-year survival increased from 22% in the mitoxantrone-treated control group to 41% in the LP-100-treated group. Median overall survival was 10.1 months for treatment arm (LP-100 + Prednisone) and 7.4 months for control arm (Mitoxantrone + Prednisone), i.e. a 37% increase over standard of care. Treatment was well-tolerated in all arms. The most frequent Grade 3–4 toxicities (as % of patients in treatment/control arms) were asthenia (8%/0%), and vomiting (4%/0%). Grade 3–4 hematological events included neutropenia (22%/61%) and thrombocytopenia (23%/4%).

In 2001, LP-100 received FDA's fast track status and a Phase III international clinical trial for LP-100 in refractory pancreatic patients was started. Clinical trials looked promising in shrinking tumors of drug-resistant pancreatic cancer. However, MGI Pharma stopped the Phase III clinical trial because it was unlikely for them to reach its objective for the trial due to problems with the comparator agent (5-FU). In 2005, Phase II clinical trial results of LP-100 in women with recurrent and heavily pre-treated ovarian cancer revealed retinal toxicity. This retinal damage was associated with dose and administration of drug.

The actively recruiting phase II trial conducted by Oncology Venture is aimed at evaluating the antitumor effect of LP-100 treatment in combination with Prednisolone in patients who have progressed on androgen receptor (AR)-targeted therapy and in docetaxel-pretreated metastatic Castration-Resistant Prostate Cancer (mCRPC) Patients. In this protocol, patients are screened using a LP-100-specific response biomarker signature and eligible patients likely to respond to and benefit from treatment with LP-100 are recruited in the trial. Oncology Venture dosed the first patient in the trial in the fourth quarter of 2018 .

AF Chemicals

In January 2015, we entered into a Technology License Agreement to exclusively license global patent rights from AF Chemicals, LLC ("AF Chemicals") for the treatment of cancer in humans for the compounds LP-100 (Irofulven) and LP-184. In February 2016, we and AF Chemicals entered into an Addendum providing for additions and amendments to the Technology License Agreement.

Pursuant to the Technology License Agreement and Addendum (collectively, the "AFC License Agreement") we are obligated to make annual licensing fee payments to AF Chemicals in the amount of $30,000 per year relating to LP-184. We paid $30,000 to AF Chemicals during each of the years ended December 31, 2019 and 2018. In addition, we are obligated to make milestone payments to AF Chemicals at the time of an Investigational New Drug Application ("IND") filing relating to LP-184 and also upon reaching additional specified milestones in connection with the development and potential marketing approval of LP-184 in the United States, specified countries in Europe, and other countries that could be as much as approximately $7,575,000 if all milestones were achieved.

In the event of a sublicense of the LP-184 rights, we are obligated to pay AF Chemicals (a) low double digit percentage of the gross income and fees received by us with respect to the United States in connection with such sublicense, and (b) a lower double digit percentage of the gross income and fees received by us with respect to Europe and Japan in connection with such sublicense. We are obligated to pay royalties under the AFC License Agreement for a term that expires upon the expiration of the last patent licensed to us under the agreement.

The AFC License Agreement also provides that we will pay AF Chemicals a royalty of at least very small single digit percentage of specified net sales of LP-184 and other analogs. In addition, the AFC License Agreement contains specified time requirements for us to file an IND, enroll patients in clinical trials, and file a potential NDA with respect to LP-184, with the ability for us to pay AF Chemicals additional amounts ranging up to $50,000 for each one, two, and three year extension to such development time requirements, with additional extensions beyond three years to be negotiated by us and AF Chemicals. We are also obligated to make annual licensing fee payments to AF Chemicals relating to LP-100 as described below under Oncology Venture.

The AFC License Agreement has a term that is coextensive with the expiration of the last patent licensed to us under the agreement, unless sooner terminated. The AFC License Agreement may be sooner terminated by AF Chemicals if we fail to make any payments required to be made under the agreement when due, upon a material breach of any other provision of the agreement that is not cured within the time period specified, and upon our bankruptcy or insolvency.

Oncology Venture

Oncology Venture has begun a Phase II trial of Irofulven in Denmark. With Oncology Venture, we won a joint Massachusetts-Denmark grant to provide matching funds for production of LP-100 in Massachusetts and clinical studies in Denmark. The clinical studies utilize Oncology Venture's proprietary DRP® biomarker screening of potential patients to select those most likely to respond to the drug.

With our help, Oncology Venture is having cGMP LP-100 produced at Albany Molecular Research Inc., PCI Synthesis, a division of SEQENS CDMO and Piramal Pharma Solutions (Lexington, KY USA). Oncology Venture has used a proprietary DRP® bioinformatics approach to identify putative biomarkers that can predict which patients will respond based on gene expression profiles. Oncology Venture started a Phase II clinical trial in Denmark for treatment of castration-resistant metastatic prostate cancer, with the first patient enrolled in the fourth quarter of 2018. The trial has been expanded to a second site in Germany and is approximately half way through the enrollment of 20-30 patients. If the study has a successful outcome, we anticipate that Oncology Venture may out-license the drug.

Oncology Venture Drug License and Development Agreement

In May 2015, we licensed various rights to LP-100 (Irofulven) to Oncology Venture pursuant to a drug license and development agreement.

Pursuant to the agreement, Oncology Venture is responsible for the development of LP-100 pursuant to a defined clinical development plan. The agreement also provides for a joint development committee, including representatives from Oncology Venture and us, to regularly discuss, plan and inform the development of products under the agreement. In connection with the license under the agreement, Oncology Venture also agreed to directly pay to AF Chemicals on our behalf various specified amounts owed to AF Chemicals with respect to LP-100 under the AFC License Agreement, which amounts will then be deducted from payments to be made by Oncology Venture to us.

Development Milestone Payments

Pursuant to the agreement, Oncology Venture has agreed to make milestone payments to us in connection with the development of LP-100 by Oncology Venture or its affiliates, or by a third party (a "Program Acquirer") that assumes control of the LP-100 development program from Oncology Venture corresponding to: (i) initiation of treatment of first patient in a Phase III clinical trial; (ii) first filing for regulatory approval in the EU; (iii) first filing for regulatory approval in the US; (iv) first regulatory approval in the EU; and (v) first regulatory approval in the US. We and Oncology Venture have also agreed that a portion of these milestone payments will be paid directly to AF Chemicals to satisfy our obligations under the AFC License Agreement.

The above milestones to be paid to us under the agreement are also subject to caps and floors providing that: the development milestones discussed above for initiation of Phase III treatment and for the first filing for regulatory approval in the EU and the US shall not be less than a specified percentage of the amount Oncology Venture receives from a Program Acquirer upon the occurrence of a substantially similar milestone; and the development milestones discussed above for first regulatory approval in the EU and the US shall not be greater than a specified percentage of the amount Oncology Venture receives from a Program Acquirer upon the occurrence of a substantially similar milestone. With certain exceptions, the maximum aggregate amount of development milestone payments described above to be paid by Oncology Venture to us and AF Chemicals is $21 million.

In addition to the above milestones, Oncology Venture has agreed to pay us a specified percentage of any milestone payments Oncology Venture receives from a Program Acquirer that are different than the milestones described above, or a one-time payment in an amount in the low seven figures, whichever is higher. AF Chemicals would also receive a portion of any amounts to be received by us pursuant to this provision. The Oncology Venture agreement also provides that development milestone payments (including the payments described above) will be paid not more than once even if additional indications are developed for LP-100.

Alternate Payment Structure in Event of Third Party Program Acquirer Agreement.

As an alternative to the development milestone payments to be paid as discussed above, and without the $21 million payment limitation, Oncology Venture has agreed that we may select an alternate payment structure for all payments Oncology Venture receives (other than royalty payments which are described below) in the event Oncology Venture enters into an agreement for LP-100 with a Program Acquirer regarding a particular territory. We only have 15 days to make this selection from the date we receive notice from Oncology Venture that they have entered into an agreement with a Program Acquirer.

If we select the alternate payment structure, then we would generally be entitled to receive a specified percentage of all amounts, other than royalty payments, received by or on behalf of Oncology Venture from the Program Acquirer, after subtraction of amounts paid or payable by Oncology Venture pursuant to the Program Acquirer agreement for taxes, other fees and payments to governmental authorities, and payments made by the Program Acquirer to reimburse Oncology Venture's regulatory and other costs. Selection of the alternate payment structure would not change our right to receive royalty payments from Oncology Venture as described below. We have agreed to obtain the consent of AF Chemicals prior to electing to receive payments pursuant to the alternate payment structure and no assurances can be given that AF Chemicals would provide their consent.

Royalty Payments

In addition to the milestone payments described above, Oncology Venture has agreed to pay us royalties based on annual incremental sales of product derived from LP-100 in an amount equal to a low single digit percentage of annual sales of between $0 and $50 million, a slightly higher single digit percentage of annual sales between $50 million and $150 million, a mid-level single digit percentage of annual sales between $150 million and $300 million, and a slightly higher mid-level single digit percentage of annual sales in excess of $300 million.

Royalties are subject to a cap of a specified percentage of any royalty payment Oncology Venture receives from a Program Acquirer. The royalty amounts to be received by us may be subject to reduction in the event of generic competition, patent expiry, or if additional third-party licenses are required to be obtained for the development, use or commercialization of LP-100. Royalties will generally be received on a country by country basis until the later of: expiration of an applicable patent in a particular country; 10 years after the first commercial sale in the country; expiration of the last to expire valid claim of a relevant patent covering the LP-100 related product together with the use of the DRP® biomarker, provided the product is approved only for use with the DRP biomarker in the country; or expiration of any FDA (or any foreign equivalent) regulatory approval in each country that requires use of the DRP® biomarker as a companion diagnostic for the relevant product.

We are obligated to pay royalties under the agreement on a country-by-country and product-by-product basis for a period that commences with the first commercial sale of a product until the later of (i) the expiration of the last valid claim on the patent that covers the product sold, or (ii) ten years after the first commercial sale of the covered product, or (iii) expiration of the last valid claim covered by a patent using a DRP® Biomarker as a companion diagnostic to the product sold, or (iv) on a country-by-country basis when the regulatory approval of the DRP® Biomarker as a companion diagnostic expires. However, the agreement may be sooner terminated without cause by Oncology Venture upon 120 days prior written notice, or immediately upon certain regulatory actions that impede ongoing or future clinical trials, or upon written notice of a material breach of the agreement by us that we do not cure within 60 days. We also have the right to terminate the agreement upon written notice of a material breach of the agreement by Oncology Venture that is not cured within 60 days.

Third Party Research and Development Programs for Our Drug Candidates

Virtually all of our developmental work is expected to be performed in contract labs in the near future, and most of it requires close collaboration with these groups. Our strategic collaborations have specialized focus areas tailored to advancing our pipeline drug candidates and provide expertise benefits.

Collaborator	Focus Area	Drug Candidate
Clinical Translational Research & Innovation Center (C-TRIC)	Evaluation of drug efficacy in *ex vivo* studies on fresh patient tumor biopsies and analysis of associated transcriptomic profiles	LP-184
National Cancer Institute (NCI)	Gene signature development and drug sensitivity prediction	LP-184
Georgetown University	Evaluation of drug efficacy and sensitivity in prostate and pancreatic cancer organoid models and engineered pancreatic cancer cell lines	LP-184
Fox Chase Cancer Center (FCCC)	Determination of drug efficacy in PDX tumor models	LP-300 & LP-184

Manufacturing Overview

We do not currently own or operate any manufacturing facilities or have any manufacturing personnel. We currently rely, and expect to continue to rely, on third party contract manufacturing organizations ("CMOs") for the manufacturing of our drug candidates for preclinical uses, clinical trials as well as for commercial manufacturing if our drug candidates receive marketing approval. We require that our CMOs produce bulk drug substances and finished drug products in accordance with current Good Manufacturing Practices ("cGMPs") and all other applicable laws and regulations. We maintain agreements with our manufacturers that include confidentiality and intellectual property provisions to protect our proprietary rights related to our drug candidates. We have a CMO contracted to manufacture LP-184 for preclinical use. We obtain our supplies from these CMOs on a purchase order basis and do not have long-term supply arrangements in place. We do not currently have arrangements in place for redundant supply. For all of our drug candidates, we intend to identify and qualify additional manufacturers to provide the active pharmaceutical ingredient and fill-and-finish services prior to seeking regulatory approval.

LP-184 Manufacturing

We have contracted to Southwest Research Institute® ("SwRI®") the development of a fully synthetic route to (-) and (+) LP-184. The synthesis process involves development and optimization of novel chemistry via multiple intermediates to produce (-) and (+) enantiomers of LP-184. We plan to contract to SwRI® the production of pre-GMP batch of the desired enantiomer of fully synthetic LP-184. We intend to continue with the same supplier for manufacturing the GMP material intended for IND-enabling animal studies as well as phase I clinical trials.

LP-300 Manufacturing Plans

For the supply of LP-300 for our phase II and/or III clinical program, we have identified potential CMOs, and we believe GMP grade API material will be readily available. Our manufacturing process and protocol for LP-300 have been well established and validated from previous campaigns that were undertaken by BioNumerik Pharmaceuticals, Inc.

Commercialization

We retain worldwide commercialization rights for our key candidates with the exception of LP-100, which we have out-licensed to Oncology Venture. We plan to continue considering out-license and collaboration opportunities in order to maximize returns and pursue successful development of our key candidates. We currently have no sales, marketing or product distribution capabilities. However, once we have key candidates closer to FDA approval, we may build our own specialty sales force, partner with a larger pharmaceutical organization, or out-license our drug candidates.

We are continually evaluating out-license opportunities for our candidates at later stages of development in order to focus on identifying and licensing additional drug candidates for novel indications and/or patient subpopulations with an oncology focus for expansion of our pipeline.

Our commercial plans and strategy for each particular program may change as our programs advance, the markets change, we receive more clinical data, and depending on availability of capital.

Intellectual Property

We have an extensive global portfolio of intellectual property rights directed to our drug candidates, and their targeted use and development in specific patient populations and in specific therapeutic indications.

As of April 2020, we own or control rights in over 115 active patents and patent applications across over 14 patent families whose claims are directed to our drug candidates and what we plan to do with our drug candidates. We have in-licensed or acquired patents from AF Chemicals, and BioNumerik directed to the compounds, LP-100, LP-184 and LP-300. Additionally, we have also filed patent applications to further enhance and extend the use of these in-licensed compounds. Our patents are directed to our drug candidates, their usage, manufacturing, and other matters. These matters are essential to precision oncology and relate to: (a) uniquely powerful, data-driven, biologically relevant biomarker signatures, (b) patient selection and stratification approaches that rely on prediction of response deriving from these signatures and, (c) the ability to develop novel, combination therapy approaches with existing approved therapeutics.

We rely on a combination of patents, trade secrets, copyrights, trademarks, license agreements, nondisclosure and other contractual provisions and technical measures to protect our intellectual property rights in our novel drug candidates as well as our rescue drug candidates. Additionally, we also rely on the patent applications, trade secrets, and other contractual provisions and technical measures to protect the development of our genomic and biomarker signatures that help us in making predictions about the sensitivity to our drug candidates, patient stratification approaches, and the development of potential combination therapies with our drug candidates.

Intellectual Property Portfolio by The Numbers

As of April 2020, our intellectual property portfolio consisted of over 14 patent families covered by:

- Over 108 issued patents across our portfolio of compounds in key, commercially important geographies;
- six pending patent applications, including three PCT applications;
- as well as four registered trademarks and one pending trademark registration.

Our policy is to protect the proprietary technologies, inventions, and improvements that are commercially important to our business in the United States, Europe, Japan and other key jurisdictions important to our business. We fully expect that additional advances will come out of our ongoing work in developing biomarker signatures and patient stratification approaches and that these advances will form the basis of additional intellectual property protection through new patent filings, trademarks, trade secrets, and copyrights. We will continue to file patent applications and use trade secret laws to protect the uses of our genomic and biomarker signatures, response prediction and patient stratification discoveries. We plan to rely on these intellectual property advances to develop, strengthen, and maintain our proprietary position for novel therapeutics and novel formulations and uses of existing and new compounds across multiple therapeutic areas. We also plan to rely on data exclusivity, market exclusivity and patent term extensions when available.

Patent Portfolio

We have an extensive global portfolio of intellectual property rights directed to our drug candidates, and their targeted use and development in specific patient populations and in specific therapeutic indications. Our portfolio consists of 14 patent families across issued patents and pending patent applications. For LP-100, we own and control six patent families, including an in-licensed patent portfolio consisting of two patent families, including issued US Patents, Japan Patents, and various issued EU Patents covering LP-100, and four patent families developed by us. We have also filed six patent applications directed to our proprietary drug programs together with biomarkers and sensitivity parameters. These applications are directed to new manufacturing methods for novel, synthetic illudins, and gene signatures and biomarker profiles indicating sensitivity to LP-184 and use of LP-184 and novel synthetic illudins in glioblastoma and CNS cancers. These proprietary products and methods of use are covered in two separate PCT applications, pending national phase applications and additional pending United States provisional applications to date. However, we intend to file national phase patent applications in all other major countries (US, Europe, Canada, Japan, Australia and China) in the future.

- Our patent family covering LP-100 has patents that expire in August, 2026.
- Our patent family covering LP-184 has patents that expire in August 2026, and patent applications, if granted, that would expire in October 2039.
- Our patent family covering LP-300 has patents that expire in March 2028, and patent applications, if granted, that would expire in March 2040.

We typically file a non-provisional patent application within 12 months of filing the corresponding provisional patent application. While we intend to timely file non-provisional patent applications relating to our provisional patent applications, we cannot predict whether any of our existing or future patent applications for our existing or future drug candidates will result in the issuance of patents that effectively protect these candidates, or if any of our issued patents or if any of our licensor's issued patents will effectively prevent others from commercializing competitive products. Patent protection for the composition of matter of the LP-300 compound itself is unavailable because the compound was first identified many years ago. For more information regarding the risks related to our intellectual property, see *"Risk Factors – Risks Related to Our Intellectual Property."*

RADR® Platform

We do not own or in-license any patents on our RADR® platform, but we rely on trade secrets and confidential procedures directed to protecting:

a) our A.I. and machine learning methodologies for our specific purposes in oncology drug development and drug rescue,

b) our curatation and normalization of select data from both public and proprietary data sources, and

c) our developing insights that can be modeled to cover biological processes as algorithms inside our RADR® platform.

LP-100

Our portfolio covering LP-100 consists of two families of in-licensed patents that were filed in 2006. The patents include European, Japanese and US patents. US Patent No. 7655695 relates to acylfulvene analogs that are directed to tumor solid tumor growth inhibition. The nominal expiration ranges from 2026 to 2030 and does not account for any applicable patent term adjustments or extensions.

LP-184 & other Novel, Synthetic Illudin Derivatives

Our portfolio covering LP-184 consists of six families of patents and patent applications and includes three PCT applications. US Patent No. 7655695 relates to acylfulvene analogs that are directed to solid tumor growth inhibition. The PCT applications filed in 2019 are related to synthetic preparation methods, additional indications, and treatment of cancers using genomic stratification. A provisional patent application filed in 2020 was directed to using LP-184 or other novel, synthetic illudin analogs or deriviatives to treat glioblastoma or other CNS cancers as either a mono or combination therapy. The nominal expiration ranges from 2026 to 2039 and does not account for any applicable patent term adjustments or extensions. We intend nationalize our patent applications in the US, Canada, EU, China, and Japan.

We have in-licensed patents from AF Chemicals related to the composition of matter of LP-184. We have also developed additional intellectual property for this class of compounds related to the development of novel synthetic routes and the preparation of certain illudin derivatives having therapeutic value. Additionally, in April of 2020, we filed a provisional patent on the use of LP-184 and these novel synthetic illudin derivatives in the treatment of glioblastoma and other CNS cancers.

LP-300

Our portfolio covering LP-300 consists of six families of in-licensed patents that were filed in 2006. The more recent patent PCT application filed in 2020 is directed to treatment of non-small cell lung cancer (NSCLC) in nonsmokers and never smoking patients using disodium 2,2'-dithio-bis-ethane sulfonate (dimensa). The nominal expiration ranges from 2020 to 2040 and does not account for any applicable patent term adjustments or extensions. We intend nationalize our patent applications in the US, Canada, EU, China, and Japan.

We filed a PCT application in March of 2020 directed to LP-300 and its application to NSCLC, as well as biomarkers that correlate to heightened response or sensitivity to LP-300.

Confidentiality & Trade Secrecy

Although we enter into non-disclosure and confidentiality agreements with parties who have access to confidential or patentable aspects of our research and development output, such as our employees, collaborators, contract research organizations, contract manufacturers, consultants, advisors and other third parties, any of these parties may breach the agreements and disclose such output before a patent application is filed, thereby jeopardizing our ability to seek patent protection. These agreements provide that all confidential information developed or made known during the course of an individual or entities' relationship with us must be kept confidential during and after the relationship. These agreements also provide that all inventions resulting from work performed for us or relating to our business and conceived or completed during the period of employment or assignment, as applicable, shall be our exclusive property. Third parties may also be able to develop substantially equivalent proprietary information, platforms or compounds, or otherwise gain access to our trade secret

Trademarks

We own various trademarks, applications and unregistered trademarks in the United States and other commercially important markets, including our company name, our A.I. platform, and certain compounds in development. Our trademark portfolio is designed to protect the brands for our Company, our A.I. platform and our portfolio of compounds.

Other Intellectual Property

We believe that our intellectual property rights on the RADR® platform are valuable and important to our business. We rely on a combination of trademarks, copyrights, trade secrets, license agreements, confidentiality procedures, non-disclosure agreements, employee disclosure, and invention assignment agreements, and other legal and contractual rights to establish and protect our proprietary rights.

Competition

We exist at the intersection of rapidly moving, global industries, namely, the biotechnology industry and the A.I. drug development industry. This is a unique and rapidly moving category with a variety of business models being developed globally. The pharmaceutical and biotechnology industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on intellectual property. A.I. is disrupting and changing all industries, including the biotechnology industry. Although these are competitive industries, we believe we are uniquely positioned due to our focus on oncology drug development, prediction of patient response, use of computational biology, and the ability to both rescue and develop compounds.

We face potential competition from many different sources, including major pharmaceutical and biotechnology companies, academic institutions and governmental agencies, and public and private research institutions.

Many of the companies against which we may compete have significantly greater financial resources and expertise in research and development, manufacturing, preclinical studies, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. Mergers and acquisitions in the pharmaceutical, biotechnology and diagnostic industries may result in even more resources being concentrated among a smaller number of our competitors. These competitors also compete with us in recruiting and retaining qualified scientific and management personnel and establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize medicines that are safer, more effective, have fewer or less severe side effects, and are more convenient or less expensive than any medicines we may develop. Our competitors also may obtain FDA or other regulatory approval for their medicines more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic medicines.

Any drug candidates we successfully develop will compete with current and new therapies that may become available in the future. The key competitive factors affecting the success of all of our drug candidates, if approved, are likely to be their efficacy, combinability, safety profile, convenience, cost, the effectiveness of companion diagnostics in guiding the use of related therapeutics, if any, the level of generic competition, level of promotional activity, intellectual property protection, and the availability of reimbursement from government and other third-party payors. If any drug candidates under development are approved for the indications in which we are currently planning clinical trials, they will compete with the drugs discussed below and will likely compete with other drugs in development.

Artificial Intelligence and Drug Development

We believe our proprietary RADR® platform gives us a significant competitive advantage by using AI to select and license drugs with a well-tolerated safety profile to quickly and cost-effectively bring drugs to market. Recently, there has been an increase in the use of AI for drug development that we face competition in both for developing new drugs and in biomarker development. This includes competition to the pool of already existing drug candidates that may be eligible for patient stratification. Our competition in AI-driven drug development for oncology includes, but is not limited to, the following:

- ***Development of drug candidates***: A2A Pharmaceuticals, AI Therapeutics, Atomwise, Benevolent AI, Berg Health, BioXcel, Celsius Therapeutics, Exscientia, Gritstone Oncology, Deep Genomics; and

- ***Development of biomarkers and/or signatures for patient stratification and improved drug development***: Adaptive Biotechnologies, Concerto HealthAI, Datavant, Envisagenics, Erasca, and Genialis,.

Prostate Cancer

New agents are being actively developed to treat specific subtypes of prostate cancer. Our approach is to leverage AI and biomarker data to discover subtypes of prostate cancer and treatments for those subtypes of cancer. We believe our approach and our compounds take advantage of this improved characterization of prostate cancer.

There are approved standard of care agents for treating solid tumor prostate cancer, but there are a lack of approved therapeutic options for non-metastatic castration-resistant prostate cancer (“nmCRPC”) patients and castration-resistant disease in metastatic hormone-naïve prostate cancer (“mHNPC”). The competition we may face in regards to LP-100 and one of the indications of LP-184, specifically mCRPC, includes the following drugs:

- Astellas/Pfizer’s Xtandi (enzalutamide) and Johnson & Johnson’s Zytiga (abiraterone acetate) are approved for treatment of metastatic castration-resistant prostate cancer (mCRPC).

- Xtandi Zytiga and Androgen Deprivation Therapy (“ADT”) to treat mHNPC and nmCRPC, respectively.

- Pfizer has tested Talazoparib and Enzalutamide to treat mCRPC

- BeiGene has used Pamiparib treat mCRPC

- Millennium Pharmaceuticals has used ADT and TAK-700, a hormonal therapy that inhibits 17,20 lyase activity of the CYP17A1 enzyme, to treat Metastatic Prostate Cancer

We believe LP-184 is unique and it has promise for use in an expanded set of proposed indications including ovarian cancer and hepatocellular carcinoma and other indications where specific biomarker profiles indicate likely sensitivity to the treatment. We are not aware of any drugs in development or approved that are specifically addressing this range of proposed indications.

Non Small Cell Lung Cancer (NSCLC)

We believe LP-300 may have an advantage to approved drugs on the market by serving as a well-tolerated agent together with multiple existing standards of care drugs for the NSCLC patient population or female NSCLC patient population. LP-300 has shown potential to alleviate adverse events associated with approved chemotherapeutics such as cisplatin and paclitaxel while also potentiating their antitumor activities. LP-300 combined with cisplatin orpaclitaxeltreats never-smoking female NSCLC patients with advanced adenocarcinoma. Due to its multi-modal mechanism of action and high tolerability, LP-300 can be combined with chemotherapy, targeted therapy and / or immunotherapy drugs with little complication. Beyond traditional chemotherapies, there are targeted small molecules and biologics, which include afatinib, brigatinib, ceritinib, crizotinib, prembrolizumib, and ramucirumab that are used specific NSCLC subtypes.

Government Regulation

Government authorities in the United States at the federal, state and local level and in other countries regulate, among other things, the research, development, testing, manufacture, quality control, approval, labeling, packaging, storage, record-keeping, promotion, advertising, distribution, post-approval monitoring and reporting, marketing and export and import of drug and biological products. Generally, before a new drug can be marketed, considerable data demonstrating its quality, safety and efficacy must be obtained, organized into a format specific for each regulatory authority, submitted for review and approved by the regulatory authority.

U.S. Drug Development

In the United States, the FDA regulates drugs under the Food, Drug, and Cosmetic Act ("FDCA"). Drugs also are subject to other federal, state and local statutes and regulations. The process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state, local and foreign statutes and regulations requires the expenditure of substantial time and financial resources. Failure to comply with the applicable U.S. requirements at any time during the product development process, approval process or post-market may subject an applicant to administrative or judicial sanctions. These sanctions could include, among other actions, the FDA's refusal to approve pending applications, withdrawal of an approval, a clinical hold, untitled or warning letters, product recalls or market withdrawals, product seizures, total or partial suspension of production or distribution, injunctions, fines, refusals of government contracts, restitution, disgorgement and civil or criminal penalties. Any agency or judicial enforcement action could have a material adverse effect on us.

Our drug candidates are considered small molecule drugs and must be approved by the FDA through the NDA process before they may be legally marketed in the United States. The process generally involves the following:

- completion of extensive preclinical studies in accordance with applicable regulations;
- submission to the FDA of an IND, which must become effective before human clinical trials may begin;
- approval by an independent institutional review board ("IRB"), or ethics committee at each clinical trial site before each trial may be initiated;
- performance of adequate and well-controlled human clinical trials in accordance with applicable IND regulations, good clinical practice ("GCP"), requirements and other clinical trial-related regulations to establish substantial evidence of the safety and efficacy of the investigational product for each proposed indication;
- submission to the FDA of an NDA;

- a determination by the FDA within 60 days of its receipt of an NDA to accept the filing for review;

- satisfactory completion of a FDA pre-approval inspection of the manufacturing facility or facilities where the drug will be produced to assess compliance with cGMP, requirements to assure that the facilities, methods and controls are adequate to preserve the drug or biologic's identity, strength, quality and purity;
- potential FDA audit of the preclinical study and/or clinical trial sites that generated the data in support of the NDA filing;

- FDA review and approval of the NDA, including consideration of the views of any FDA advisory committee, prior to any commercial marketing or sale of the drug in the United States; and

- compliance with any post-approval requirements, including the potential requirement to implement a Risk Evaluation and Mitigation Strategy ("REMS"), and the potential requirement to conduct post-approval studies.

The data required to support an NDA are generated in two distinct developmental stages: preclinical studies and clinical trials. The preclinical and clinical testing and approval process requires substantial time, effort and financial resources, and we cannot be certain that any approvals for any future drug candidates will be granted on a timely basis, or at all.

Preclinical Studies and IND

Preclinical studies generally involve laboratory evaluations of drug chemistry, formulation and stability, as well as studies to evaluate toxicity in animals, which support subsequent clinical testing. The sponsor must submit the results of the preclinical studies, together with manufacturing information, analytical data, any available clinical data or literature and a proposed clinical protocol, to the FDA as part of the IND. An IND is a request for authorization from the FDA to administer an investigational product to humans, and must become effective before human clinical trials may begin.

Preclinical studies include laboratory evaluation of product chemistry and formulation, as well as*in vitro* and animal studies to assess the potential for adverse events and in some cases to establish a rationale for therapeutic use. The conduct of preclinical studies is subject to federal regulations and requirements, including GLP regulations for safety/toxicology studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information, analytical data, any available clinical data or literature and plans for clinical studies, among other things, to the FDA as part of an IND. Some long-term preclinical testing, such as animal tests of reproductive adverse events and carcinogenicity, may continue after the IND is submitted. An IND automatically becomes effective 30 days after receipt by the FDA, unless before that time the FDA raises concerns or questions related to one or more proposed clinical trials and places the trial on clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, submission of an IND may not result in the FDA allowing clinical trials to commence.

Clinical Trials

The clinical stage of development involves the administration of the investigational product to healthy volunteers or patients under the supervision of qualified investigators, generally physicians not employed by or under the trial sponsor's control, in accordance with GCP requirements, which include the requirement that all research subjects provide their informed consent for their participation in any clinical trial. Clinical trials are conducted under protocols detailing, among other things, the objectives of the clinical trial, dosing procedures, subject selection and exclusion criteria and the parameters to be used to monitor subject safety and assess efficacy. Each protocol, and any subsequent amendments to the protocol, must be submitted to the FDA as part of the IND. Furthermore, each clinical trial must be reviewed and approved by an IRB for each institution at which the clinical trial will be conducted to ensure that the risks to individuals participating in the clinical trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the informed consent form that must be provided to each clinical trial subject or his or her legal representative, and must monitor the clinical trial until completed. There also are requirements governing the reporting of ongoing clinical trials and completed clinical trial results to public registries.

A sponsor who wishes to conduct a clinical trial outside of the United States may, but need not, obtain FDA authorization to conduct the clinical trial under an IND. If a foreign clinical trial is not conducted under an IND, the sponsor may submit data from the clinical trial to the FDA in support of an NDA. The FDA will accept a well-designed and well-conducted foreign clinical trial not conducted under an IND if the trial was conducted in accordance with GCP requirements and the FDA is able to validate the data through an onsite inspection, if deemed necessary, and the practice of medicine in the foreign country is consistent with the United States.

Clinical trials in the United States generally are conducted in three sequential phases, known as Phase I, Phase II and Phase III, and may overlap.

- **Phase I clinical trials generally involve a small number of healthy volunteers or disease-affected patients who are initially exposed to a single dose and then multiple doses of the drug candidate.** The primary purpose of these clinical trials is to assess the metabolism, pharmacologic action, tolerability and safety of the drug.

- **Phase II clinical trials involve studies in disease-affected patients to determine the dose and dosing schedule required to produce the desired benefits.** At the same time, safety and further pharmacokinetic and pharmacodynamic information is collected, possible adverse effects and safety risks are identified and a preliminary evaluation of efficacy is conducted.

- **Phase III clinical trials generally involve a large number of patients at multiple sites and are designed to provide the data necessary to demonstrate the effectiveness of the product for its intended use, its safety in use and to establish the overall benefit/risk relationship** of the product and provide an adequate basis for product approval. These trials may include comparisons with placebo and/or other comparator treatments. The duration of treatment is often extended to mimic the actual use of a product during marketing.

Post-approval trials, sometimes referred to as Phase IV clinical trials, are conducted after initial marketing approval. These trials are used to gain additional experience from the treatment of patients in the intended therapeutic indication. In certain instances, the FDA may mandate the performance of Phase 4 clinical trials as a condition of approval of an NDA.

Progress reports detailing the results of the clinical trials, among other information, must be submitted at least annually to the FDA and written IND safety reports must be submitted to the FDA and the investigators for serious and unexpected suspected adverse events, findings from other studies suggesting a significant risk to humans exposed to the drug, findings from animal or *in vitro* testing that suggest a significant risk for human subjects and any clinically important increase in the rate of a serious suspected adverse reaction over that listed in the protocol or investigator brochure.

Phase I, Phase II and Phase III clinical trials may not be completed successfully within any specified period, if at all. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether a trial may move forward at designated check-points based on access to certain data from the trial. Concurrent with clinical trials, companies usually complete additional animal safety studies and also must develop additional information about the chemistry and physical characteristics of the drug as well as finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of our drug candidates. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that our drug candidates do not undergo unacceptable deterioration over their labeled shelf life.

NDA Review Process

Following completion of the clinical trials, data is analyzed to assess whether the investigational product is safe and effective for the proposed indicated use or uses. The results of preclinical studies and clinical trials are then submitted to the FDA as part of an NDA, along with proposed labeling, chemistry and manufacturing information to ensure product quality and other relevant data. In short, the NDA is a request for approval to market the drug for one or more specified indications and must contain proof of safety and efficacy for a drug.

The application must include both negative and ambiguous results of preclinical studies and clinical trials, as well as positive findings. Data may come from company-sponsored clinical trials intended to test the safety and efficacy of a product's use or from a number of alternative sources, including studies initiated by investigators. To support marketing approval, the data submitted must be sufficient in quality and quantity to establish the safety and efficacy of the investigational product to the satisfaction of FDA. FDA approval of an NDA must be obtained before a drug may be marketed in the United States.

Under the Prescription Drug User Fee Act ("PDUFA"), as amended, each NDA must be accompanied by a user fee. The FDA adjusts the PDUFA user fees on an annual basis. According to the FDA's fiscal year 2019 fee schedule, effective through September 30, 2020, the user fee for an application requiring clinical data, such as an NDA, was approximately $2.94 million. PDUFA also imposes an annual program fee for each marketed human drug ($325,424 in 2020) and an annual establishment fee on facilities used to manufacture prescription drugs. Fee waivers or reductions are available in certain circumstances, including a waiver of the application fee for the first application filed by a small business. Additionally, no user fees are assessed on NDAs for products designated as orphan drugs, unless the product also includes a non-orphan indication.

The FDA reviews all submitted NDAs before it accepts them for filing, and may request additional information rather than accepting the NDA for filing. The FDA must make a decision on accepting an NDA for filing within 60 days of receipt. Once the submission is accepted for filing, the FDA begins an in-depth review of the NDA. Under the goals and policies agreed to by the FDA under PDUFA, the FDA has 10 months, from the filing date, in which to complete its initial review of a new molecular-entity NDA and respond to the applicant, and six months from the filing date of a new molecular-entity NDA designated for priority review. The FDA does not always meet its PDUFA goal dates for standard and priority NDAs, and the review process is often extended by FDA requests for additional information or clarification.

Before approving an NDA, the FDA will conduct a pre-approval inspection of the manufacturing facilities for the new product to determine whether they comply with cGMP requirements. The FDA will not approve the product unless it determines that the manufacturing processes and facilities are in compliance with cGMP requirements and adequate to assure consistent production of the product within required specifications. The FDA also may audit data from clinical trials to ensure compliance with GCP requirements. Additionally, the FDA may refer applications for novel drug products or drug products which present difficult questions of safety or efficacy to an advisory committee, typically a panel that includes clinicians and other experts, for review, evaluation and a recommendation as to whether the application should be approved and under what conditions, if any. The FDA is not bound by recommendations of an advisory committee, but it considers such recommendations when making decisions on approval. The FDA likely will reanalyze the clinical trial data, which could result in extensive discussions between the FDA and the applicant during the review process. After the FDA evaluates an NDA, it will issue an approval letter or a Complete Response Letter. An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. A Complete Response Letter indicates that the review cycle of the application is complete and the application will not be approved in its present form. A Complete Response Letter usually describes all of the specific deficiencies in the NDA identified by the FDA. The Complete Response Letter may require additional clinical data, additional pivotal Phase 3 clinical trial(s) and/or other significant and time-consuming requirements related to clinical trials, preclinical studies or manufacturing. If a Complete Response Letter is issued, the applicant may either resubmit the NDA, addressing all of the deficiencies identified in the letter, or withdraw the application. Even if such data and information are submitted, the FDA may decide that the NDA does not satisfy the criteria for approval. Data obtained from clinical trials are not always conclusive and the FDA may interpret data differently than we interpret the same data.

Orphan Drugs

Under the Orphan Drug Act, the FDA may grant orphan designation to a drug or biological product intended to treat a rare disease or condition, which is generally a disease or condition that affects fewer than 200,000 individuals in the United States, or more than 200,000 individuals in the United States and for which there is no reasonable expectation that the cost of developing and making the product available in the United States for this type of disease or condition will be recovered from sales of the product.

Orphan drug designation must be requested before submitting an NDA. After the FDA grants orphan drug designation, the identity of the therapeutic agent and its potential orphan use are disclosed publicly by the FDA. Orphan drug designation does not convey any advantage in or shorten the duration of the regulatory review and approval process.

If a product that has orphan designation subsequently receives the first FDA approval for the disease or condition for which it has such designation, the product is entitled to orphan drug exclusivity, which means that the FDA may not approve any other applications to market the same drug for the same indication for seven years from the date of such approval, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity by means of greater effectiveness, greater safety or providing a major contribution to patient care or in instances of drug supply issues. However, competitors may receive approval of either a different product for the same indication or the same product for a different indication but that could be used off-label in the orphan indication. Orphan drug exclusivity also could block the approval of one of our products for seven years if a competitor obtains approval before we do for the same product, as defined by the FDA, for the same indication we are seeking approval, or if a drug candidate is determined to be contained within the scope of the competitor's product for the same indication or disease. If one of our products designated as an orphan drug receives marketing approval for an indication broader than that which is designated, it may not be entitled to orphan drug exclusivity. Orphan drug status in the European Union has similar, but not identical, requirements and benefits.

Expedited Development and Review Programs

The FDA has a fast track program that is intended to expedite or facilitate the process for reviewing new drugs that meet certain criteria. Specifically, new drugs are eligible for fast track designation if they are intended to treat a serious or life threatening condition and preclinical or clinical data demonstrate the potential to address unmet medical needs for the condition. Fast track designation applies to both the product and the specific indication for which it is being studied. The sponsor can request the FDA to designate the product for fast track status any time before receiving NDA approval, but ideally no later than the pre-NDA meeting with the FDA.

Any product submitted to the FDA for marketing, including under a fast track program, may be eligible for other types of FDA programs intended to expedite development and review, such as priority review and accelerated approval. Any product is eligible for priority review if it treats a serious or life-threatening condition and, if approved, would provide a significant improvement in safety and effectiveness compared to available therapies.

A product may also be eligible for accelerated approval, if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies. In addition, it must demonstrate an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on a clinical endpoint that can be measured earlier than irreversible morbidity or mortality ("IMM"), which is reasonably likely to predict an effect on IMM or other clinical benefit. As a condition of approval, the FDA may require that a sponsor of a drug or biologic receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. If the FDA concludes that a drug or biologic shown to be effective can be safely used only if distribution or use is restricted, it may require such post-marketing restrictions as it deems necessary to assure safe use of the product.

Additionally, a drug may be eligible for designation as a breakthrough therapy if the product is intended, alone or in combination with one or more other drugs or biologics, to treat a serious or life-threatening condition and preliminary clinical evidence indicates that the product may demonstrate substantial improvement over currently approved therapies on one or more clinically significant endpoints. The benefits of breakthrough therapy designation include the same benefits as fast track designation, plus intensive guidance from the FDA to ensure an efficient drug development program. Fast track designation, priority review, accelerated approval and breakthrough therapy designation do not change the standards for approval, but may expedite the development or approval process.

Post-Approval Requirements

Following approval of a new product, the manufacturer and the approved product are subject to continuing regulation by the FDA, including, among other things, monitoring and record-keeping requirements, requirements to report adverse experiences and comply with promotion and advertising requirements, which include restrictions on promoting drugs for unapproved uses or patient populations, known as "off-label use," and limitations on industry-sponsored scientific and educational activities. Although physicians may prescribe legally available drugs for off-label uses, manufacturers may not market or promote such uses. Prescription drug promotional materials must be submitted to the FDA in conjunction with their first use. Further, if there are any modifications to the drug, including changes in indications, labeling or manufacturing processes or facilities, the applicant may be required to submit and obtain FDA approval of a new NDA or NDA supplement, which may require the development of additional data or preclinical studies and clinical trials.

The FDA may also place other conditions on approvals including the requirement for REMS, to assure the safe use of the product. A REMS could include medication guides, physician communication plans or elements to assure safe use, such as restricted distribution methods, patient registries and other risk minimization tools. Any of these limitations on approval or marketing could restrict the commercial promotion, distribution, prescription or dispensing of products. Product approvals may be withdrawn for non-compliance with regulatory standards or if problems occur following initial marketing.

The FDA may withdraw approval if compliance with regulatory requirements and standards is not maintained or if problems occur after the product reaches the market. Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes, or failure to comply with regulatory requirements, may result in revisions to the approved labeling to add new safety information; imposition of post-market studies or clinical studies to assess new safety risks or imposition of distribution restrictions or other restrictions under a REMS program. Other potential consequences include, among other things:

- restrictions on the marketing or manufacturing of the product, complete withdrawal of the product from the market, or product recalls;
- fines, warning letters, or holds on post-approval clinical studies;
- refusal of the FDA to approve pending applications or supplements to approved applications;
- applications, or suspension or revocation of product license approvals;
- product seizure or detention, or refusal to permit the import or export of products; or
- injunctions or the imposition of civil or criminal penalties.

The FDA strictly regulates marketing, labeling, advertising and promotion of products that are placed on the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

Other U.S. Regulatory Matters

Manufacturing, sales, promotion and other activities following product approval are also subject to regulation by numerous regulatory authorities in the United States in addition to the FDA, including the Centers for Medicare & Medicaid Services, other divisions of the Department of Health and Human Services, the Department of Justice, the Drug Enforcement Administration, the Consumer Product Safety Commission, the Federal Trade Commission, the Occupational Safety & Health Administration, the Environmental Protection Agency, and state and local governments.

For example, in the United States, sales, marketing and scientific and educational programs also must comply with state and federal fraud and abuse laws, false claims laws, transparency laws, government price reporting, and health information privacy and security laws. These laws include the following:

- the federal Anti-Kickback Statute, which makes it illegal for any person, including a prescription drug manufacturer (or a party acting on its behalf), to knowingly and willfully solicit, receive, offer or pay any remuneration that is intended to induce or reward referrals, including the purchase, recommendation, order or prescription of a particular drug, for which payment may be made under a federal healthcare program, such as Medicare or Medicaid. Moreover, the ACA provides that the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the civil False Claims Act;

- the federal false claims and civil monetary penalties laws, including the civil False Claims Act that can be enforced by private citizens through civil whistleblower or qui tam actions, prohibit individuals or entities from, among other things, knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;

- the Federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), prohibits, among other things, executing or attempting to execute a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and their implementing regulations, also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;

- the federal Physician Payments Sunshine Act requires applicable manufacturers of covered drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program, with specific exceptions, to annually report to CMS information regarding payments and other transfers of value to physicians and teaching hospitals as well as information regarding ownership and investment interests held by physicians and their immediate family members; and

- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws which may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, state laws that require biotechnology companies to comply with the biotechnology industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government and may require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, state laws that require biotechnology companies to report information on the pricing of certain drug products, and state and foreign laws that govern the privacy and security of health information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts.

Pricing and rebate programs must also comply with the Medicaid rebate requirements of the U.S. Omnibus Budget Reconciliation Act of 1990 and more recent requirements in the ACA. If products are made available to authorized users of the Federal Supply Schedule of the General Services Administration, additional laws and requirements apply. Products must meet applicable child-resistant packaging requirements under the U.S. Poison Prevention Packaging Act. Manufacturing, sales, promotion and other activities also are potentially subject to federal and state consumer protection and unfair competition laws.

The distribution of pharmaceutical products is subject to additional requirements and regulations, including extensive record-keeping, licensing, storage and security requirements intended to prevent the unauthorized sale of pharmaceutical products.

The failure to comply with any of these laws or regulatory requirements subjects firms to possible legal or regulatory action. Depending on the circumstances, failure to meet applicable regulatory requirements can result in significant civil, criminal and administrative penalties, including damages, fines, disgorgement, individual imprisonment, exclusion from participation in government funded healthcare programs, such as Medicare and Medicaid, integrity oversight and reporting obligations, contractual damages, reputational harm, diminished profits and future earnings, injunctions, requests for recall, seizure of products, total or partial suspension of production, denial or withdrawal of product approvals or refusal to allow a firm to enter into supply contracts, including government contracts.

U.S. Patent-Term Restoration and Marketing Exclusivity

Depending upon the timing, duration and specifics of FDA approval of any future drug candidates, some of our U.S. patents may be eligible for limited patent term extension under the Hatch-Waxman Act. The Hatch-Waxman Act permits restoration of the patent term of up to five years as compensation for patent term lost during product development and FDA regulatory review process. Patent-term restoration, however, cannot extend the remaining term of a patent beyond a total of 14 years from the product's approval date. The patent-term restoration period is generally one-half the time between the effective date of an IND or the issue date of the patent, whichever is later, and the submission date of an NDA plus the time between the submission date of an NDA or the issue date of the patent, whichever is later, and the approval of that application, except that the review period is reduced by any time during which the applicant failed to exercise due diligence. Only one patent applicable to an approved drug is eligible for the extension and the application for the extension must be submitted prior to the expiration of the patent. The USPTO, in consultation with the FDA, reviews and approves the application for any patent term extension or restoration. In the future, we may apply for restoration of patent term for our currently owned or licensed patents to add patent life beyond its current expiration date, depending on the expected length of the clinical trials and other factors involved in the filing of the relevant NDA.

Market exclusivity provisions under the FDCA also can delay the submission or the approval of certain applications. The FDCA provides a five-year period of non-patent marketing exclusivity within the United States to the first applicant to gain approval of an NDA for a new chemical entity. A drug is a new chemical entity if the FDA has not previously approved any other new drug containing the same active moiety, which is the molecule or ion responsible for the action of the drug substance. During the exclusivity period, the FDA may not accept for review an abbreviated new drug application ("ANDA"), or a 505(b)(2) NDA submitted by another company for another version of such drug where the applicant does not own or have a legal right of reference to all the data required for approval. However, an application may be submitted after four years if it contains a certification of patent invalidity or non-infringement. The FDCA also provides three years of marketing exclusivity for a NDA, 505(b)(2) NDA or supplement to an existing NDA if new clinical investigations, other than bioavailability studies, that were conducted or sponsored by the applicant are deemed by the FDA to be essential to the approval of the application, for example, new indications, dosages or strengths of an existing drug. This three-year exclusivity covers only the conditions of use associated with the new clinical investigations and does not prohibit the FDA from approving ANDAs for drugs containing the original active agent. Five-year and three-year exclusivity will not delay the submission or approval of a full NDA. However, an applicant submitting a full NDA would be required to conduct or obtain a right of reference to all of the preclinical studies and adequate and well-controlled clinical trials necessary to demonstrate safety and effectiveness.

European Union Drug Development

Similar to the United States, the various phases of preclinical and clinical research in the European Union are subject to significant regulatory controls. Although the EU Clinical Trials Directive 2001/20/EC has sought to harmonize the EU clinical trials regulatory framework, setting out common rules for the control and authorization of clinical trials in the EU, the EU Member States have transposed and applied the provisions of the Directive differently. This has led to significant variations in the member state regimes. Under the current regime, before a clinical trial can be initiated it must be approved in each of the EU countries where the trial is to be conducted by two distinct bodies: the National Competent Authority ("NCA"), and one or more Ethics Committees ("ECs"). Under the current regime all suspected unexpected serious adverse reactions to the investigated drug that occur during the clinical trial have to be reported to the NCA and ECs of the Member State where they occurred.

The EU clinical trials legislation currently is undergoing a transition process mainly aimed at harmonizing and streamlining clinical-trial authorization, simplifying adverse-event reporting procedures, improving the supervision of clinical trials and increasing their transparency. Recently enacted Clinical Trials Regulation EU No 536/2014 ensures that the rules for conducting clinical trials in the EU will be identical. In the meantime, Clinical Trials Directive 2001/20/EC continues to govern all clinical trials performed in the EU.

European Union Drug Review and Approval

In the European Economic Area ("EEA"), which is comprised of the 27 Member States of the European Union (including Norway and excluding Croatia), Iceland and Liechtenstein, medicinal products can only be commercialized after obtaining a Marketing Authorization ("MA"). There are two types of marketing authorizations.

- The Community MA is issued by the European Commission through the Centralized Procedure, based on the opinion of the Committee for Medicinal Products for Human Use ("CHMP"), of the EMA, and is valid throughout the entire territory of the EEA. The Centralized Procedure is mandatory for certain types of products, such as biotechnology medicinal products, orphan medicinal products, advanced-therapy medicines such as gene-therapy, somatic cell-therapy or tissue-engineered medicines and medicinal products containing a new active substance indicated for the treatment of HIV, AIDS, cancer, neurodegenerative disorders, diabetes, auto-immune and other immune dysfunctions and viral diseases. The Centralized Procedure is optional for products containing a new active substance not yet authorized in the EEA, or for products that constitute a significant therapeutic, scientific or technical innovation or which are in the interest of public health in the EU.

- National MAs, which are issued by the competent authorities of the Member States of the EEA and only cover their respective territory, are available for products not falling within the mandatory scope of the Centralized Procedure. Where a product has already been authorized for marketing in a Member State of the EEA, this National MA can be recognized in another Member States through the Mutual Recognition Procedure. If the product has not received a National MA in any Member State at the time of application, it can be approved simultaneously in various Member States through the Decentralized Procedure. Under the Decentralized Procedure an identical dossier is submitted to the competent authorities of each of the Member States in which the MA is sought, one of which is selected by the applicant as the Reference Member State ("RMS"). The competent authority of the RMS prepares a draft assessment report, a draft summary of the product characteristics ("SPC"), and a draft of the labeling and package leaflet, which are sent to the other Member States (referred to as the Member States Concerned) for their approval. If the Member States Concerned raise no objections, based on a potential serious risk to public health, to the assessment, SPC, labeling or packaging proposed by the RMS, the product is subsequently granted a national MA in all the Member States (i.e., in the RMS and the Member States Concerned).

Under the above described procedures, before granting the MA, EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy. Similar to the U.S. patent term-restoration, Supplementary Protection Certificates ("SPCs") serve as an extension to a patent right in Europe for up to five years. SPCs apply to specific pharmaceutical products to offset the loss of patent protection due to the lengthy testing and clinical trials these products require prior to obtaining regulatory marketing approval.

Coverage and Reimbursement

Sales of our products will depend, in part, on the extent to which our products will be covered by third-party payors, such as government health programs, commercial insurance, and managed healthcare organizations. There is significant uncertainty related to third-party payor coverage and reimbursement of newly approved products. In the United States, for example, principal decisions about reimbursement for new products are typically made by CMS. CMS decides whether and to what extent a new product will be covered and reimbursed under Medicare, and private third-party payors often follow CMS's decisions regarding coverage and reimbursement to a substantial degree. However, no uniform policy of coverage and reimbursement for drug products exists. Accordingly, decisions regarding the extent of coverage and amount of reimbursement to be provided for any of our products will be made on a payor-by-payor basis.

Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Further, such payors are increasingly challenging the price, examining the medical necessity and reviewing the cost effectiveness of medical drug candidates. There may be especially significant delays in obtaining coverage and reimbursement for newly approved drugs. Third-party payors may limit coverage to specific drug candidates on an approved list, known as a formulary, which might not include all FDA-approved drugs for a particular indication. We may need to conduct expensive pharmaco-economic studies to demonstrate the medical necessity and cost effectiveness of our products. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of our products to each payor separately, with no assurance that coverage and adequate reimbursement will be obtained.

In addition, in most foreign countries, the proposed pricing for a drug must be approved before it may be lawfully marketed. The requirements governing drug pricing and reimbursement vary widely from country to country. For example, the European Union provides options for its member states to restrict the range of medicinal products for which their national health insurance systems provide reimbursement and to control the prices of medicinal products for human use. A member state may approve a specific price for the medicinal product or it may instead adopt a system of direct or indirect controls on the profitability of the company placing the medicinal product on the market. There can be no assurance that any country that has price controls or reimbursement limitations for pharmaceutical products will allow favorable reimbursement and pricing arrangements for any of our products. Historically, products launched in the European Union do not follow price structures of the United States and generally prices tend to be significantly lower.

Healthcare Reform

The United States government, state legislatures, and foreign governments have shown significant interest in implementing cost containment programs to limit the growth of government-paid healthcare costs, including price-controls, restrictions on reimbursement, and requirements for substitution of generic products for branded prescription drugs. For example, in March 2010, the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010 (collectively, the "ACA"), was passed which substantially changed the way healthcare is financed by both the government and private insurers, and significantly impacts the U.S. pharmaceutical industry. The ACA contains provisions that may reduce the profitability of drug products through increased rebates for drugs reimbursed by Medicaid programs, extension of Medicaid rebates to Medicaid managed care plans, mandatory discounts for certain Medicare Part D beneficiaries and annual fees based on pharmaceutical companies' share of sales to federal health care programs. The Medicaid Drug Rebate Program requires pharmaceutical manufacturers to enter into and have in effect a national rebate agreement with the HHS Secretary as a condition for states to receive federal matching funds for the manufacturer's outpatient drugs furnished to Medicaid patients. The ACA made several changes to the Medicaid Drug Rebate Program, including increasing pharmaceutical manufacturers' rebate liability by raising the minimum basic Medicaid rebate on most branded prescription drugs from 15.1% of average manufacturer price ("AMP"), to 23.1% of AMP and adding a new rebate calculation for "line extensions" (i.e., new formulations, such as extended release formulations) of solid oral dosage forms of branded products, as well as potentially impacting their rebate liability by modifying the statutory definition of AMP. The ACA also expanded the universe of Medicaid utilization subject to drug rebates by requiring pharmaceutical manufacturers to pay rebates on Medicaid managed care utilization and by enlarging the population potentially eligible for Medicaid drug benefits. The Centers for Medicare & Medicaid Services ("CMS"), have proposed to expand Medicaid rebate liability to the territories of the United States as well. Additionally, for a drug product to receive federal reimbursement under the Medicaid or Medicare Part B programs or to be sold directly to U.S. government agencies, the manufacturer must extend discounts to entities eligible to participate in the 340B drug pricing program. The required 340B discount on a given product is calculated based on the AMP and Medicaid rebate amounts reported by the manufacturer.

Some of the provisions of the ACA have yet to be implemented, and there have been judicial and Congressional challenges to certain aspects of the ACA, as well as recent efforts by the Trump administration to repeal or replace certain aspects of the ACA. Since January 2017, President Trump has signed two Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress has considered legislation that would repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, two bills affecting the implementation of certain taxes under the ACA have passed. On December 22, 2017, President Trump signed into law new federal tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act") which includes a provision repealing, effective January 1, 2019, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On January 22, 2018, President Trump signed a continuing resolution on appropriations for fiscal year 2018 that delayed the implementation of certain ACA-mandated fees, including the so-called "Cadillac" tax on certain high cost employer-sponsored insurance plans, the annual fee imposed on certain health insurance providers based on market share, and the medical device excise tax on non-exempt medical devices. The Bipartisan Budget Act of 2018 (the "BBA"), among other things, amended the ACA, effective January 1, 2019, to close the coverage gap in most Medicare Part D drug plans. In July 2018, CMS published a final rule permitting further collections and payments to and from certain ACA-qualified health plans and health insurance issuers under the ACA risk adjustment program in response to the outcome of federal district court litigation regarding the method CMS uses to determine this risk adjustment. On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. On December 18, 2019, the United States Court of Appeal for the Fifth Circuit ruled that the "individual mandate" of the ACA is unconstitutional, but remanded the case to the U.S. District Court to reconsider whether the entire ACA is unconstitutional. The remanded case is still pending in the U.S. District Court and other than on the application of the "individual mandate," the ruling will have no immediate effect on the remaining provisions of the ACA pending a decision on remand by the U.S. District Court. Consequently, it is unclear how this decision, subsequent appeals, and other efforts to repeal and replace the ACA will impact the ACA.

Other legislative changes have been proposed and adopted in the United States since the ACA was enacted. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, effective April 1, 2013, which, due to subsequent legislative amendments, will stay in effect through 2027 unless additional congressional action is taken. In January 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, reduced Medicare payments to several providers, and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These new laws may result in additional reductions in Medicare and other healthcare funding, which could have a material adverse effect on customers for our drugs, if approved, and accordingly, our financial operations.

Additionally, there has been heightened governmental scrutiny recently over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted federal and state legislation designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products. For example, at the federal level, the Trump administration released a "Blueprint" to lower drug prices and reduce out of pocket costs of drugs that contains additional proposals to increase manufacturer competition, increase the negotiating power of certain federal healthcare programs, incentivize manufacturers to lower the list price of their products and reduce the out of pocket costs of drug products paid by consumers. Additionally, on January 31, 2019, HHS Office of Inspector General proposed modifications to federal Anti-Kickback Statute safe harbors which, among other things, may affect rebates paid by manufactures to Medicare Part D plans, the purpose of which is to further reduce the cost of drug products to consumers. At the state level, legislatures have increasingly passed legislation and implemented regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing.

Moreover, the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 ("MMA"), established the Medicare Part D program to provide a voluntary prescription drug benefit to Medicare beneficiaries. Under Part D, Medicare beneficiaries may enroll in prescription drug plans offered by private entities that provide coverage of outpatient prescription drugs. Unlike Medicare Part A and B, Part D coverage is not standardized. While all Medicare drug plans must give at least a standard level of coverage set by Medicare, Part D prescription drug plan sponsors are not required to pay for all covered Part D drugs, and each drug plan can develop its own drug formulary that identifies which drugs it will cover and at what tier or level. However, Part D prescription drug formularies must include drugs within each therapeutic category and class of covered Part D drugs, though not necessarily all the drugs in each category or class. Any formulary used by a Part D prescription drug plan must be developed and reviewed by a pharmacy and therapeutic committee. Government payment for some of the costs of prescription drugs may increase demand for products for which we receive marketing approval. However, any negotiated prices for our products covered by a Part D prescription drug plan likely will be lower than the prices we might otherwise obtain. Moreover, while the MMA applies only to drug benefits for Medicare beneficiaries, private third-party payors often follow Medicare coverage policy and payment limitations in setting their own payment rates.

Employees

As of March 31, 2020, we employed a total of 7 professionals: 4 full-time and 3 part-time employees. None of our employees are represented by a labor union or covered under a collective bargaining agreement. We believe that we maintain strong relations with our employees.

We engage outside consultants for business development and operations or other functions from time to time.

Properties

We currently lease our corporate headquarters at 1920 McKinney Avenue, 7th Floor, Dallas Texas, 75201, consisting of approximately 300 square feet with a monthly rent of $1,400, inclusive of utilities, under a lease that is terminable upon two months' notice. We also lease office space at 78 John Miller Way, Suite 416, Kearny, New Jersey 07032, consisting of approximately 790 square feet. Monthly rent is $2,106, plus electrical utilities and the lease expires on July 31, 2020. We believe these existing facilities are adequate for our current needs. We intend to add new facilities, add to existing space, or replace with larger facilities, as needed, as we add employees and expand operations. We believe that suitable additional or substitute space will be available in the future on commercially reasonable terms to support this expansion.

Legal Proceedings

From time to time in the future, we may become involved in litigation or other legal proceedings that arise in the ordinary course of business. We are not currently party to any legal proceedings, and we are not aware of any pending or threatened litigation against us that we believe could have a material adverse effect on our business, operating results or financial condition. In the event we are subject to a legal proceeding, it could have a material adverse impact on us because of litigation costs and diversion of management resources.

MANAGEMENT

Directors, Executive Officers and Significant Employees

Identification of Directors, Executive Officers and Significant Employees

The following table and text set forth the names and ages of our current directors, executive officers and significant employees as of April 10, 2020. Our board of directors is comprised of only one class. All of the directors will serve until the next annual meeting of stockholders or until their successors are elected and qualified, or until their earlier death, retirement, resignation or removal. There are no family relationships among any of the directors and executive officers.

Name	Age	Position
Panna Sharma	49	Chief Executive Officer, President and Director
David R. Margrave	59	Chief Financial Officer and Secretary
Kishor G. Bhatia	65	Chief Scientific Officer
Leslie W. Kreis, Jr.	48	Director
Donald Jeff Keyser	66	Chairman of the Board
David S. Silberstein	69	Director
Vijay Chandru	66	Director
Franklyn Prendergast	74	Director

Except for the Voting Agreement, which will terminate immediately prior to the closing of the offering, there are no arrangements or understandings between our directors and executive officers and any other person pursuant to which any director or officer was or is to be selected as a director or officer.

Business Experience

Panna Sharma, Chief Executive Officer, President and Director

Mr. Sharma has served as our Chief Executive Officer, and President since July 2018 and a director since August 2018. As Chief Executive Officer, Mr. Sharma oversees our use of AI and genomics in developing our therapy product pipeline to innovate the rescue, revitalization and development of precision therapeutics in oncology. From May 2010 to February 2018, Mr. Sharma served as President, Chief Executive Officer and director of Cancer Genetics, a Nasdaq company and provider of DNA-based cancer diagnostics and services to medical institutions throughout the world. In 2001, Mr. Sharma founded TSG Partners, a specialty advisory group combining corporate strategy and corporate finance to create shareholder value for companies and investors in the life sciences, biotechnology and environmental sciences sectors. Prior to TSG, Mr. Sharma served in the roles of Senior Vice President of E-Business Solutions and Chief Strategy Officer at iXL Inc. (later merged with Scient). For the six years prior to his being at iXL Inc., Mr. Sharma helped successfully found, manage and sell or take public two other consulting and professional services firms. From 1996 to 1998, Mr. Sharma was a partner at Interactive Solutions, Inc. Prior to that, Mr. Sharma served as a consultant to Putnam Investment Management, LLC and Bank of America Corporation. Mr. Sharma holds a Bachelor of Science in the Philosophy of Science, Neural Networks and Artificial Intelligence from Boston University. Based on the above qualifications, the Company believes Mr. Sharma is qualified to be on the Board.

Leslie W. Kreis, Jr., Director

Mr. Kreis has served as a director since November 2019. Since 2008, Mr. Kreis has served as the Managing Principal at Steelhead Capital Management, LLC, a Texas-based family office investment firm. In addition, since June 2015, Mr. Kreis has served as managing partner and co-founder of Bios Equity Partners, LP and Bios Equity Partners II, LP, Texas-based venture capital investment firms seeking investment in life science technologies. Over the past 10 years, Mr. Kreis started several early stage companies, occasionally served as chief operator, served on many boards of directors, and invested in over 45 ventures in both active and passive capacities. Currently, Mr. Kreis serves on the board of five private, active portfolio companies. Mr. Kreis is also a founding member of Cowtown Angels, a Fort Worth-based angel investment network. Prior to this, Mr. Kreis was a Vice President at HBK Investments, a multi-strategy global hedge fund based in Dallas, Texas. Mr. Kreis received a BBA in Finance from Texas Christian University in 1994. Based on the above qualifications, the Company believes Mr. Kreis is qualified to be on the Board.

Donald Jeff Keyser, JD, MPA, Ph.D., Chairman

Dr. Keyser has served as a director since January 2018 and Chairman since November 2019. Dr. Keyser founded and has served from 2017 as director, president and chief operating officer of Renibus Therapeutics, a company developing novel therapies for the diagnosis, treatment and prevention of kidney disease. Dr. Keyser also founded ZS Pharma and served since 2008 as a director and chief operating officer of that company until December 2015 when it was acquired by Astra Zeneca for $2.7 Billion. Dr. Keyser was the inventor of the Mucinex product line for Adams Respiratory Therapeutics. Dr. Keyser developed and executed the R&D and Regulatory strategy for Adams Respiratory Therapeutics as Vice President of Development and Regulatory Affairs during his period there from 1998 to 2004. Adams Respiratory Therapeutics was acquired by Reckitt Benckiser for $2.3 Billion. He was previously employed as Chief Compliance Officer & Vice President Regulatory Affairs, Encysive Pharmaceuticals, Vice President Technical & Regulatory Affairs, Medeva Americas, Sr. Director Regulatory Affairs, Marion Merrell Dow and Regulatory Principal, Abbott Laboratories. Dr. Keyser received his Pharmacy degree from Creighton University, a Juris Doctorate from Creighton University, a MPA from the University of Missouri-Kansas City and a PhD in Economics from The University of Texas at Dallas. Based on the above qualifications, the Company believes Dr. Keyser is qualified to be on the Board.

David S. Silberstein, Ph.D., Director

Dr. Silberstein has served as a director since June 2018. Dr. Silberstein has served as chief operating officer of BioMimetix Pharmaceutical, Inc. since 2013. Dr. Silberstein has served as a director of BMI since 2016. Dr. Silberstein received his PhD in Immunology at Columbia University and Postdoctoral training at Harvard Medical School/Brigham & Women's Hospital. Dr. Silberstein continued for seven years at Harvard, leading a research team studying the biochemistry of inflammation. This was followed by 20 years at AstraZeneca Pharmaceuticals where Dr. Silberstein had leadership roles in genomics, translational science, company-wide portfolio management, and science support for two products through launch to aggregate sales of greater than $30 billion. Since 2013, Dr. Silberstein has worked independently with a number of early stage biotech companies and as a consultant to investment firms. Current work includes his role as Principal Investigator of an NCI-funded clinical trial in patients with multiple brain metastases. Based on the above qualifications, the Company believes Dr. Silberstein is qualified to be on the Board.

Vijay Chandru, Ph.D., Director

Dr. Chandru has served as a director since October 2019. Currently, Dr. Chandru is a co-founder of OPFORD Foundation, a non-profit in India with an open platform for orphan diseases and with a mission to support development of affordable and accessible therapeutics for orphan diseases of which many are rare genetic disorders. He was also a co-founder of Strand Life Sciences, India's leading precision medicine solutions company, an offshoot of the Indian Institute of Science, which now has over 20 diagnostic laboratories and over 800 employees spread across India. He served as Executive Chairman of Strand Life Sciences from 2000 to 2018. A technology pioneer of the World Economic Forum since 2006, he was elected President (2009-2012) of the Association of Biotech Led Enterprises (ABLE), the apex trade body that represents the Indian biotech industry. Dr. Chandru is an academic entrepreneur whose academic career has spanned almost four decades. After his doctoral work at MIT he was a tenured professor at Purdue University for a decade in the 1980s and at the Indian Institute of Science in Bangalore since then. A fellow of both the academy of science and engineering, he is currently an Indian National Academy of Engineering's Distinguished Technologist in Bio-Engineering. Based on the above qualifications, the Company believes Dr. Chandru is qualified to be on the Board.

Franklyn Prendergast, M.D., Ph.D., Director

Dr. Prendergast has served as a director since October 2019. Prior to his retirement on December 31, 2014, Dr. Prendergast was the Emeritus Edmond and Marion Guggenheim Professor of Biochemistry and Molecular Biology and Emeritus Professor of Molecular Pharmacology and Experimental Therapeutics at Mayo Medical School and the director of the Mayo Clinic Center for Individualized Medicine. From 1994 to 2006, he served as a director of Mayo Clinic Cancer Center. He also previously held several other teaching positions at the Mayo Medical School from 1975 through 2014. Dr. Prendergast has served for the National Institute of Health on numerous study section review groups; as a charter member of the Board of Advisors for the Division of Research Grants, now the Center for Scientific Review; the National Advisory General Medical Sciences Council; and the Board of Scientific Advisors of the National Cancer Institute. He held a Presidential Commission for service on the National Cancer Advisory Board. Dr. Prendergast also has served in numerous other advisory roles for the National Institute of Health and the National Research Council of the National Academy of Sciences, and he is a member of the board of directors of the Translational Genomics Research Institute and the Infectious Disease Research Institute (IDRI). Dr. Prendergast has served on the board of directors of Eli Lilly & Co. since 1995 until his retirement in 2017. He also served as a director of Cancer Genetics from 2014 to 2018. He also currently serves on the board of directors for Novosteo, Inc. and Neubase Therapeutics, both private biotechnology drug development companies. Dr. Prendergast obtained his medical degree with honors from the University of West Indies and attended Oxford University as a Rhodes Scholar, earning an M.A. degree in physiology. He obtained his Ph.D. in Biochemistry at the University of Minnesota. Based on the above qualifications, the Company believes Dr. Prendergast is qualified to be on the Board.

David R. Margrave, Chief Financial Officer and Secretary

Mr. Margrave has served as our Chief Financial Officer since November 2019 and as our Secretary since June 2018. Since January 2016, Mr. Margrave has served as a life science consultant, providing strategic advisory and legal services to growing life science companies. From January 1995 to December 2015, he served as an executive officer at BioNumerik Pharmaceuticals, Inc., a life science company focused on advancing innovative cancer therapies. During his time at BioNumerik Pharmaceuticals, Inc., Mr. Margrave served in various positions including service as President and as Chief Administrative Officer and General Counsel. Mr. Margrave has served as a consultant to BioNumerik Pharmaceuticals, Inc. since January 2016. From April 2015 to December 2016, he also served as Senior Legal Advisor to MedCare Investment Corporation, a private investment firm investing in the medical and healthcare services industries. Prior to joining BioNumerik Pharmaceuticals, Inc., Mr. Margrave was a partner at Andrews & Kurth LLP, a national law firm. Mr. Margrave serves as Chairman and a board member of the Texas Healthcare and Bioscience Institute and as Chairman and a board member of the State of Texas Product Development & Small Business Incubator Board. He is a past board member of the Texas Technology Transfer Association. Mr. Margrave received a Bachelor of Arts and Science degree in Economics and in Petroleum Engineering from Stanford University, and a J.D. degree from The University of Texas School of Law.

Kishor G. Bhatia, Ph.D., Chief Scientific Officer

Dr. Bhatia has served as our Chief Scientific Officer since December 2019, and as our scientific consultant since January 2019. Dr. Bhatia also serves as a scientific consultant to Reprocell, one of our collaborators, since December 2016, and served as a scientific consultant to Cancer Genetics, Inc. from December 2016 until November 2019. Since 2006, he has been employed as an Adjunct Investigator with the National Cancer Institute-Division of Cancer Epidemiology and Genetics. From January 2007 until July 2016, Dr. Bhatia also served as a Director-AIDS Malignancy Program at the National Cancer Institute-Office of HIV and AIDS Malignancy, and from January 2004 through January 2007, he served as a Program Director and the Director of HIV and Cancer at the National Cancer Institute-Division of Cancer Treatment and Diagnosis. Dr. Bhatia received a Bachelor of Science degree in microbiology from the University of Pune and a Ph.D. in biochemistry from the University of Mumbai and is a Fellow of the Royal College of Pathology in the United Kingdom and was a Post-Doctoral Fellow at Johns Hopkins University and a Research Assistant Professor at Georgetown University from 1985 to 1989.

Involvement in Certain Legal Proceedings

To the best of our knowledge, during the past ten years, except for proceedings related to a Chapter 7 voluntary petition filed with the Bankruptcy Court for the Northern District of Texas in 2014 by Addison Data Services, LLC (Bankruptcy Case 14-42897), an entity in which Mr. Kreis was the managing member, none of our directors or executive officers were involved in any of the following: (1) any bankruptcy petition filed by or against any business of which such person was a general partner or executive officer either at the time of the bankruptcy or within two years prior to that time; (2) any conviction in a criminal proceeding or being subject to a pending criminal proceeding (excluding traffic violations and other minor offenses); (3) being subject to any order, judgment, or decree, not subsequently reversed, suspended or vacated, of any court of competent jurisdiction, permanently or temporarily enjoining, barring, suspending or otherwise limiting his involvement in any type of business, securities or banking activities; and (4) being found by a court of competent jurisdiction (in a civil action), the SEC or the Commodities Futures Trading Commission to have violated a federal or state securities or commodities law, and the judgment has not been reversed, suspended or vacated. Cancer Genetics and Mr. Sharma have filed a motion to dismiss the consolidated complaints in the Cancer Genetics Securities Litigation which is pending before the court.

In addition, on April 5, 2018 and April 12, 2018, purported stockholders of Cancer Genetics, Inc., filed class action lawsuits in the U.S. District Court for the District of New Jersey, against Cancer Genetics and its then president and CEO, Panna L. Sharma, among others, which have been consolidated as Cancer Genetics Securities Litigation. The complaints alleged violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5 based on allegedly false and misleading statements and omissions regarding Cancer Genetics' business, operational, and financial results. In addition, on June 1, 2018, September 20, 2018, and September 25, 2018, purported stockholders of Cancer Genetics filed nearly identical derivative lawsuits on behalf of Cancer Genetics in the U.S. District Court for the District of New Jersey against Cancer Genetics (as a nominal defendant) and current and former officers, including Mr. Sharma, and directors of Cancer Genetics, including Mr. Sharma and Dr. Prendergast. The complaints allege claims for breach of fiduciary duty, violations of Section 14(a) of the Securities Exchange Act of 1934 (premised upon alleged omissions in Cancer Genetics' 2017 proxy statement), and unjust enrichment, and allege that the individual defendants failed to implement and maintain adequate controls, which resulted in ineffective disclosure controls and procedures, and conspired to conceal this alleged failure. All three derivative actions have been stayed pending the outcome of the Cancer Genetics Securities Litigation motion to dismiss described above.

On February 25, 2020, the United States District Court for the District of New Jersey dismissed*with prejudice* all claims in the consolidated complaints in the Cancer Genetics Securities Litigation that allege violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 and SEC Rule 10b-5, denying the plaintiffs a right to file an amended complaint in the action. Plaintiffs have until March 25, 2020, to appeal the court's dismissal *with prejudice.* The derivative actions pending before the court that have been stayed are still pending further disposition by the court.

Board Leadership Structure and Role in Risk Oversight

Our board of directors does not have a policy as to whether the roles of our chairman and chief executive officer should be separate. Instead, our board of directors makes this determination based on what best serves our Company's needs at any given time.

In its governance role, and particularly in exercising its duty of care and diligence, the board of directors is responsible for ensuring that appropriate risk management policies and procedures are in place to protect the company's assets and business. Our board of directors has broad and ultimate oversight responsibility for our risk management processes and programs and executive management is responsible for the day-to-day evaluation and management of risks to the Company.

Board Composition, Committees, and Independence

Under the rules of The NASDAQ Stock Market LLC, "independent" directors must make up a majority of a listed company's board of directors. In addition, applicable The NASDAQ Stock Market LLC rules require that, subject to specified exceptions, each member of a listed company's audit and compensation committees be independent within the meaning of the applicable The NASDAQ Stock Market LLC rules. Audit committee members must also satisfy the independence criteria set forth in Rule 10A-3 under the Exchange Act.

Our board of directors has undertaken a review of the independence of each director and considered whether any director has a material relationship with us that could compromise his ability to exercise independent judgment in carryout out his responsibilities. As a result of this review, our board of directors determined that Mr. Kreis, and Drs. Keyser, Prendergast and Chandru are independent directors as defined in the listing standards of The NASDAQ Stock Market LLC and SEC rules and regulations. A majority of our directors are independent, as required under applicable The NASDAQ Stock Market LLC rules. As required under applicable The NASDAQ Stock Market LLC rules, our independent directors will meet in regularly scheduled executive sessions at which only independent directors are present.

Board Committees

Our board of directors has established an Audit Committee, a Compensation Committee, and a Nominating and Governance Committee. The composition and responsibilities of each of the committees is described below.

Audit Committee. The Audit Committee of the board of directors currently consists of three independent directors of which at least one, the Chairman of the Audit Committee, qualifies as a qualified financial expert as defined in Item 407(d)(5)(ii) of Regulation S-K. Dr. Keyser is the Chairperson of the Audit Committee and financial expert, and Drs. Prendergast and Chandru are the other directors who are members of the Audit Committee. The Audit Committee's duties are to recommend to our board of directors the engagement of the independent registered public accounting firm to audit our consolidated financial statements and to review our accounting and auditing principles. The Audit Committee reviews the scope, timing and fees for the annual audit and the results of audit examinations performed by any internal auditors and independent public accountants, including their recommendations to improve the system of accounting and internal controls. The Audit Committee will at all times be composed exclusively of directors who are, in the opinion of our board of directors, free from any relationship that would interfere with the exercise of independent judgment as a committee member and who possess an understanding of consolidated financial statements and generally accepted accounting principles. Our Audit Committee operates under a written charter, which is available on our website at www.laternpharma.com.

Compensation Committee. The Compensation Committee establishes our executive compensation policy, determines the salary and bonuses of our executive officers and recommends to the Board stock option grants for our executive officers. Mr. Kreis is the Chairperson of the Compensation Committee, and Dr. Keyser is the other director who is a member of the Compensation Committee. Each of the members of our Compensation Committee is independent under The NASDAQ Stock Market LLC's independence standards for compensation committee members. Our chief executive officer often makes recommendations to the Compensation Committee and the board of directors concerning compensation of other executive officers. The Compensation Committee seeks input on certain compensation policies from the chief executive officer. Our Compensation Committee operates under a written charter, which is available on our website at www.laternpharma.com.

Nominating and Governance Committee. The Nominating and Governance Committee is responsible for matters relating to the corporate governance of our Company and the nomination of members of the board of directors and committees of the board of directors. Dr. Prendergast is the Chairperson of the Nominating and Governance Committee, and Dr. Chandru is the other director who is a member of the Nominating and Governance Committee. Each of the members of our Nominating and Governance Committee are independent under The NASDAQ Stock Market LLC's independence standards. The Nominating and Governance Committee operates under a written charter, which is available on our website at www.lanternpharma.com.

Code of Business Conduct and Ethics

Our board of directors has adopted a Code of Business Conduct and Ethics ("Code") that applies to all of our directors, officers, and employees. Any waivers of any provision of this Code for our directors or officers may be granted only by the board of directors or a committee appointed by the board of directors. Any waivers of any provisions of this Code for an employee or a representative may be granted only by our chief executive officer or principal accounting officer. We have filed a copy of the Code with the SEC and have made it available on our website at www.lanternpharma.com. In addition, we will provide any person, without charge, a copy of this Code. Requests for a copy of the Code may be made by writing to the Company at 1920 McKinney Avenue, 7th Floor, Dallas Texas, 75201; attention Corporate Secretary.

Compensation Committee Interlocks and Insider Participation

None of the members of the compensation committee is currently, or has been at any time, one of our officers or employees. None of our executive officers currently serves, or has served during the last calendar year, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

Indemnification Agreements

We intend to execute a standard form of indemnification agreement ("Indemnification Agreement") with each of our board members and executive officers (each, an "Indemnitee").

Pursuant to and subject to the terms, conditions and limitations set forth in the Indemnification Agreement, we intend to indemnify each Indemnitee, against any and all expenses incurred in connection with the Indemnitee's service as our officer, director and or agent, or is or was serving at our request as a director, officer, employee, agent or advisor of another corporation, partnership, joint venture, trust, limited liability company, or other entity or enterprise but only if the Indemnitee acted in good faith and in a manner he reasonably believed to be in or not opposed to our best interest, and in the case of a criminal proceeding, had no reasonable cause to believe that his conduct was unlawful. In addition, the indemnification provided in the indemnification agreement will be applicable whether or not negligence or gross negligence of the Indemnitee is alleged or proven. Additionally, the Indemnification Agreement will establish processes and procedures for indemnification claims, advancement of expenses and costs and contribution obligations.

EXECUTIVE COMPENSATION

Compensation for our Named Executive Officers

The following table sets forth information concerning all forms of compensation earned by our named executive officers during the fiscal years ended December 31, 2019 and 2018 for services provided to the company and its subsidiary, which compensation exceeded $100,000.

Name and Principal Position	Year	Salary ($)	Bonus ($)	Stock Awards ($)	Option Awards ($)[6]	Non-Equity Incentive Plan Compensation ($)	All Other Compensation ($)	Total ($)
Arunkumar Asaithambi,	**2019**	$ -		-	$ -	**-**	**-**	$ -
former Chief Executive Officer, and President[1]	**2018**	$ 100,142	**-**	-	$ 62,804	**-**	**-**	$ 162,949
Panna Sharma,	**2019**	$ 266,923	$ 65,000	-	$ -	**-**	**-**	$ 331,923
Chief Executive Officer, and President[2]	**2018**	$ 105,000	**-**	-	$ 247,945	**-**	**-**	$ 352,945
Jeffrey Thomas,	**2019**	-	-	-	-	-	-	$ -
former Chief Financial Officer and Chief Operating Officer[3]	**2018**	$ 194,913[4]	**-**	-	-	**-**	**-**	$ 194,913
David R. Margrave,	**2019**	10,000	**-**	$ -	-	**-**	**-**	$ 10,000
Chief Financial Officer and Secretary[5]	**2018**	$ -	**-**	$ -	-	**-**	**-**	$ -

(1) Dr. Asaithambi ceased serving as our Chief Executive Officer and President on July 26, 2018 and his term as a director ended on October 15, 2019.

(2) Mr. Sharma began serving as our Chief Executive and President on July 26, 2018 and as a director on August 29, 2018.

(3) Mr. Thomas resigned as an officer of the company on October 2, 2018.

(4) Includes $70,481 of compensation associated with the restricted stock grant made to Mr. Thomas as part of his salary.

(5) Mr. Margrave began serving as our Chief Financial Officer in November 2019 and as our Secretary in June 2018. Mr. Margrave provided legal services to the company in 2018 and 2019 as a consultant and received approximately $105,677 and $73,596 in total compensation for legal services in 2018 and 2019, respectively.

(6) The fair value of each option grant is estimated at the date of grant using the Black-Scholes option pricing model. See Note 6 to our audited financial statements at page F-12 of this prospectus for our assumptions and fair value determination.

Benefit Plans

We do not have any profit sharing plan or similar plans for the benefit of our officers, directors or employees. However, we may establish such plan in the future.

Equity Compensation Plan Information

The following table sets forth certain information concerning unexercised options, stock that has not vested, and equity compensation plan awards outstanding as of December 31, 2019, for the named executive officers below:

	Option Awards[1]						Stock Awards			
Name	Award Grant Date	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options	Option Exercise Price ($)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested	Value of Shares or Units of Stock That Have Not Vested ($)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested	Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)
Arun Arunkumar Asaithambi, former Chief Executive Officer, and President[1]	**8/29/2018**	**50,808**	**10,167(1)**	**-**	**$ 1.79**	**1/15/2020**	**-**	**-**	**-**	**-**
Panna Sharma, Chief Executive Officer, and President[2]	**8/29/2018**	**45,875**	**-**	**-**	**$ 1.79**	**8/28/2028**	**-**	**-**	**-**	**-**
	8/29/2018	**32,492**	**36,321**	**-**	**$ 1.79**	**8/28/2028**	**-**	**-**	**-**	**-**
	12/17/2018	**23,373**	**71,439**	**-**	**$ 1.79**	**12/16/2028**	**-**	**-**	**-**	**-**
	12/17/2018	**22,139**	**9,084**		**$ 1.79**	**12/16/2028**	**-**	**-**	**-**	**-**

(1) Dr. Asaithambi ceased serving as our Chief Executive Officer and President on July 26, 2018 and his term as a director ended on October 15, 2019. On October 15, 2019, Dr. Asaithambi's unvested shares ceased vesting.

(2) Mr. Sharma began serving as our Chief Executive and President on July 26, 2018 and as a director on August 29, 2018.

Agreements with Our Named Executive Officers

We have entered into written employment agreements with the named executive officers, as described below. Each of our named executive officers has also executed our standard form of confidential information and invention assignment agreement.

Employment Agreement with Panna Sharma

We entered into an employment agreement with Mr. Sharma on July 23, 2018, that governs the terms of his employment with us as Chief Executive Officer and President. During the term of the agreement, which ends on July 30, 2020, Mr. Sharma is entitled to an annual base salary of $260,000. Mr. Sharma's annual base salary will increase to $432,000 upon us completing a Series B Preferred Stock financing on terms that are approved by our Board. Mr. Sharma will be entitled to a cash bonus in the amount of $100,000 subject to the company achieving certain operational and strategic milestones during 2018 to be mutually agreed upon by the Board and Mr. Sharma. Mr. Sharma did not receive any bonus compensation in 2018, and received a cash bonus of $65,000 in 2019. In addition, Mr. Sharma will be entitled to an annual cash bonus equal to 25% of his annual base salary in future years, subject to the Company achieving certain operational and strategic milestones to be mutually agreed upon by the Board and Mr. Sharma.

As incentive compensation, our Board of Directors has awarded Mr. Sharma the following equity incentive compensation: (i) on August 29, 2018, an option to purchase 45,875 shares of common stock at $1.79 per share, all of which have vested; (ii) on August 29, 2018, an option to purchase 68,813 shares of common stock at $1.79 per share vesting over 36 months, of which 32,492 have vested; (iii) on December 17, 2018, an option to purchase 94,812 shares of common stock at $1.79 per share, of which 23,373 have vested, with 2,744 shares vesting each month commencing January 8, 2020, until December 8, 2020, and then 3,501 shares vesting each month commencing January 8, 2021 until November 8, 2021; (iv) on December 17, 2018, an option to purchase 31,223 shares of common stock at $1.79 per share, of which 22,139 shares have vested, and 757 shares vesting each month commencing January 8, 2020, until December 8, 2020.

Mr. Sharma also has the right to participate in the health insurance, vacation and other employee benefit plans and programs generally provided by us to our executive employees in effect from time to time.

Potential Payments upon Termination and Change in Control

Regardless of the manner in which Mr. Sharma's services terminate, Mr. Sharma is entitled to receive amounts earned during his term of service, including unpaid salary and unused vacation. In addition, Mr. Sharma is eligible to receive certain benefits pursuant to his employment agreement with us, as described below.

Either party may terminate Mr. Sharma's employment agreement upon 30 days' notice to the other party. If Mr. Sharma is terminated without cause, Mr. Sharma will be entitled to severance pay in an amount equal to the greater of (i) his base salary for the remainder of the term of the employment agreement or (ii) three months of his base salary. In addition, Mr. Sharma shall be entitled to an amount equal to his annual bonus amount prorated through the date of termination, if such bonus is earned in the calendar year of his termination. The foregoing payments are subject to Mr. Sharma entering into an agreement releasing all claims against the Company. In addition, pursuant to the 2018 Equity Incentive Plan, in the event of a change in control, as defined in the 2018 Equity Incentive Plan, all unvested securities owned by Mr. Sharma shall immediately vest and remain exercisable for the full term of the option. "Cause" is defined in Mr. Sharma's employment agreement to include, but not limited to, (i) a material breach of his duties as an employee or obligations under his agreement, subject to notice and an opportunity to cure such breach, (ii) a breach or threatened breach of the restrictive covenants and confidentiality provisions under the agreement, (iii) a refusal or failure to follow the reasonable instructions from our Board of Directors, (iv) failure to achieve any mutually agreed and specified material operational or strategic milestones, (v) a breach of any of our rules or policies that is likely to have a material adverse effect on us, subject to notice and an opportunity to cure the breach, (vi) a material failure, other than by reason of disability, to perform satisfactorily to the Board on a regular basis of his duties as Chief Executive Officer, subject to notice and an opportunity to cure the failure, (vii) any intentional or grossly negligent act or omission that causes or threatens to cause a material loss to us or our business, (viii) a commission of, indictment for, or conviction or plea of nolo contender to a crime of moral turpitude or fraud, embezzlement or similar act of dishonesty or any violation of law or rule that materially impairs or injures us or our reputation, and (ix) any appropriation of any business opportunity belonging to us for his personal benefit or the benefits of any family member or affiliated entity.

Perquisites, Health, Welfare and Retirement Benefits

All of our current named executive officers are eligible to participate in our employee benefit plans, including health insurance for which we pay the premiums, in each case on the same basis as all of our other employees. We pay the premiums for health insurance for all of our employees, including our named executive officers. We generally do not provide perquisites or personal benefits to our named executive officers.

Nonqualified Deferred Compensation

Our named executive officers did not participate in, or earn any benefits under, a nonqualified deferred compensation plan sponsored by us during the fiscal year ended December 31, 2018. Our board of directors may elect to provide our officers and other employees with nonqualified defined contribution or other nonqualified deferred compensation benefits in the future if it determines that doing so is in our best interests.

Amended and Restated 2018 Equity Incentive Plan

The 2018 Equity Incentive Plan was adopted by the Board of Directors and approved by the stockholders on August 29, 2018, and subsequently amended on December 17, 2018. The Company reserved 756,138 shares of common stock for issuance under the 2018 Equity Incentive Plan, of which options to purchase 295,323shares of our common stock are outstanding and options to purchase 240,723 shares of our common stock have been granted to our current Chief Executive Officer as of April 10, 2020. In addition, as of April 10, 2020, the Board of Directors has approved and granted a restricted stock award of 39,375 shares pursuant to the 2018 Equity Incentive Plan to our former Chief Financial Officer.

Director Compensation

None of our directors received compensation in the fiscal year ended December 31, 2019. Below is a summary of compensation accrued or paid to our non-executive directors during the fiscal year ended December 31, 2018.

Name	Year	Fees Earned or Paid in Cash ($)	Stock Awards ($)	Option Awards[4] ($)	All Other Compensation ($)	Total ($)
Donald J. Keyser	2018	-	-	$ 19,261[1]	-	$ 19,261
David S. Silberstein	2018	-	-	$ 3,017[2]	-	$ 3,017
John Fucci[3]	2018	-		$ 19,261[3]	-	$ 19,261
Peter Nara[5]	2018			$ 794		$ 794

(1) Based on options to purchase 18,700 shares of common stock at fair value of $1.03 per share, all of which are vested.

(2) Based on options to purchase 2,929 shares of common stock at fair value of $1.03 per share, all of which are vested.

(3) Based on options to purchase 18,700 shares of common stock at fair value of $1.03 per share, all of which are vested. Mr. Fucci resigned as our director on November 25, 2019, and was replaced by Mr. Kreis. Mr. Fucci served on our board as director representative of funds beneficially owned by Bios Equity Entities. The options issued in consideration for Mr. Fucci's services as a director of the Company were issued in the name of BP Directors, LP.

(4) The fair value of each option grant is estimated at the date of grant using the Black-Scholes option pricing model. Expected volatility is calculated based on the historical volatility of the Company's stock. The risk free interest rate is based on the U.S. Treasury yield for a term equal to the expected life of the options at the time of grant.

(5) Based on options to purchase 771 shares of common stock at fair value of $1.03 per share, all of which options expired unexercised. Dr. Nara resigned as our director in June 2018.

PRINCIPAL STOCKHOLDERS

As used in this section, the term "beneficial ownership" with respect to a security is defined by Rule 13d-3 under the Securities Exchange Act of 1934, as amended, as consisting of sole or shared voting power (including the power to vote or direct the vote) and/or sole or shared investment power (including the power to dispose of or direct the disposition of) with respect to the security through any contract, arrangement, understanding, relationship or otherwise, subject to community property laws where applicable.

The following table sets forth, as of April 10, 2020, information concerning the beneficial ownership of shares of our common stock held by our directors, our named executive officers, our directors and executive officers as a group, and each person known by us to be a beneficial owner of more than 5% of our outstanding common stock. Unless otherwise indicated, the business address of each of our directors, executive officers and beneficial owners of more than 5% of our outstanding common stock is c/o Lantern Pharma Inc., 1920 McKinney Avenue, 7th Floor, Dallas Texas, 75201. Each person has sole voting and investment power with respect to the shares of our common stock, except as otherwise indicated. Beneficial ownership consists of a direct interest in the shares of common stock, except as otherwise indicated.

We have based our calculation of the percentage of beneficial ownership prior to this offering on 2,567,583 shares of our common stock outstanding as of April 10, 2020, after giving effect to the conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of our common stock immediately prior to the closing of this offering. We have based our calculation of the percentage of beneficial ownership after this offering on [_____] shares of our common stock outstanding immediately after the completion of this offering, assuming no exercise by the underwriters of their option to purchase additional shares. We have determined beneficial ownership in accordance with the rules of the SEC, which include shares of our common stock issuable upon stock options that are currently exercisable or exercisable within 60 days of April 10, 2020, to be outstanding and to be beneficially owned by the person holding the stock option for the purpose of computing the percentage ownership of that person. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person.

	Shares Beneficially Owned Prior to Offering		Shares Beneficially Owned After the Offering	
Name and Address of Beneficial Owner[1]	**Number**	**Percent**	**Number**	**Percent**
Officers and Directors				
Panna Sharma, Chief Executive Officer, President, and Director[2]	149,028	5.5%		
David R. Margrave, Chief Financial Officer and Secretary	-	-	-	-
Kishor B. Bhatia, Chief Scientific Officer	-	-	-	-
Leslie W. Kreis, Jr., Director[3]	1,131,314	42.1%		
Donald J. Keyser, Chairman of the Board[4]	39,251	1.5%		
David S. Silberstein, Director[5]	602,929	23.5%		
Vijay Chandru, Director	-	-	-	-
Franklyn Prendergast, Director	-	-	-	-
All Officers and Directors as a group (8 people)	1,922,522	67.2%		
5% Stockholders				
Biological Mimetics, Inc.[6]	600,000	23.4%		
GPGV Entities[7]	388,007	15.1%		
Bios Equity Entities[8]	1,131,314	42.1%		
Arunkumar Asaithambi[9]	254,000	9.9%		

* Represents less than 1% of shares outstanding.

(1) All addresses above are 1920 McKinney Avenue, 7th Floor, Dallas Texas 75201, unless otherwise stated.

(2) Consists of 149,028 shares of common stock subject to options exercisable within 60 days. Excludes 91,695 shares of common stock underlying options which are subject to vesting conditions.

(3) Consists of 1,131,314 shares of common stock beneficially owned by Messrs. Kreis and Fletcher as described in footnote 8. Mr. Kreis is the managing partner and co-founder of Bios Equity Partners, LP and Bios Equity Partners II, LP.

(4) Consists of (i) 18,700 shares of common stock subject to options exercisable within 60 days, (ii) 18,349 shares of common stock issuable upon conversion of shares of Series A preferred stock, and (iii) 2,202 shares of common stock issuable upon exercise of warrants.

(5) Consists of (i) 2,929 shares subject to options exercisable within 60 days, and (ii) 600,000 shares of common stock held of record by BMI. Dr. Silberstein is a director of BMI.

(6) Consists of 600,000 shares of common stock. Dr. Silberstein, our director, is a director of BMI. Dr. Silberstein shares voting and investment control with respect to shares held by BMI. Address is 124 Byte Drive, Frederick, Maryland 21702.

(7) Consists of (i) 168,164 shares of common stock issuable to GPG LPI Investment, LLC upon conversion of shares of Series A preferred, stock, (ii) 13,640 shares of common stock issuable to GPG LPI Investment, LLC upon exercise of warrants, (iii) 75,688 shares of common stock issuable to Lantern 3-19 Investment, LLC upon conversion of shares of Series A preferred stock, (iv) 9,083 shares of common stock issuable to Lantern 3-19 Investment, LLC upon exercise of warrants, (v) 97,561 shares of common stock held by Health Wildcatters Fund II, LLC, and (vi) 23,871 shares of common stock issuable to Health Wildcatters Fund II, LLC upon conversion of shares of Series A preferred stock. Green Park & Golf Ventures, LLC ("GPGV I") is the managing member of the following entities: GPG LPI Investment, LLC and Health Wildcatters Fund II, LLC. Green Park & Golf Ventures II, LLC ("GPGV II") is the managing member of Lantern 3-19 Investment, LLC. GPGV I and GPGV II are managed by Clay M. Heighten, MD, Carl D. Soderstrom and Gilbert G. Garcia II. The shares owned by Lantern 3-19 Investment, LLC, GPG LPI Investment, LLC, and Health Wildcatters Fund II, LLC ("GPGV Entities") are aggregated for purposes of reporting share ownership information. Dr. Heighten and Messrs. Soderstrom and Garcia share voting and investment control with respect to the shares held by the GPGV Entities. The address for the GPGV Entities is 5910 N. Central Expressway, Suite 1400 Dallas, Texas 75206.

(8) Consists of (i) 289,429 shares of common stock issuable to Bios Fund I, LP ("Bios Fund I") upon conversion of shares of Series A preferred stock, (ii) 34,731 shares of common stock issuable to Bios Fund I upon exercise of warrants, (iii) 169,286 shares of common stock issuable to Bios Fund I QP, LP ("Bios Fund I QP") upon conversion of shares of Series A preferred stock, (iv) 20,314 shares of common stock issuable to Bios Fund I QP upon exercise of warrants, (v) 121,527 shares of common stock held by Bios Fund II QP, LP ("Bios Fund II QP"), (vi) 262,806 shares of common stock issuable to Bios Fund II QP upon conversion of shares of Series A preferred stock, (vii) 31,536 shares of common stock issuable to Bios Fund II QP upon exercise of warrants, (viii) 37,204 shares of common stock held by Bios Fund II, LP ("Bios Fund II"), (ix) 80,454 shares of common stock issuable to Bios Fund II upon conversion of shares of Series A preferred stock, (x) 9,655 shares of common stock issuable to Bios Fund II upon exercise of warrants, (xi) 16,269 shares of common stock held by Bios Fund II NT, LP ("Bios Fund II NT"), (xii) 35,181 shares of common stock issuable to Bios Fund II NT upon conversion of Series A preferred stock, (xiii) 4,222 shares of common stock issuable to Bios Fund II NT upon exercise of warrant, and (xiv) 18,700 shares of common stock subject to options exercisable within 60 days by BP Directors, LP ("Bios Directors"). Bios Equity Partners, LP ("Bios Equity I") is the general partner of the following entities: Bios Fund I, Bios Fund I QP, and Bios Directors. Bios Equity Partners II, LP ("Bios Equity II") is the general partner of Bios Fund, II QP, Bios Fund II, Bios Fund II NT. Cavu Management, LP, an entity managed and controlled by Mr. Kreis, our director, and Bios Capital Management, LP, an entity managed and controlled by Mr. Aaron Fletcher, are the general partners of Bios Equity I and Bios Equity II. The shares owned by Bios Fund I, Bios Fund I QP, Bios Fund II, Bios Fund II QP, Bios Fund II NT and Bios Directors ("Bios Equity Entities") are aggregated for purposes of reporting share ownership information. Mr. Kreis was appointed as a director on our board of directors as the Series A preferred stock director designee. Mr. Kreis and Mr. Fletcher share voting and investment control with respect to shares held by the Bios Equity Entities. The address for Bios Equity Entities is 1751 River Run, Suite 400, Fort Worth, Texas 76107.

(9) Consists of 254,000 shares of common stock.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

In addition to the compensation arrangements, including employment, termination of employment and change in control arrangements discussed in the sections titled "Management" and "Executive Compensation" and the registration rights described in the section titled "Description of Capital Stock—Registration Rights," the following is a description of each transaction since January 1, 2017 to which we were a party or will be a party, in which:

- the amounts involved exceeded or will exceed 1% of the average of our total assets at year end for the last two completed fiscal years; and
- any of our directors, executive officers or holders of more than 5% of our capital stock, or any member of the immediate family of, or person sharing the household with, the foregoing persons, had or will have a direct or indirect material interest.

Convertible Notes

In the fourth quarter of 2014 through the first quarter of 2015 we sold convertible notes (the "Convertible Notes") to eleven investors for aggregate proceeds of $269,350. The following table summarizes purchases of Convertible Notes by related persons:

Stockholder	Total Investment Amount
GPGV Entities[1]	$ 176,700

(1) Represents (i) $126,700 purchased by GPG LPI Investment, LLC and (ii) $50,000 by Health Wildcatters Fund, II, LLC. GPGV I is the managing member of the following entities: GPG LPI Investment, LLC, and Health Wildcatters Fund II, LLC. GPGV II is the managing member of Lantern 3-19 Investment, LLC. GPGV I and GPGV II are managed by Clay M. Heighten, MD, Carl D. Soderstrom and Gilbert G. Garcia II. The shares owned by GPG LPI Investment, LLC, Lantern 3-19 Investment, LLC and Health Wildcatters Fund II, LLC are aggregated for purposes of reporting share ownership information, which collectively represents more than 5% of our outstanding capital stock.

In August 2016, the Convertible Notes converted in accordance with their terms into an aggregate of 127,941 shares of Series A preferred stock.

Simple Agreement for Future Equity

In December 2018, we entered into Simple Agreement for Future Equity agreements (the "SAFE Financing") with five investors pursuant to which we obtained funding for $535,000 in exchange for our agreement to issue the investors shares of preferred stock upon occurrence of a subsequent financing of preferred stock. The following table summarizes related persons that participated in the SAFE Financing:

Stockholder	Total Investment Amount
Bios Equity Entities[1]	$ 250,000
GPGV Entities[2]	$ 250,000

(1) Consists of amounts invested by the following Bios Equity Entities: Bios Fund II, LP, Bios Fund II QP, LP, and Bios Fund II NT, LP. The shares beneficially owned by the Bios Equity Entities are aggregated for purposes of reporting share ownership information which represents more than 5% of our outstanding capital stock. Mr. Kreis was appointed as a director on our board of directors as the Series A preferred stock director designee.

(2) Consists of amounts invested by the following GPGV Entities: GPGV II. In March 2019, GPGV II assigned it rights under its SAFE Financing agreement to Lantern 3-19 Investment, LLC. The shares owned by GPG LPI Investment, LLC, Lantern 3-19 Investment, LLC and Health Wildcatters Fund II, LLC are aggregated for purposes of reporting share ownership information, which collectively represents more than 5% of our outstanding capital stock.

In connection with the Series A preferred stock and warrant financings discussed below, in March 2019 we issued an aggregate of 122,707 shares of Series A preferred stock and warrants to purchase an aggregate of 14,725 shares of Series A preferred stock, at an initial exercise price of $5.45 per share, to investors pursuant to the Simple Agreement for Future Equity agreements entered into as part of the SAFE Financing.

Series A Preferred Stock and Warrant Financings

In connection with our offer and sale of shares of Series A preferred stock and warrants ("Private Placement Financings"), since December 2014 we have had four closings of purchases of Series A preferred stock and warrants. In the aggregate, we have sold 1,125,770 shares of our Series A preferred stock at a purchase price of $5.45 per share for an aggregate purchase price of $6,135,451 and issued five-year warrants to purchase an aggregate of 142,689 shares of our Series A Preferred stock at an initial exercise price of $5.45 per share, pursuant to the Private Placement Financings. These amounts exclude 25,229 shares of Series A preferred stock sold to Oncology Venture in connection with our drug license and development agreement with Oncology Venture. In addition, these amounts exclude the shares of Series A preferred stock and warrants issued as part of the SAFE Financing and also exclude the shares of Series A preferred stock issued in connection with the Convertible Notes.

Each share of our Series A preferred stock will convert automatically into one share of our common stock immediately prior to the closing of this offering. In addition, each of the warrants to purchase shares of Series A preferred stock will be amended to represent a right to purchase a share of common stock at $5.45 per share. The warrants will be exercised immediately prior to the closing of this offering and will not be outstanding as of the closing of this offering. The following table summarizes purchases of our Series A preferred stock by related persons:

Stockholder	Shares of Series A Preferred Stock	Warrants Issued	Total Purchase Price
Bios Equity Entities[1]	837,156	100,458	$ 4,500,000[2]
Donald J. Keyser[3]	18,349	2,202	$ 100,000
GPGV Entities[4]	267,723	28,569	$ 1,136,040[5]

(1) Consists of shares of Series A preferred stock acquired and warrants issued to: Bios Fund I, LP, Bios Fund I QP, LP, Bios Fund II, LP, Bios Fund II QP, LP, and Bios Fund II NT, LP. The shares beneficially owned by Bios Equity Entities are aggregated for purposes of reporting share ownership information which represents more than 5% of our outstanding capital stock. Mr. Kreis was appointed as a director on our board of directors as the Series A preferred stock director designee.

(2) $4,250,000 of the purchase price was paid in cash, and $250,000 was paid in form of funding in the Safe Financing.

(3) Dr. Keyser is Chairman of our board of directors.

(4) The shares owned by GPG LPI Investment, LLC, Lantern 3-19 Investment, LLC and Health Wildcatters Fund II, LLC are aggregated for purposes of reporting share ownership information, which collectively represents more than 5% of our outstanding capital stock.

(5) $689,995 of the purchase price was paid in cash, $196,045 (including $19,345 of accrued interest at the time of conversion) was paid in connection with conversions of the Convertible Notes, and $250,000 was paid in the form of funding in the Safe Financing.

Policies and Procedures for Related Party Transactions

Following the completion of this offering, our audit committee will have the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed the lesser of $120,000 or 1% of the average of our total assets at year end for the last two completed fiscal years, and in which a related person has or will have a direct or indirect material interest. Upon completion of this offering, our policy regarding transactions between us and related persons will provide that a related person is defined as a director, executive officer, nominee for director or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year and any of their immediate family members. Our audit committee charter that will be in effect upon completion of this offering will provide that our audit committee will review and approve or disapprove any related party transactions.

In connection with the Private Placement Financings, we entered into the following agreements with holders of our common stock and holders of Series A preferred stock.

Amended and Restated Investors' Rights Agreement

We are party to the Amended and Restated Investors' Rights Agreement, or IRA, dated as of March 17, 2017, which provides, among other things, that certain holders of our capital stock, including (i) Dr. Asaithambi, our former chief executive officer, president and former director who beneficially holds more than 5% of our capital stock, (ii) Dr. Keyser, a member of our board of directors, (iii) BMI, an entity (a) in which Dr. Silberstein, our director, owns a minority interest and serves as a director, and (b) which holds more than 5% of our outstanding capital stock, (iv) GPGV Entities, which collectively hold more than 5% of our outstanding capital stock, and (v) Bios Equity Entities, which collectively hold more than 5% of our outstanding capital stock, are entitled to certain demand and "piggyback" registration rights. See the section titled "Description of Capital Stock—Registration Rights" for additional information regarding these registration rights. The provisions relating to the registration rights granted to certain parties will remain effective after the closing of the Offering.

Amended and Restated Right of First Refusal and Co-Sale Agreement

We are party to the Amended and Restated Right of First Refusal and Co-Sale Agreement dated March 17, 2017, ROFR Agreement, which provides, among other things, that certain holders of our capital stock, including (i) Dr. Asaithambi, our former chief executive officer, president and former director who beneficially holds more than 5% of our capital stock, (ii) Dr. Keyser, a member of our board of directors, (iii) BMI, an entity (a) in which Dr. Silberstein, our director, owns a minority interest and serves as a director and (b) which holds more than 5% of our outstanding capital stock, (iv) GPGV Entities, which collectively hold more than 5% of our outstanding capital stock, and (v) Bios Equity Entities, which collectively hold more than 5% of our outstanding capital stock, have rights of first refusal and co-sale with respect to certain sales of securities by our certain holders of our capital stock. Immediately prior to the closing of this offering, the ROFR Agreement will terminate and none of our stockholders will have any special rights regarding certain sale of securities by holders of our capital stock.

Amended and Restated Voting Agreement

We are party to the Amended and Restated Voting Agreement, or the Voting Agreement, dated as of March 17, 2017, as amended on February 26, 2019 and further amended on October 4, 2019 under which certain holders of our capital stock, including (i) Dr. Asaithambi, our former chief executive officer, president and former director who beneficially holds more than 5% of our capital stock, (ii) Dr. Keyser, a member of our board of directors, (iii) BMI, an entity (a) in which Dr. Silberstein, our director, owns a minority interest and serves as a director, and (b) which holds more than 5% of our outstanding capital stock, a(iv) GPGV Entities, which collectively hold more than 5% of our outstanding capital stock, and (v) Bios Equity Entities, which collectively hold more than 5% of our outstanding capital stock, have agreed to vote their shares of our capital stock on certain stock on certain matters, including with respect to the election of directors. Immediately prior to the completion of this offering, the Voting Agreement will terminate and none of our stockholders will have any special rights regarding the election or designation of members of our board of directors.

Acquisition of Tavocept® (LP-300) Rights from BioNumerik

In January 2018, we entered into an Assignment Agreement (the "Assignment Agreement") with BioNumerik Pharmaceuticals, Inc. ("BioNumerik"), pursuant to which we acquired rights to domestic and international patents, trademarks and related technology and data relating to LP-300 for human therapeutic treatment indications. Mr. Margrave, our Chief Financial Officer and Secretary, formerly served as the President, Chief Administrative Officer, General Counsel and Secretary of BioNumerik and has a minority ownership interest in BioNumerik. The Assignment Agreement replaced a License Agreement that was entered into between us and BioNumerik in May 2016. We made upfront payments totaling $25,000 in connection with entry into the Assignment Agreement.

If we commercializes LP-300 internally, will be required to pay to the BioNumerik-related payment recipients designated in the Assignment Agreement a percentage royalty in the low double digits of cumulative net revenue up to $100 million, with incremental increases in the percentage royalty for net cumulative revenue between $100 million and $250 million, $250 million and $500 million, $500 million and $1 billion, with a percentage royalty payment that could exceed $200 million for net cumulative revenue in excess of $1 billion. In addition, we have the right to first recover certain designated patent costs and development and regulatory costs before the payment of royalties described above

If we enter into a third party transaction for LP-300, we are required to paythe BioNumerik-related payment recipients 25% of any upfront, milestone, and royalty amounts received by us from the transaction, after first recovering specified direct costs incurred by us for the development of LP-300 that are not otherwise reimbursed from such third party transaction. In addition, the Assignment Agreement provides that we will use commercially diligent efforts to develop LP-300 and make specified regulatory filings and pay specified development and regulatory costs related to LP-300. The Assignment Agreement also provides that we will provide TriviumVet DAC ("TriviumVet") with (i) specified data and information generated by us with respect to LP-300, and (ii) an exclusive license to use specified LP-300-related patent rights, trademark rights and related intellectual property to support LP-300 development in non-human (animal) treatment indications. Under the Assignment Agreement, we are required to pay all patent costs on covered patents related to LP-300. Patent costs paid by us with respect to LP-300 related patents amounted to approximately $59,000 and $74,000 for the years ended December 31, 2018 and December 31, 2019, respectively. These patent costs are fully recoverable at the time of any net revenue from LP-300, with up to 50% of net revenue amounts to be applied towards repayment of patent costs until such costs are fully recovered. In addition to the recovery of patent costs, we have the right to recover the $25,000 upfront payments made in connection with entry into the Assignment Agreement, which payments are recoverable prior to making any royalty or third party transaction sharing payments. We also have the right to recover all previously incurred LP-300 development and regulatory costs, with up to mid-single digit percentage of net revenue amounts to be applied towards repayment of development and regulatory costs until such costs are fully recovered

In connection with his prior service to BioNumerik, our Chief Financial Officer, Mr. Margrave, has the right to share in up to 1.5% of any future amounts to be paid by us to the BioNumerik-related payment recipients pursuant to the terms of the Assignment Agreement. In addition, due to his previous share ownership in BioNumerik, Mr. Margrave has the right to receive approximately 0.01% of any amounts paid by us to BioNumerik-related payment recipients pursuant to their ownership of BioNumerik preferred stock; and approximately 3.4% of any amounts paid by us to BioNumerik-related payment recipients pursuant to their ownership of BioNumerik common stock. Payment of any such amounts would be subject to our rights to recover certain designated patent, development, regulatory and other costs as provided in the Assignment Agreement.

Biological Mimetics, Inc.-Services to provide Preclinical and Non-Clinical Studies

We have, from time to time, engaged BMI a holder of more than 5% of our outstanding capital stock, to perform certain preclinical and non-clinical services. We expensed approximately $23,000 to BMI during the year ended December 31, 2019 in exchange for the performance of such services, and approximately $10,000 during the year ended December 31, 2018. Our director, Dr. Silberstein, has been a director of BMI since 2016.

Agreements with Intuition Systems

We previously engaged Intuition Systems ("Intuition") to provide services relating to development of our technology infrastructure and artificial intelligence platform, cloud computing, and computational biology. The chief executive officer of Intuition is the brother of Arun Asaithambi, our former Chief Executive Officer, President and Director. We paid $39,085 to Intuition during the year ended December 31, 2018. No amounts were paid to Intuition during the 12 months ended December 31, 2019.

Policies and Procedures for Related Party Transactions

Following the completion of this offering, our audit committee will have the primary responsibility for reviewing and approving or disapproving "related party transactions," which are transactions between us and related persons in which the aggregate amount involved exceeds or may be expected to exceed the lesser of $120,000 or one percent of the average of our total assets at year end for the last two completed fiscal years, and in which a related person has or will have a direct or indirect material interest. Upon completion of this offering, our policy regarding transactions between us and related persons will provide that a related person is defined as a director, executive officer, nominee for director or greater than 5% beneficial owner of our common stock, in each case since the beginning of the most recently completed year and any of their immediate family members. Our audit committee charter that will be in effect upon completion of this offering will provide that our audit committee will review and approve or disapprove any related party transactions.

Transactions with Promoters

In addition to the transactions disclosed above, and the compensation arrangements, including employment, termination of employment and change in control arrangements discussed in the sections titled "Management" and "Executive Compensation" the Company has had the following transactions with the respective parties during the past five (5) fiscal years:

BMI

In November, 2013, BMI was issued 600,000 shares of our common stock in our initial formation and in consideration for nominal organizational and formation expenses and an understanding to provide financial support to us prior to our first round of financing. BMI was formed by Dr. Nara, our former director, Chief Operating Officer and Advisor, Dr. Gregory Tobin, our former Chief Scientific Officer, and Dr. Silberstein, our director. Drs. Nara, Tobin and Silberstein each serve as a director of BMI and own capital stock in BMI.

Dr. Peter Nara

Dr. Peter Nara previously served as our director until 2018. In addition, he served as our Chief Operating Officer and Advisor until 2018. In 2018, Dr. Nara received $26,040 for his services as Chief Operating Officer and Advisor. In addition, Dr. Nara received options to purchase 771 shares of common stock on May 8, 2019 at an exercise price of $1.79 in consideration for his services as a consultant.

Arun Asaithambi

Dr. Arun Asaithambi, who founded our company together with BMI in November 2013, was issued 400,000 shares of our common stock in our initial formation in consideration for nominal organizational and formation expenses and an understanding to provide financial support to us prior to our first round of financing. Dr. Asaithambi served as our Chief Executive Officer from our inception until July 2018, and as a director until August, 2019. On January 14, 2020, Dr. Asaithambi exercised options to purchase 29,000 shares of common stock in cash at an exercise price of $1.79 per share of common stock for an aggregate purchase price of $51,910.

DESCRIPTION OF CAPITAL STOCK

The following description of our capital stock and provisions of our certificate of incorporation and by-laws are summaries, are not intended to be complete and are qualified in their entirety by reference such certificate of incorporation and by-laws, copies of which have been filed as exhibits to our registration statement, of which this prospectus forms a part.

Immediately prior to the completion of this offering, our authorized capital stock consists of 15,000,0000 shares of common stock, par value $0.0001 per share, and 2,559,061 shares of preferred stock, par value $0.0001 per share, of which 1,559,061 shares have been designated as Series A preferred stock.

Based on 1,165,936 shares of common stock outstanding as of April 10, 2020, and after giving effect to the automatic conversion of all of our outstanding Series A preferred stock into an aggregate of 1,401,647 shares of common stock there will be 2,567,583 shares of common stock immediately prior to the closing.

Common Stock

We are authorized to issue up to 15,000,000 shares of common stock, par value $0.0001 per share. Each outstanding share of common stock entitles the holder thereof to one vote per share on all matters. Immediately prior to the close of this offering, there will be 2,567,583 shares of common stock issued and outstanding which includes the conversion of all of our Series A Preferred Stock into 1,401,647 shares of our common stock.

Voting Rights

Our common stock is entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and does not have cumulative voting rights.

Economic Rights

Except as otherwise expressly provided in our certificate of incorporation or required by applicable law, all shares of common stock will have the same rights and privileges and rank equally, share ratably, and be identical in all respects for all matters, including those described below.

Dividends

Subject to preferences that may be applicable to any then-outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our Board of Directors out of legally available funds.

Liquidation Rights

In the event of our liquidation, dissolution or winding-up, holders of our common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

No Preemptive or Similar Rights

The holders of our shares of common stock are not entitled to preemptive rights, and are not subject to conversion, redemption or sinking fund provisions. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Non-Assessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Preferred Stock

Upon the closing of this offering and the filing of our Amended and Restated Certificate of Incorporation, we may issue up to 1,000,000 shares of preferred stock, par value $0.0001 per share in one or more classes or series within a class pursuant to our certificate of incorporation over and above the 1,401,647 shares of our Series A preferred stock currently outstanding and the exercise of all 150,577 of our Series A Warrants into Series A preferred stock. Immediately prior to the closing of this offering, we intend to file an Amended and Restated Certificate of Incorporation with the State of Delaware eliminating the Series A preferred stock described below and as a result, we will be authorized to issue only 1,000,000 shares of preferred stock, par value $0.0001 per share which may be issued in the future in one or more classes or series within a class.

Series A Preferred Stock

We have designated 1,559,061 shares of preferred stock as Series A preferred stock, par value $0.0001 share, of which 1,401,647 shares are outstanding. The holders of a majority of the Series A preferred stock have agreed to convert all the outstanding shares of Series A preferred stock into 1,401,647 shares of common stock at the closing of the offering.

Each share of Series A preferred stock is entitled to receive dividends, when, as and if declared by the Board of Directors, at the rate per annum of 8.0% of the Series A Original Issue price of $5.45 per share. Each share of Series A preferred stock may be converted at the option of the holder thereof into shares of common stock by dividing the Series A Original Issue price by the Series A Conversion Price which is initially $5.45 and is subject to adjustment by certain events including the Company issuing additional shares of common stock or common stock equivalents subsequent to the Series A Original Issue Date. Each share of Series A preferred stock will be mandatorily converted into shares of common stock upon either (a) the closing of the sale of shares of common stock to the public at a price of at least $21.80 per share in a firm-commitment underwritten public offering resulting in at least $25million in gross proceeds to the Company or (b) the date holders of at least 75% of the outstanding shares of Series A preferred stock vote or consent to such conversion. In the event that the Company is liquidated, dissolved or wound-up, the holders of Series A preferred stock are entitled to receive, prior and in preference to any distribution of any of the assets of the Company to the holders of the common stock, an amount per share in cash or equivalent value in securities or other consideration equal to the Series A Original Issue price plus any declared but unpaid dividends. The holders of Series A preferred stock have voting rights and vote together with the common stock as a single class except as otherwise required by law. The holders of Series A preferred stock have the right to elect two directors. Subject to the completion of this public offering of common stock, the holders of Series A preferred stock have agreed to mandatorily convert their Series A preferred stock into common stock.

Other Preferred Stock

Other than the Series A preferred stock, there are no other shares of preferred stock issued and outstanding. Other preferred stock may be issued from time to time by the Board of Directors as shares of one or more classes or series. One of the effects of undesignated preferred stock may be to enable the Board of Directors to render more difficult or to discourage an attempt to obtain control of us by means of a tender offer, proxy contest, merger or otherwise, and thereby to protect the continuity of our management. The issuance of shares of preferred stock pursuant to the Board of Directors' authority described above may adversely affect the rights of holders of common stock. For example, preferred stock issued by us may rank prior to the common stock as to dividend rights, liquidation preference or both, may have full or limited voting rights and may be convertible into shares of common stock. Accordingly, the issuance of shares of preferred stock may discourage bids for the common stock at a premium or may otherwise adversely affect the market price of the common stock.

Stock Options

As of April 10, 2020, 295,323 shares of common stock were issuable upon the exercise of outstanding stock options, at a weighted-average exercise price of $1.79 per share.

Series A Warrants

As of April 10, 2020, we had outstanding warrants to purchase up to 150,577 shares of our Series A preferred stock, at an exercise price of $5.45 per share. The holders of a majority of the Series A Warrants have agreed to amend the warrants such that the warrants represent the right to purchase 150,577 shares of common stock with the same exercise price of $5.45 per share. Such amendments will become effective immediately prior to the closing of this offering.

Registration Rights

Pursuant to the Amended and Restated Investors' Rights Agreement dated March 17, 2017, after the completion of this offering, certain holders of 1,792,136 shares of our common stock, including shares of common stock issuable under outstanding options and warrants, or their transferees, will have the right to require us to register the offer and sale of their shares, or to include their shares in any registration statement we file, in each case as described below.

Demand Registration Rights

After the completion of this offering, the holders of up to 1,792,136 shares of our common stock, including shares of common stock issuable under outstanding options and warrants, will be entitled to certain demand registration rights. At any time beginning after 180 days following the date of effectiveness of the registration statement of which this prospectus forms a part, the holders of at least 50% of the shares having registration rights then outstanding can request that we file a registration statement to register the offer and sale of their shares. We are only obligated to effect up to two such registrations. Each such request for registration must cover securities the anticipated aggregate gross proceeds of which, before deducting underwriting discounts and expenses, is at least $25 million. These demand registration rights are subject to specified conditions and limitations, including the right of the underwriters to limit the number of shares included in any such registration under certain circumstances. If we determine that it would be materially detrimental to us and our stockholders to effect such a demand registration, we have the right to defer such registration, not more than twice in any 12 month period, for a period of up to 90 days.

Form S-3 Registration Rights

After the completion of this offering, the holders of up to 1,792,136 shares of our common stock will be entitled to certain Form S-3 registration rights. At any time after our initial public offering when we are eligible to file a registration statement on Form S-3, the holders of at least 30% of the shares having these rights then outstanding can request that we register the offer and sale of their shares of our common stock on a registration statement on Form S-3 so long as the request covers securities the anticipated aggregate public offering price of which is at least $25 million. These stockholders may make an unlimited number of requests for registration on a registration statement on Form S-3. However, we will not be required to effect a registration on Form S-3 if we have effected two such registrations within the 12 month period preceding the date of the request. These Form S-3 registration rights are subject to specified conditions and limitations, including the right of the underwriters to limit the number of shares included in any such registration under certain circumstances. Additionally, if we determine that it would be materially detrimental to us and our stockholders to effect such a demand registration, we have the right to defer such registration, not more than twice in any 12 month period, for a period of up to 90 days.

Piggyback Registration Rights

After the completion of this offering, the holders of up to 1,792,136 shares of our common stock will be entitled to certain "piggyback" registration rights. If we propose to register the offer and sale of shares of our common stock under the Securities Act, all holders of these shares then outstanding can request that we include their shares in such registration, subject to certain marketing and other limitations, including the right of the underwriters to limit the number of shares included in any such registration statement under certain circumstances. As a result, whenever we propose to file a registration statement under the Securities Act, other than with respect to (1)a registration related to any employee benefit plan or a corporate reorganization or other transaction covered by Rule 145 promulgated under the Securities Act, (2) a registration relating to the offer and sale of common stock issuable upon conversion of debt securities which are also being registered, (3) a registration on any registration form that does not permit secondary sales or (4) a registration pursuant to the demand or Form S-3 registration rights described in the preceding two paragraphs above, the holders of these shares are entitled to notice of the registration and have the right, subject to certain limitations, to include their shares in the registration.

Expenses of Registration

We will pay all expenses relating to any demand registrations, Form S-3 registrations and piggyback registrations, subject to specified exceptions.

Termination

The registration rights terminate upon the earliest of (1) March 17, 2022, (2) immediately prior to the closing of certain liquidation events set forth in the certificate of incorporation and (3) as to a given holder of registration rights, the date after the closing of this offering when such holder of registration rights can sell all of such holder's registrable securities during any ninety day period pursuant to Rule 144 promulgated under the Securities Act.

Waiver

In connection with this offering of common stock, the shareholders subject to the Amended and Restated Investors' Rights Agreement have agreed to waive their Demand Registration rights and Piggy Back Registration rights.

Anti-Takeover Provisions

Certain provisions of Delaware law, our certificate of incorporation and our bylaws, which are summarized below, may have the effect of delaying, deferring or discouraging another person from acquiring control of us. They are also designed, in part, to encourage persons seeking to acquire control of us to negotiate first with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with an unfriendly or unsolicited acquirer outweigh the disadvantages of discouraging a proposal to acquire us because negotiation of these proposals could result in an improvement of their terms.

Delaware Law

We are governed by the provisions of Section 203 of the Delaware General Corporation Law (Section 203). In general, Section 203 prohibits a public Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- the transaction was approved by the board of directors prior to the time that the stockholder became an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding shares owned by directors who are also officers of the corporation and shares owned by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- at or subsequent to the time the stockholder became an interested stockholder, the business combination was approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

In general, Section 203 defines a "business combination" to include mergers, asset sales, and other transactions resulting in financial benefit to a stockholder and an "interested stockholder" as a person who, together with affiliates and associates, owns, or, within three years, did own, 15% or more of the corporation's outstanding voting stock. These provisions may have the effect of delaying, deferring, or preventing changes in control of our company.

Certificate of Incorporation and By-law Provisions

Our certificate of incorporation and by-laws include a number of provisions that could deter hostile takeovers or delay or prevent changes in control of our board of directors or management team, including the following:

- **Board of Directors Vacancies**. Except as otherwise required by law and subject to (i) any rights of the holders of any series of Preferred Stock to elect directors under specified circumstances, and (ii) any rights of the holders of Series A preferred stock and common stock to elect directors, our certificate of incorporation and our by-laws authorize only our board of directors to fill vacant directorships, including newly created seats. In addition, the number of directors constituting our board of directors will be permitted to be set only by a resolution adopted by a majority vote of our entire board of directors. These provisions would prevent a stockholder from increasing the size of our board of directors and then gaining control of our board of directors by filling the resulting vacancies with its own nominees. This will make it more difficult to change the composition of our board of directors and will promote continuity of management.

- **Stockholder Action; Special Meeting of Stockholders**. Subject to the rights of the holders of any series of preferred stock and provided that we have registered our common stock under Section 12 of the Exchange Act, or we are required to file reports with the SEC under Section 15(d) of the Exchange Act, our certificate of incorporation provides that our stockholders may not take action by written consent, but may only take action at annual or special meetings of our stockholders. As a result, a holder controlling a majority of our capital stock would not be able to amend our certificate of incorporation, by-laws or remove directors without holding a meeting of our stockholders called in accordance with our by-laws. Our certificate of incorporation further provides that special meetings of our stockholders may be called only by (i) our board of directors or (ii) by the Secretary following receipt of one or more written demands to call a special meeting of the stockholders from stockholders of record who own, in the aggregate, at least 25% of the voting power of the then outstanding capital stock pursuant to the procedures set forth in the by-laws, thus prohibiting a stockholders representing less than 25% of voting power from calling a special meeting. These provisions might delay the ability of our stockholders to force consideration of a proposal or for stockholders controlling a majority of our capital stock to take any action, including the removal of directors.

- **Advance Notice Requirements for Stockholder Proposals and Director Nominations**. Our by-laws provide for advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders or to nominate candidates for election as directors at our annual meeting of stockholders. Our by-laws will also specify certain requirements regarding the form and content of a stockholder's notice. These provisions might preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders if the proper procedures are not followed. We expect that these provisions may also discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of our company.

- **No Cumulative Voting**. The Delaware General Corporation Law provides that stockholders are not entitled to cumulate votes in the election of directors unless a corporation's certificate of incorporation provides otherwise. Our certificate of incorporation does not provide for cumulative voting.

- **Issuance of Undesignated Preferred Stock**. Our board of directors will have the authority, without further action by the stockholders, to issue shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock would enable our board of directors to render more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest, or other means.

Exclusive Forum By-Laws Provision

Under Section 7.07 of our By-Laws, unless we consent to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) will be, to the fullest extent permitted by law, the sole and exclusive forum for: (a) any derivative action or proceeding brought on our behalf; any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us or to our stockholders; (b) any action asserting a claim against us arising pursuant to the DGCL or certificate of incorporation or our by-laws; or (c) or any action asserting a claim against us that is governed by the internal affairs doctrine.

The forum selection provision is intended to apply "to the fullest extent permitted by applicable law" to the above-specified types of actions and proceedings, including, to the extent permitted by the federal securities laws, to lawsuits asserting both the above-specified claims and federal securities claims. However, application of the forum selection provision may in some instances be limited by applicable law. Section 27 of the Exchange Act provides: "The district courts of the United States ... shall have exclusive jurisdiction of violations of [the Exchange Act] or the rules and regulations thereunder, and of all suits in equity and actions at law brought to enforce any liability or duty created by [the Exchange Act] or the rules and regulations thereunder." As a result, the forum selection provision will not apply to actions arising under the Exchange Act or the rules and regulations thereunder. It could apply, however, to a suit that falls within one or more of the categories enumerated in the exclusive forum provision and asserts claims under the Securities Act, inasmuch as Section 22 of the Securities Act, creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. There is uncertainty as to whether a court would enforce this provision with respect to claims under the Securities Act, and our stockholders cannot waive compliance with the federal securities laws and the rules and regulations thereunder.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Vstock Transfer, LLC.

SHARES ELIGIBLE FOR FUTURE SALE

Before the completion of this offering, there has been no public market for our common stock. Future sales of substantial amounts of our common stock, including shares issued on the exercise of outstanding options and warrants, in the public market after this offering, or the possibility of these sales or issuances occurring, could adversely affect the prevailing market price for our common stock or impair our ability to raise equity capital.

Based on our shares outstanding as of April 10, 2020 (assuming the automatic conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of common stock immediately prior to the closing of this offering), upon the completion of this offering, a total of [_____] shares of common stock will be outstanding. Of these shares, all of the common stock sold in this offering by us, plus any shares sold by us on exercise of the underwriter's option to purchase additional common stock, will be freely tradable in the public market without restriction or further registration under the Securities Act, unless these shares are held by "affiliates," as that term is defined in Rule 144 under the Securities Act.

The remaining shares of common stock will be, and shares of common stock subject to stock options will be on issuance, "restricted securities," as that term is defined in Rule 144 under the Securities Act. These restricted securities are eligible for public sale only if they are registered under the Securities Act or if they qualify for an exemption from registration under Rules 144 or 701 under the Securities Act, which are summarized below. Restricted securities may also be sold outside of the U.S. to non-U.S. persons in accordance with Rule 904 of Regulation S.

Subject to the lock-up agreements described below and the provisions of Rule 144 or Regulation S under the Securities Act, as well as our insider trading policy, these restricted securities will be available for sale in the public market after the date of this prospectus.

Rule 144

In general, under Rule 144 as currently in effect, once we have been subject to public company reporting requirements of Section 13 or Section 15(d) of the Exchange Act for at least 90 days, an eligible stockholder is entitled to sell such shares without complying with the manner of sale, volume limitation, or notice provisions of Rule 144, subject to compliance with the public information requirements of Rule 144. To be an eligible stockholder under Rule 144, such stockholder must not be deemed to have been one of our affiliates for purposes of the Securities Act at any time during the 90 days preceding a sale and must have beneficially owned the shares proposed to be sold for at least six months, including the holding period of any prior owner other than our affiliates. If such a person has beneficially owned the shares proposed to be sold for at least one year, including the holding period of any prior owner other than our affiliates, then such person is entitled to sell such shares without complying with any of the requirements of Rule 144, subject to the expiration of the lock-up agreements described below.

In general, under Rule 144, as currently in effect, our affiliates or persons selling shares on behalf of our affiliates are entitled to sell shares upon the expiration of the lock-up agreements described below. Beginning 90 days after the date of this prospectus and subject to any lock-up agreement, within any three-month period, such stockholders may sell a number of shares that does not exceed the greater of:

- 1% of the number of shares of common stock then outstanding, which will equal approximately [___] shares immediately after this offering, assuming no exercise of the underwriter's option to purchase additional shares of common stock from us; or
- the average weekly trading volume of our common stock on the [____] during the four calendar weeks preceding the filing of a notice on Form 144 with respect to such sale.

Sales under Rule 144 by our affiliates or persons selling shares on behalf of our affiliates are also subject to certain manner of sale provisions and notice requirements and to the availability of current public information about us.

Rule 701

Rule 701 generally allows a stockholder who was issued shares under a written compensatory plan or contract and who is not deemed to have been an affiliate of our company during the immediately preceding 90 days, to sell these shares in reliance on Rule 144, but without being required to comply with the public information, holding period, volume limitation, or notice provisions of Rule 144. Rule 701 also permits affiliates of our company to sell their Rule 701 shares under Rule 144 without complying with the holding period requirements of Rule 144. All holders of Rule 701 shares, however, are required by that rule to wait until 90 days after the date of this prospectus before selling those shares under Rule 701, subject to the expiration of the lock-up agreements described below.

Registration Rights

The holders of up to 1,792,136 shares of our common stock (assuming automatic conversion of all outstanding shares of our Series A preferred stock into 1,401,647 shares of common stock immediately prior to the closing of this offering), or their transferees, will be entitled to certain rights with respect to the registration of the offer and sale of those shares under the Securities Act. See the section titled "Description of Capital Stock-Registration Rights" for a description of these registration rights. If the offer and sale of these shares is registered, the shares will be freely tradable without restriction under the Securities Act, and a large number of shares may be sold into the public market.

Form S-8 Registration Statements

We intend to file one or more registration statements on Form S-8 under the Securities Act with the SEC to register the offer and sale of shares of our common stock that are issuable under our Amended and Restated 2018 Equity Incentive Plan. These registration statements will become effective immediately on filing with the SEC. Shares covered by these registration statements will then be eligible for sale in the public markets, subject to vesting restrictions, any applicable lock-up agreements described below, and Rule 144 limitations applicable to affiliates.

Lock-up Arrangements

Pursuant to "lock-up" agreements, we, our executive officers and directors, and certain stockholders, have agreed, without the prior written consent of the representative not to directly or indirectly, offer to sell, sell, pledge or otherwise transfer or dispose of any of shares of (or enter into any transaction or device that is designed to, or could be expected to, result in the transfer or disposition by any person at any time in the future of) our common stock, enter into any swap or other derivatives transaction that transfers to another, in whole or in part, any of the economic benefits or risks of ownership of shares of our common stock, make any demand for or exercise any right or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any shares of common stock or securities convertible into or exercisable or exchangeable for common stock or any other securities of ours or publicly disclose the intention to do any of the foregoing, subject to customary exceptions, for a period of six months after the date of this prospectus. The Underwriter may, in its sole discretion, release any of the securities subject to these lock-up agreements at any time.

UNDERWRITING

ThinkEquity, a division of Fordham Financial Management, Inc., is acting as representative of the underwriters. Subject to the terms and conditions of an underwriting agreement between us and the representative, we have agreed to sell to each underwriter named below, and each underwriter named below has severally agreed to purchase, at the public offering price less the underwriting discounts set forth on the cover page of this prospectus, the number of shares of common stock listed next to its name in the following table:

Underwriters	Number of Shares
ThinkEquity, a division of Fordham Financial Management, Inc.	
Dougherty & Company LLC	
Total	

The underwriting agreement provides that the obligations of the underwriters to pay for and accept delivery of the shares of common stock offered by this prospectus are subject to various conditions and representations and warranties, including the approval of certain legal matters by their counsel and other conditions specified in the underwriting agreement. The shares of common stock are offered by the underwriters, subject to prior sale, when, as and if issued to and accepted by them. The underwriters reserve the right to withdraw, cancel or modify the offer to the public and to reject orders in whole or in part. The underwriters are obligated to take and pay for all of the shares of common stock offered by this prospectus if any such shares of common stock are taken, other than those shares of common stock covered by the over-allotment option described below.

We have agreed to indemnify the underwriters against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect thereof.

Over-Allotment Option

We have granted a 45-day option to the representative of the underwriters to purchase up to [_____] additional shares of our common stock at a public offering price of $[____]per share, solely to cover over-allotments, if any. The underwriters may exercise this option for 45 days from the date of this prospectus solely to cover sales of shares of common stock by the underwriters in excess of the total number of shares of common stock set forth in the table above. If any of these additional shares are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

Discounts and Commissions

The underwriters propose initially to offer the shares of common stock to the public at the public offering price set forth on the cover page of this prospectus and to dealers at those prices less a concession not in excess of $[___] per share of common stock. If all of the shares of common stock offered by us are not sold at the public offering price, the underwriters may change the offering price and other selling terms by means of a supplement to this prospectus.

The following table shows the public offering price, underwriting discounts and commissions and proceeds before expenses to us. The information assumes either no exercise or full exercise of the over-allotment option we granted to the representative of the underwriters.

		Total	
	Per Share	Without Over-Allotment	With Over-Allotment
Public offering price	$	$	$
Underwriting discount (7%)	$	$	$
Proceeds, before expenses, to us	$	$	$

We have agreed to pay a non-accountable expense allowance to the representative of the underwriters equal to 1% of the gross proceeds received at the closing of the offering. The non-accountable expense allowance of 1% is not payable with respect to the shares sold upon exercise of the underwriters' over-allotment option. We have paid an expense deposit of $35,000 to the representative, which will be applied against the out-of-pocket accountable expenses that will be paid by us to the underwriters in connection with this offering, and will be reimbursed to us to the extent not actually incurred in compliance with FINRA Rule 5110(f)(2)(C).

We have also agreed to pay certain of the representative's expenses relating to the offering, including (a) filing fees associated with the review of the Offering by FINRA; (b) all fees and expenses relating to the listing of such public securities on the NASDAQ Capital Market, including any fees charges by The Depository Trust for new securities; (c) all fees, expenses and disbursements relating to background checks of the Company's officers and directors in an amount not to exceed $15,000 in the aggregate; (d) all fees, expenses and disbursements relating to the registration or qualification of the public securities under the "blue sky" securities laws of such states and other jurisdictions as the Representative may reasonably designate (including, without limitation, all filing and registration fees, it being agreed that if the Offering is commenced on the Exchange, the Company shall make a payment of $5,000 to such counsel at Closing, or if the Offering is commenced on the Over-the-Counter Bulletin Board, the Company shall make a payment of $15,000 to such counsel upon the commencement of "blue sky" work by such counsel and an additional $5,000 at Closing); (e) all fees, expenses and disbursements relating to the registration, qualification or exemption of the public securities under the securities laws of such foreign jurisdictions as the Representative may reasonably designate; (f) the costs associated with post-Closing advertising the Offering in the national editions of the Wall Street Journal and New York Times not to exceed $3,000; (g) the costs associated with bound volumes of the public offering materials as well as commemorative mementos and lucite tombstones, each of which the Company or its designee shall provide within a reasonable time after the Closing Date in such quantities as the Representative may reasonably request; (h) the fees and expenses of the Company's accountants; (i) fees and expenses of the Representative's legal counsel not to exceed $125,000; (j) a $29,500 cost associated with the Underwriter's use of Ipreo's book-building, prospectus tracking and compliance software for the Offering; (k) $10,000 for data services and communications expenses; and (l) up to $20,000 of the Underwriters' actual accountable "road show" expenses for the Offering.

Our total estimated expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding underwriting discounts, commissions and expenses, are approximately $[____].

Representative's Warrants

Upon closing of this offering, we have agreed to issue to the representative as compensation warrants to [_____] shares of common stock (4% of the aggregate number of shares of common stock sold in this offering), or the representative's warrants. The representative's warrants will be exercisable at a per share exercise price equal to 125% of the public offering price per share in this offering (excluding the over-allotment option). The representative's warrants are exercisable at any time and from time to time, in whole or in part, during the four and one half year period commencing 180 days from the effective date of the registration statement of which this prospectus is a part.

The representative's warrants have been deemed compensation by FINRA and are therefore subject to a 180-day lock-up pursuant to Rule 5110(g)(1) of FINRA. The representative (or permitted assignees under Rule 5110(g)(1)) will not sell, transfer, assign, pledge, or hypothecate these warrants or the securities underlying these warrants, nor will they engage in any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the warrants or the underlying securities for a period of 180 days from the effective date of the registration statement. In addition, the warrants provide for registration rights upon request, in certain cases. The demand registration right provided will not be greater than five years from the effective date of the registration statement in compliance with FINRA Rule 5110(f)(2)(G)(iv). The piggyback registration right provided will not be greater than seven years from the effective date of the registration statement in compliance with FINRA Rule 5110(f)(2)(G)(v). We will bear all fees and expenses attendant to registering the securities issuable on exercise of the warrants other than underwriting commissions incurred and payable by the holders. The exercise price and number of shares issuable upon exercise of the warrants may be adjusted in certain circumstances including in the event of a stock dividend or our recapitalization, reorganization, merger or consolidation. However, the warrant exercise price or underlying shares will not be adjusted for issuances of shares of common stock at a price below the warrant exercise price.

Lock-Up Agreements

Pursuant to "lock-up" agreements, we, our executive officers and directors, and certain stockholders, have agreed, without the prior written consent of the representative not to directly or indirectly, offer to sell, sell, pledge or otherwise transfer or dispose of any of shares of (or enter into any transaction or device that is designed to, or could be expected to, result in the transfer or disposition by any person at any time in the future of) our common stock, enter into any swap or other derivatives transaction that transfers to another, in whole or in part, any of the economic benefits or risks of ownership of shares of our common stock, make any demand for or exercise any right or cause to be filed a registration statement, including any amendments thereto, with respect to the registration of any shares of common stock or securities convertible into or exercisable or exchangeable for common stock or any other securities of ours or publicly disclose the intention to do any of the foregoing, subject to customary exceptions, for a period of six months after the date of this prospectus in the case of our directors, executive officers, the Company and any successor of the Company and certain stockholders.

Right of First Refusal

Until twelve months from the closing date of this offering, the representative will have an irrevocable right of first refusal, in its sole discretions, to act as sole investment banker, sole book-runner, and/or sole placement agent participation at the representative's sole discretion, for each and every future public and private equity and debt offering, including all equity linked financings on terms customary to the representative. The representative will have the sole right to determine whether or not any other broker-dealer will have the right to participate in any such offering and the economic terms of any such participation. The representative will not have more than one opportunity to waive or terminate the right of first refusal in consideration of any payment or fee.

Determination of offering price

The public offering price of the securities we are offering was negotiated between us and the underwriters. Factors considered in determining the public offering price of the shares include the history and prospects of the Company, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

Other

From time to time, certain of the underwriters and/or their affiliates may in the future provide, various investment banking and other financial services for us for which they may receive customary fees. In the course of their businesses, the underwriters and their affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the underwriters and their affiliates may at any time hold long or short positions in such securities or loans. Except for services provided in connection with this offering, no underwriter has provided any investment banking or other financial services to us during the 180-day period preceding the date of this prospectus and we do not expect to retain any underwriter to perform any investment banking or other financial services for at least 90 days after the date of this prospectus.

Price Stabilization, Short Positions and Penalty Bids

In connection with this offering, the underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of our common stock. Specifically, the underwriters may over-allot in connection with this offering by selling more shares than are set forth on the cover page of this prospectus. This creates a short position in our common stock for its own account. The short position may be either a covered short position or a naked short position. In a covered short position, the number of shares of common stock over-allotted by the underwriters is not greater than the number of shares of common stock that they may purchase in the over-allotment option. In a naked short position, the number of shares of common stock involved is greater than the number of shares common stock in the over-allotment option. To close out a short position, the underwriters may elect to exercise all or part of the over-allotment option. The underwriters may also elect to stabilize the price of our common stock or reduce any short position by bidding for, and purchasing, common stock in the open market.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter or dealer repays selling concessions allowed to it for distributing shares of common stock in this offering because the underwriter repurchases the shares of common stock in stabilizing or short covering transactions.

Finally, the underwriters may bid for, and purchase, shares of our common stock in market making transactions, including "passive" market making transactions as described below.

These activities may stabilize or maintain the market price of our common stock at a price that is higher than the price that might otherwise exist in the absence of these activities. The underwriters are not required to engage in these activities, and may discontinue any of these activities at any time without notice. These transactions may be effected on the national securities exchange on which our shares of common stock are traded, in the over-the-counter market, or otherwise.

Indemnification

We have agreed to indemnify the underwriters against liabilities relating to this offering arising under the Securities Act and the Exchange Act, liabilities arising from breaches of some or all of the representations and warranties contained in the underwriting agreement, and to contribute to payments that the underwriters may be required to make for these liabilities.

Electronic Distribution

This prospectus in electronic format may be made available on websites or through other online services maintained by one or more of the underwriters, or by their affiliates. Other than this prospectus in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or any underwriter in its capacity as underwriter, and should not be relied upon by investors.

Selling Restrictions

No action has been taken in any jurisdiction (except in the United States) that would permit a public offering of our common stock, or the possession, circulation or distribution of this prospectus or any other material relating to us or our common stock in any jurisdiction where action for that purpose is required. Accordingly, our common stock may not be offered or sold, directly or indirectly, and this prospectus or any other offering material or advertisements in connection with our common stock may be distributed or published, in or from any country or jurisdiction, except in compliance with any applicable rules and regulations of any such country or jurisdiction.

European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive, each a "Relevant Member State", with effect from and including the date on which the Prospectus Directive is implemented in that Relevant Member State, or the "Relevant Implementation Date", our securities will not be offered to the public in that Relevant Member State prior to the publication of a prospectus in relation to our securities that has been approved by the competent authority in that Relevant Member State or, where appropriate, approved in another Relevant Member State and notified to the competent authority in that Relevant Member State, all in accordance with the Prospectus Directive, except that, with effect from and including the Relevant Implementation Date, an offer of our securities may be made to the public in that Relevant Member State at any time:

- to any legal entity that is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the manager for any such offer; or
- in any other circumstances which do not require the publication by the issuer of a prospectus pursuant to Article 3(2) of the Prospectus Directive, provided that no such offer of the securities shall require the issuer or any underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer of securities to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and securities to be offered so as to enable an investor to decide to purchase or subscribe securities, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in each Relevant Member State and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

United Kingdom

In the United Kingdom, this document is being distributed only to, and is directed only at, and any offer subsequently made may only be directed at persons who are "qualified investors" (as defined in the Prospectus Directive) (i) who have professional experience in matters relating to investments falling within Article 19 (5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the Order), and/or (ii) who are high net worth companies (or persons to whom it may otherwise be lawfully communicated) falling within Article 49(2)(a) to (d) of the Order (all such persons together, the relevant persons). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. In the United Kingdom, any investment or investment activity to which this document relates is only available to, and will be engaged in with, relevant persons.

Canada

The offering of our common stock in Canada is being made on a private placement basis in reliance on exemptions from the prospectus requirements under the securities laws of each applicable Canadian province and territory where our common stock may be offered and sold, and therein may only be made with investors that are purchasing, or deemed to be purchasing, as principal and that qualify as both an "accredited investor" as such term is defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the *Securities Act* (Ontario) and as a "permitted client" as such term is defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations.* Any offer and sale of our common stock in any province or territory of Canada may only be made through a dealer that is properly registered under the securities legislation of the applicable province or territory wherein our common stock is offered and/or sold or, alternatively, where such registration is not required.

Any resale of our common stock by an investor resident in Canada must be made in accordance with applicable Canadian securities laws, which require resales to be made in accordance with an exemption from, or in a transaction not subject to, prospectus requirements under applicable Canadian securities laws. These resale restrictions may under certain circumstances apply to resales of the common stock outside of Canada.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 *Underwriting Conflicts* ("NI 33-105"), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Upon receipt of this prospectus, each Québec investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur québecois confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

LEGAL MATTERS

The validity of the shares of common stock offered hereby will be passed upon by Lewis Brisbois Bisgaard & Smith LLP, Los Angeles, California. Certain legal matters in connection with this offering will be passed upon for the underwriters by Blank Rome LLP, New York, New York.

EXPERTS

The consolidated balance sheet of Lantern Pharma Inc. and Subsidiary as of December 31, 2019 and 2018, and the related consolidated statements of operations, stockholders' equity (deficit), and cash flows for each of the years then ended, have been audited by EisnerAmper LLP, independent registered public accounting firm, as stated in their report which is included herein, which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern. Such financial statements have been incorporated herein in reliance on the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our common stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other documents are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

On the closing of this offering, we will be subject to the information reporting requirements of the Exchange Act, and we will file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information will be available for inspection and copying at the public reference room and website of the SEC referred to above.

We also maintain a website at www.lanternpharma.com. Information contained in, or accessible through, our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is only as an inactive textual reference.

LANTERN PHARMA INC.

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Lantern Pharma Inc. and Subsidiary

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Lantern Pharma Inc. and Subsidiary (the "Company") as of December 31, 2019 and 2018 and the related consolidated statements of operations, stockholders' equity (deficit), and cash flows for the each of the years then ended, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2019 and 2018 and the consolidated results of its operations and its cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Going Concern

The accompanying financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the financial statements, the Company has incurred, and it anticipates it will continue to incur, losses and generate negative operating cash flows and as such will require significant additional funds to continue its development activities. These factors raise substantial doubt about the Company's ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ EisnerAmper LLP

We have served as the Company's auditor since 2019.

EISNERAMPER LLP
lselin, New Jersey
April 16, 2020

Lantern Pharma Inc. and Subsidiary
Consolidated Balance Sheets

	December 31,	
	2019	**2018**
CURRENT ASSETS		
Cash	$ 1,232,030	$ 445,163
Prepaid expense	788	
Total current assets	1,232,818	445,163
Property and equipment, net	8,758	4,668
Deferred offering costs	191,000	-
TOTAL ASSETS	$ 1,432,576	$ 449,831
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 489,292	$ 116,629
SAFE Agreements	-	535,000
Total Current Liabilities	489,292	651,629
TOTAL LIABILITIES	489,292	651,629
COMMITMENTS AND CONTINGENCIES (NOTE 5)		
STOCKHOLDERS' EQUITY (DEFICIT)		
Series A Preferred Stock - Par Value (2,000,000 authorized; $.01 par value) (1,401,647 shares issued and outstanding at December 31, 2019; 743,076 shares issued and outstanding at December 31, 2018)	14,016	7,431
Common shares – Par Value (7,000,000 authorized; $.01 par value) (1,136,936 shares issued and outstanding at December 31, 2019 and 2018)	11,369	11,369
Additional paid-in capital	7,669,604	4,102,922
Accumulated deficit	(6,751,705)	(4,323,520)
Total stockholders' equity (deficit)	943,284	(201,798)
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY (DEFICIT)	$ 1,432,576	$ 449,831

See accompanying Notes to Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiary
Consolidated Statement of Operations

	For the Year Ended December 31,	
	2019	**2018**
Operating expenses:		
General and administrative	$ 1,475,000	$ 1,154,322
Research and development	953,185	572,095
Total operating expenses	2,428,185	1,726,417
NET LOSS	$ (2,428,185)	$ (1,726,417)
Net loss per share of common shares, basic and diluted	$ (2.14)	$ (1.56)
Weighted-average number of common shares outstanding, basic and diluted	1,136,936	1,107,405

See accompanying Notes to Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiary
Consolidated Statement of Stockholders' Equity (Deficit)

	Preferred Stock Number of Shares	Preferred Stock Amount	Common Stock Number of Shares	Common Stock Amount	Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance, January 1, 2018	743,076	$ 7,431	1,097,561	$ 10,976	$ 3,917,711	$ (2,597,103)	$ 1,339,015
Stock-based compensation	-	-	39,375	393	185,211	-	185,604
Net loss	-	-	-	-	-	(1,726,417)	(1,726,417)
Balance, December 31, 2018	743,076	$ 7,431	1,136,936	$ 11,369	$ 4,102,922	$ (4,323,520)	$ (201,798)
Preferred stock and warrants issued	658,571	6,585	-	-	3,448,922	-	3,455,507
Stock-based compensation	-	-	-	-	117,760	-	117,760
Net Loss	-	-	-	-	-	(2,428,185)	(2,428,185)
Balance, December 31, 2019	1,401,647	$ 14,016	1,136,936	$ 11,369	$ 7,669,604	$ (6,751,705)	$ 943,284

See accompanying Notes to Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiary
Consolidated Statements of Cash Flows

	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	$ (2,428,185)	$ (1,726,417)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	1,627	(2,544)
Stock based compensation	117,760	185,604
Changes in assets and liabilities:		
Accounts receivable	-	186,603
Prepaid expenses	(788)	15,000
Deferred offering costs	(191,000)	-
Accounts payable and accrued expenses	372,663	70,237
Net cash flows used in operating activities	(2,127,923)	(1,271,517)
INVESTING ACTIVITIES		
(Purchase) sale of property and equipment	(5,717)	5,337
Net cash flows (used in) provided by investing activities	(5,717)	5,337
FINANCING ACTIVITIES		
Proceeds from Series A preferred stock financing	2,920,507	-
Proceeds of SAFE agreements	-	535,000
Net cash flows provided by financing activities	2,920,507	535,000
CHANGE IN CASH FOR THE YEAR	786,867	(731,180)
CASH, BEGINNING OF YEAR	445,163	1,176,343
CASH, END OF YEAR	$ 1,232,030	$ 445,163
Non-cash financing activities		
Conversion of SAFE agreements to Series A preferred stock	$ 535,000	$ -

See accompanying Notes to Consolidated Financial Statements

NOTES TO FINANCIAL STATEMENTS

Note 1. Organization, Principal Activities, and Basis of Presentation

Lantern Pharma Inc., and Subsidiary (the "Company") is a clinical stage biotechnology company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from its targeted oncology therapies. The Company's portfolio of therapies consists of small molecules drug candidates that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that it is developing with the assistance of its A.I. platform and its biomarker driven approach. The Company's A.I. platform, known as RADR®, uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning. The Company's data-driven, genomically-targeted and biomarker-driven approach allows it to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates.

Lantern Pharma Inc. was incorporated under the laws of the state of Texas on November 7, 2013, and thereafter reincorporated in the state of Delaware on January 15, 2020. The Company's principal operations are located in Texas. The Company formed a wholly owned subsidiary, Lantern Pharma Limited, in the United Kingdom in July 2017.

Since inception, the Company has devoted substantially all its activity to advancing research and development, including efforts in connection with preclinical studies, clinical trials and development of its RADR platform. This includes research and development for three drug candidates in development in targeted areas identified with the assistance of the RADR platform:

- LP-100 (Irofulven), out-licensed to Oncology Venture, in phase II trial for the treatment of prostate cancer;
- LP-300 (Tavocept) in planning stages for phase II trial for the treatment of non-small cell lung cancer; and
- LP-184 in preclinical studies for treatment of solid tumors including prostate, ovarian, and liver cancers.

The accompanying consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and include all adjustments necessary for the fair presentation of the Company's financial position, results of operations, and cash flows for each period presented. Any reference in these notes to applicable guidance refers to Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB"). To date, the Company has operated its business as one segment. The Company's consolidated financial statements include the accounts of the Company and its wholly owned subsidiary, Lantern Pharma Limited. All intercompany balances and transactions have been eliminated in consolidation.

Note 2. Liquidity and Going Concern

The Company incurred a net loss of approximately $2,428,000 and $1,726,000 during the years ended December 31, 2019 and 2018, respectively. As of December 31, 2019, the Company had working capital of approximately $744,000 and as of December 31, 2018, the Company had a working capital deficiency of approximately $206,000. The Company has received funding in the form of periodic capital raises and also plans to apply for grant funding in the future to support its capital needs. The Company's ability to continue as a going concern is highly contingent on the ability to raise additional capital for ongoing research and development and clinical trials as the Company expects to continue incurring losses for the foreseeable future.

Management believes the Company has access to capital through private placements, corporate collaborations, and other potential equity funding transactions, as well as potential debt capital raises. The Company is currently evaluating these alternatives to fund its future operations. In December 2018, the Company raised $535,000 in funding through Simple Agreement for Future Equity (SAFE) Agreement transactions. In 2019, the Company raised approximately $3,455,000 through the sale of Series A preferred stock, of which $2,920,000 was paid in cash and $535,000 in the form of conversion pursuant to the SAFE financing agreements.

However, management cannot provide assurance that sufficient required additional funding will become available on commercially acceptable terms to continue the Company's ongoing and planned research and development and clinical trials. If unable to secure required additional funding, significant delays to the Company's continuing development that is critical to the future operations of the Company could occur. These conditions raise substantial doubt about the Company's ability to continue as a going concern. The accompanying consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Note 3. Summary of Significant Accounting Policies

Use of Estimates and Assumptions

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. The significant areas of estimation include determining deferred tax asset valuation allowance and the inputs in determining the fair value of equity-based awards and warrants issued. Actual results could differ from those estimates.

Risks and Uncertainties

The Company operates in an industry that is subject to intense competition, government regulation and rapid technological change. Operations are subject to significant risk and uncertainties including financial, operational, technological, regulatory, and other risks, including the potential risk of business failure.

Deferred Offering Costs

In conjunction with a possible initial public offering ("IPO"), costs incurred related to the IPO are capitalized as deferred equity issuance costs in other non-current assets until the IPO is completed or the potential IPO is abandoned. If the Company completes an IPO, these costs will be offset against proceeds received; or if the IPO does not occur, they will be expensed. Offering costs include direct and incremental costs related to the offering such as legal fees and related costs associated with the proposed IPO. The Company had no deferred offering costs as of December 31, 2018. As of December 31, 2019, the Company recorded deferred offering costs of $191,000.

Research and Development

Research and development costs are expensed as incurred. These expenses primarily consist of payroll, contractor expenses, supplies, and technical infrastructure on the cloud for the purposes of developing the Company's RADR platform and identifying, developing, and testing drug candidates. Development costs incurred by third parties are expensed as the work is performed. Costs to acquire technologies, including licenses, that are utilized in research and development and that have no alternative future use are expensed when incurred.

Cash and Cash Equivalents

Highly liquid investments with original maturities of three months or less when purchased are considered to be cash equivalents. Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and cash equivalents. The Company maintains cash and cash equivalents with high-credit quality financial institutions. At times, such amounts may exceed insured limits. The Company has not experienced any losses in such accounts.

Income Taxes

Deferred tax assets and liabilities are determined based on the differences between the financial reporting and tax basis of assets and liabilities using enacted tax rates which will be in effect when the differences reverse. The Company provides a full valuation allowance against net deferred tax assets unless, based upon the available evidence, it is more likely than not that the deferred tax asset will be realized.

Stock-based Compensation

Stock-based awards have been accounted for as required by ASC 718 "Compensation - Stock Compensation." Under ASC 718, awards are valued at fair value on the date of grant, and that fair value is recognized over the requisite service period.

Reclassification

Certain prior period information has been reclassified to conform to the current period presentation.

Note 4. New Accounting Pronouncements

New Accounting Pronouncements, Not Yet Adopted

Income Taxes

In December 2019, the FASB issued ASU 2019-12: Income Taxes (Topic 740) – Simplifying the Accounting for Income Taxes. This ASU simplifies accounting for income taxes by removing the exception to the incremental approach for intraperiod tax allocation when there is a loss from continuing operations and income or gain for other items, the exception to the requirement to recognize a deferred tax liability for equity method investments when a foreign subsidiary becomes an equity method investment, the exception to the ability not to recognize a deferred tax liability for a foreign subsidiary when a foreign equity method investment becomes a subsidiary, and the exception to the general methodology for calculating income taxes in an interim period when a year-to-date loss exceeds the anticipated loss for the year. This ASU also includes other requirements related to franchise tax, goodwill as part of a business combination, consolidations, changes in tax laws, and affordable housing projects. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, including interim periods within that fiscal year. Early adoption is permitted for periods in which financial statements have not yet been issued. The Company does not anticipate a material impact from the adoption of this new standard on its financial statements.

Recently Adopted Accounting Standards

Leases

In February 2016 the FASB issued ASU 2016-02: Leases. The ASU introduces a lessee model that results in most leases impacting the balance sheet. The ASU addresses other concerns related to the current lease model. Under ASU 2016-02, lessees will be required to recognize for all leases with terms longer than 12 months, at the commencement date of the lease, a lease liability, which is a lessee's obligation to make lease payments arising from a lease measured on a discounted basis, and a right-to-use (ROU) asset, which is an asset that represents the lessee's right to use or control the use of a specified asset for the lease term. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition.

In July 2018, the FASB issued ASU 2018-10 "Codification Improvements to Topic 842, Leases." This ASU affects narrow aspects of the guidance issued in the amendments in ASU 2016-02 including those regarding residual value guarantees, rate implicit in the lease, lessee reassessment of lease classification, lessor reassessment of lease term and purchase option, variable lease payments that depend on an index or a rate, investment tax credits, lease term and purchase option, transition guidance for amounts previously recognized in business combinations, certain transition adjustments, transition guidance for leases previously classified as capital leases under Topic 840, transition guidance for modifications to leases previously classified as direct financing or sales-type leases under Topic 840, transition guidance for sale and leaseback transactions, impairment of net investment in the lease, unguaranteed residual asset, effect of initial direct costs on rate implicit in the lease, and failed sale and leaseback transactions.

The Company adopted ASC 2018-10 Topic 842 effective January 1, 2019 and elected the short-term lease recognition exemption for all leases that qualify. For those leases that qualify, the Company will not recognize ROU assets or lease liabilities, and this includes not recognizing ROU assets or lease liabilities for existing short-term leases of those assets in transition. This practical expedient was elected to not separate lease and non-lease components for its office space leases. The Company does not expect a material impact from the adoption of this new standard on its financial statements as it does not have any leases that have terms of longer than 12 months.

Compensation – Stock Compensation

In June 2018, the FASB issued ASU 2018-07: Compensation – Stock Compensation (Topic 718): Improvements to Nonemployee Share-Based Payment Accounting. This ASU expands the scope of Topic 718 to include share-based payment transactions for acquiring goods and services from non-employees, and as a result, the accounting for share-based payments to non-employees will be substantially aligned. ASU 2018-07 is effective for fiscal years beginning after December 15, 2018, including interim periods within that fiscal year. Early adoption is permitted but no earlier than an entity's adoption date of Topic 606. The Company adopted ASU Topic 718 effective January 1, 2019. The adoption of this new accounting guidance did not have a material impact on the Company's consolidated financial statements and related footnote disclosures.

Note 5: Commitments and Contingencies

BioNumerik Pharmaceuticals.

In January 2018, the Company entered into an Assignment Agreement (the "Assignment Agreement") with BioNumerik Pharmaceuticals, Inc. ("BioNumerik"), pursuant to which the Company acquired rights to domestic and international patents, trademarks and related technology and data relating to LP-300 (Tavocept) for human therapeutic treatment indications. The Assignment Agreement replaced a License Agreement that was entered into between the Company and BioNumerik in May 2016. The Company made upfront payments totaling $25,000 in connection with entry into the Assignment Agreement.

In the event the Company develops and commercializes LP-300 internally, the Company is required to pay to the BioNumerik-related payment recipients designated in the Assignment Agreement a percentage royalty in the low double digits on cumulative net revenue up to $100 million, with incremental increases in the percentage royalty for net cumulative revenue between $100 million and $250 million, $250 million and $500 million, and $500 million and $1 billion, with a percentage royalty payment that could exceed $200 million for net cumulative revenue in excess of $1 billion. The Company has the right to first recover certain designated portions of patent costs and development and regulatory costs before the payment of royalties described above.

If the Company enters into a third party transaction for LP-300, the Company is required to pay the BioNumerik-related payment recipients a specified percentage of any upfront, milestone, and royalty amounts received by the Company from the transaction, after first recovering specified direct costs incurred by the Company for the development of LP-300 that are not otherwise reimbursed from such third party transaction.

In addition, the Assignment Agreement provides that the Company will use commercially diligent efforts to develop LP-300 and make specified regulatory filings and pay specified development and regulatory costs related to LP-300. The Assignment Agreement also provides that the Company will provide TriviumVet DAC ("TriviumVet") with (i) specified data and information generated by the Company with respect to LP-300, and (ii) an exclusive license to use specified LP-300-related patent rights, trademark rights and related intellectual property to support LP-300 development in non-human (animal) treatment indications.

The Company is also required to pay all patent costs on covered patents related to LP-300. Patent costs paid by the Company with respect to LP-300 related patents amounted to approximately $74,000 and $59,000 for the years ended December 31, 2019 and 2018, respectively, and are included in general and administrative expenses in the accompanying consolidated statement of operations. These patent costs are fully recoverable at the time of any net revenue from LP-300, with up to 50% of net revenue amounts to be applied towards repayment of patent costs until such costs are fully recovered.

In addition to the recovery of patent costs, the Company has the right to recover the $25,000 upfront payments made in connection with entry into the Assignment Agreement, which payments are recoverable prior to making any royalty or third party transaction sharing payments. The Company also has the right to recover previously incurred LP-300 development and regulatory costs, with up to a mid-single digit percentage of net revenue amounts to be applied towards repayment of development and regulatory costs until such costs are fully recovered.

There is approximately $11,000 payable to BioNumerik as of December 31, 2019 and 2018.

AF Chemicals.

In January 2015, the Company entered into a Technology License Agreement to exclusively license domestic and international patent rights from AF Chemicals, LLC ("AF Chemicals") for the treatment of cancer in humans for the compounds LP-100 (Irofulven) and LP-184. In February 2016, the Company and AF Chemicals entered into an Addendum providing for additions and amendments to the Technology License Agreement.

Pursuant to the Technology License Agreement and Addendum (collectively, the "AFC License Agreement") the Company is obligated to make annual licensing fee payments to AF Chemicals in the amount of $30,000 per year relating to LP-184. The Company paid $30,000 to AF Chemicals during each of the years ended December 31, 2019 and 2018 relating to LP-184. Such amounts are included in research and development expenses in the accompanying consolidated statement of operations. In addition, the Company is obligated to make milestone payments to AF Chemicals at the time of an Investigational New Drug Application ("IND") filing relating to LP-184 and also upon reaching additional specified milestones in connection with the development and potential marketing approval of LP-184 in the United States, specified countries in Europe, and other countries.

In the event of a sublicense of the LP-184 rights, the Company is obligated to pay AF Chemicals (a) a low double digit percentage of the gross income and fees received by the Company with respect to the United States in connection with such sublicense, and (b) a lower double digit percentage of the gross income and fees received by the Company with respect to Europe and Japan in connection with such sublicense.

The AFC License Agreement also provides that the Company will pay AF Chemicals a royalty of at least a very small single digit percentage of specified net sales of LP-184 and other analogs. In addition, the AFC License Agreement contains specified time requirements for the Company to file an IND, enroll patients in clinical trials, and file a potential NDA with respect to LP-184, with the ability for the Company to pay AF Chemicals additional amounts ranging up to $50,000 for each one, two, and three year extension to such development time requirements, with additional extensions beyond three years to be negotiated by the Company and AF Chemicals. The Company is also obligated to make annual licensing fee payments to AF Chemicals relating to LP-100 as described below under "Oncology Venture."

There is nothing accrued or payable to AF Chemicals as of December 31, 2019 and 2018.

Oncology Venture.

In May 2015, the Company licensed various rights to LP-100 to Oncology Venture pursuant to a Drug License and Development Agreement. In February 2016, the Company and Oncology Venture entered into an addendum and an amendment providing for additions and amendments to the Drug License and Development Agreement. In connection with the Drug License and Development Agreement, as amended (collectively, the "OV License and Development Agreement"), Oncology Venture agreed to directly pay to AF Chemicals on behalf of the Company amounts owed to AF Chemicals with respect to LP-100 under the AFC License Agreement. Amounts paid by Oncology Venture to AF Chemicals on behalf of the Company are then deducted from amounts owed by Oncology Venture to the Company.

The amounts owed to AF Chemicals with respect to LP-100 are in many ways similar to the amounts owed with respect to LP-184 as described above under "AF Chemicals". In the event any such amounts relating to LP-100 are not paid to AF Chemicals by Oncology Venture, the Company is obligated to pay such unpaid amounts. In addition to the payments to be made by Oncology Venture, the Company is obligated to make annual licensing fee payments to AF Chemicals in the amount of $30,000 per year relating to LP-100. The Company paid $30,000 to AF Chemicals during each of the years ended December 31, 2019 and 2018 relating to LP-100. Such amounts are included in research and development expenses in the accompanying consolidated statement of operations. There is nothing accrued or payable related to the OV License and Development Agreement as of December 31, 2019 and 2018.

EU Grant

In September 2018, Lantern Pharma Limited, a wholly owned subsidiary of Lantern Pharma Inc., was awarded a grant by the UK government in the form of state aid under the Commission Regulations (EU) No. 651/2014 of 17 June 2014 (the "General Block Exemption"), Article 25 Aid for research and development projects, state aid notification no. SA.40154. The grant was awarded to conduct research and development activities for the prostate cancer biomarker analysis of the LP-184 drug candidate. Following the Company's research and development activities in Northern Ireland, the grant will reimburse the Company 50% of its research and development expenses not exceeding GBP 24,215 of vouched and approved expenditures within specific categories. The grant contains some reporting and consent requirements. The grant will remain in force for a period of five years. No revenue has been recognized from this grant through December 31, 2019.

Operating Leases

The Company leased office space in Dallas, Texas under month-to-month lease arrangements during the years ended December 31, 2019 and 2018.

In August 2019, the Company entered into a leasing agreement for office space in New Jersey. Monthly rent is $2,106, plus electrical utilities and the lease expires on July 31, 2020.

Note 6. Shareholders' Equity

Preferred Stock

In March 2019, the Company sold 339,450 shares of Series A preferred stock for aggregate proceeds of approximately $1,850,000. The Company also issued 122,707 shares of Series A preferred stock in March 2019, in connection with the conversion of the Simple Agreement for Future Equity (SAFE) agreements. See Note 7. In connection with the sale and issuance of the Series A preferred stock in March 2019, the Company issued warrants to purchase an aggregate of 55,459 shares of Series A preferred stock at an initial exercise price of $5.45 per share.

In July 2019, the Company sold 196,414 shares of Series A preferred stock for aggregate proceeds of approximately $1,070,000. In connection with the issuance of the Series A preferred stock, the Company issued warrants to purchase an aggregate of 23,572 shares of Series A preferred stock at an initial exercise price of $5.45 per share.

As of December 31, 2019 and 2018, the Company had 2,000,000 authorized shares of preferred stock, of which 1,401,647 and 743,076 shares designated as Series A Preferred Stock (the "Series A Preferred Stock") were issued and outstanding, respectively. The holders of Series A Preferred Stock are entitled to receive dividends when, as and if declared by the Company's Board of Directors, payable in preference and priority to any declaration or payment of dividends on Common Stock. No dividends on any Series A Preferred Stock or Common Stock have been declared to date.

Each share of Series A Preferred Stock is convertible into one share of Common Stock, subject to adjustments for anti-dilution. In addition, the Series A Preferred Stock will automatically convert into Common Stock upon the closing of an initial public offering meeting certain specified conditions, and it will also convert into Common Stock in the event holders of at least 75% of the Series A Preferred Stock approve a mandatory conversion.

The holders of the Series A Preferred Stock, exclusively and as a separate class, have the right to elect two directors of the Company, and two directors of the Company have been elected by the holders of Series A Preferred Stock in accordance with such provision. The Series A Preferred Stock also has the right to vote together with holders of Common Stock on any matter presented to the shareholders of the Company for their action or consideration. In addition, the separate approval of a majority of the Series A Preferred Stock is also required in connection with specified Company activities and transactions, including a merger or consolidation of the Company, and the liquidation, dissolution or winding-up the business and affairs of the Company.

In the event of a voluntary or involuntary liquidation, dissolution or winding up of the Company or a deemed liquidation event, the holders of Series A Preferred Stock shall be entitled to be paid, out of the assets of the Company available for distribution, an amount equal to $5.45 per share, plus any dividends declared but unpaid thereon, before any payment is made to the holders of Common Stock. There were no dividends declared through December 31, 2019. The liquidation preference of the Series A Preferred Stock was approximately $7,639,000 and $4,050,000 at December 31, 2019 and 2018, respectively. If upon any liquidation, dissolution or winding up of the Company or deemed liquidation event, the assets of the Company available for distribution to its shareholders shall be insufficient to pay holders of Series A Preferred Stock the full amount to which they would otherwise be entitled, the holders of Series A Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full. All preferred stock is expected to be converted to common stock as part of the initial public offering.

Common Stock

The Company had 7,000,000 shares of Common Stock authorized and 1,136,936 shares of Common Stock issued and outstanding as of December 31, 2019 and 2018.

Options

On August 29, 2018, the Board of Directors of the Company adopted the Lantern Pharma Inc. 2018 Equity Incentive Plan, which was subsequently amended on December 17, 2018. The Lantern Pharma Inc. 2018 Equity Incentive Plan, as amended and restated, is referred to herein as the “Plan”. The Company reserved 756,138 shares of its common stock for issuance under the Plan. The Plan is designed to provide additional incentives to employees, directors and consultants to remain in the service of the Company as well as to encourage stock acquisition by members of these targeted groups, which in the opinion of the management will support the alignment of the interests of the members of these groups and stockholders. Options granted under the Plan are generally exercisable for up to 10 years from grant date. 367,632 shares remain available for future awards under the Plan at December 31, 2019, following the grant of options and the award of restricted stock grants through December 31, 2019. The Company recorded stock-based compensation of approximately $118,000 and $115,000 related to stock options during the years ended December 31, 2019 and 2018, respectively. This amount is included in general and administrative expenses in the accompanying consolidated statement of operations. Total remaining unrecognized compensation expense for non-vested options is $126,723 as of December 31, 2019, and is expected to be recognized over a weighted average period of 0.9 years. The weighted average remaining contractual term of outstanding options at December 31, 2019 is 7.47 years.

A summary of stock option activity under the Plan during the years ended December 31, 2019 and 2018 is presented below:

	Options Outstanding		Options Exercisable	
	Number of Shares	Weighted-Average Exercise Price	Number of Options	Weighted-Average Exercise Price
Outstanding December 31, 2017	-	-	-	-
Granted	361,527	$ 1.79	-	-
Exercised	-	-	-	-
Cancelled or expired	-	-	-	-
Outstanding December 31, 2018	361,527	$ 1.79	111,769	$ 1.79
Granted	771	$ 1.79	-	-
Exercised	-	-	-	-
Cancelled or expired	(13,167)	$ 1.79	-	-
Outstanding December 31, 2019	349,131	$ 1.79	226,099	$ 1.79

For 2019 and 2018, the fair value of each option granted was estimated using the Black-Scholes option-pricing model, using the following weighted average assumptions:

	2019	2018
Term (in years)	5.94	5.94
Risk Free Rate	2.79%	2.79%
Volatility	60.1%	60.1%
Dividend Yield	0.0%	0.0%
Grant Date Fair Value	$ 1.03	$ 1.03

The fair value of options is recognized as an expense over the vesting period and forfeitures are accounted for as they occur.

The intrinsic value of outstanding options at both December 31, 2019 and 2018 was $0.

Expected Term - The Company used a weighted average of time to vesting and maturity date.

Expected Volatility- Due to the Company's limited operating history and a lack of company-specific historical and implied volatility data, the Company has based its estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded commensurate with expected term as of grant date. The historical volatility data was computed using the daily closing prices for the selected comparable companies' shares.

Risk-Free Interest Rate- The Company used the U.S. treasury bill rate commensurate with the expected term as of grant date.

Expected Dividend- As the Company has not issued any dividends and does not expect to issue dividends over the life of the options, the Company has estimated the dividend yield to be zero.

Restricted Stock Award

In September 2018, the Company granted a restricted stock award under the Plan for 39,375 shares, which vested immediately upon grant. The Company recorded stock-based compensation of approximately $70,000 related to restricted stock during the year ended December 31, 2018. This amount is included in general and administrative expenses in the accompanying consolidated statement of operations. No restricted stock awards were granted during the year ended December 31, 2019.

Warrants

The Company had warrants to purchase 78,383 shares of Series A Preferred Stock outstanding and exercisable as of December 31, 2018 at an exercise price of $5.45 per share.

In 2019, warrants to purchase an aggregate of 22,788 shares of Series A Preferred Stock were modified to become warrants to purchase an aggregate of 15,951 shares of Series A Preferred Stock. As part of the modification, the term of these warrants was extended from .02 to 1.02 years.

The fair value of the modified warrants was approximately $21,000 and is recorded in additional paid in capital.

In connection with the Series A Preferred Stock financing transactions discussed above, in 2019 the Company issued warrants to purchase an aggregate of 79,031 shares of Series A Preferred Stock. The Company has warrants to purchase an aggregate of 150,577 shares of Series A Preferred Stock outstanding and exercisable as of December 31, 2019 at an exercise price of $5.45 per share.

Note 7. SAFE Agreements

In December 2018, the Company entered into Simple Agreement for Future Equity (SAFE) agreements (the "SAFE Financing") with five investors pursuant to which the Company received funding of $535,000 in exchange for agreement to issue the investors shares of preferred stock upon occurrence of a subsequent financing of preferred stock.

The number of shares to be received by the SAFE agreement investors was based on 80% of the pricing in the triggering equity financing. In a liquidity or dissolution event, the investors' right to receive cash out was junior to payment of outstanding indebtedness and creditor claims, on par for other SAFEs and preferred stock, and senior to common stock. The SAFE agreements had no interest rate or maturity date, and the SAFE investors had no voting right prior to conversion.

As of December 31, 2018, the Company had received $535,000 of proceeds related to the SAFE agreements. The SAFE agreements had not yet converted as a qualifying financing had not yet occurred as of December 31, 2018. Pursuant to the guidance under ASC 480, the Company determined that the Purchase Amount (a term defined in the SAFE agreements denoting the amount in exchange for which an investor received the rights to receive the shares) should be recorded as a liability on the Company's balance sheet. Due to a short period where the Company expected these to be converted, the Company recorded the entire amount of $535,000 as a short-term liability. The SAFE agreements were converted to equity in March 2019 and the Company issued 122,707 shares of Series A Preferred Stock in full satisfaction of these agreements.

Note 8. Related Party Transactions

The Company has obtained preclinical services from Biological Mimetics, Inc., which is also a stockholder in the Company. The Company recorded expenses of approximately $23,000 related to Biological Mimetics, Inc. during the year ended December 31, 2019, all of which is included in research and development. Approximately $2,000 was owed to Biological Mimetics, Inc. at December 31, 2019, all of which is included in research and development. Amounts expensed to Biological Mimetics, Inc. in 2018 totaled approximately $10,000, all of which is included in research and development. Approximately $10,000 is included in accounts payable and accrued expenses relating to Biological Mimetics, Inc. at December 31, 2018 in the accompanying consolidated balance sheet.

The Company has previously engaged Intuition Systems ("Intuition") to provide services relating to development of the Company's technology infrastructure and artificial intelligence platform, cloud computing, and computational biology. The chief executive officer of Intuition is the brother of Arun Asaithambi, the Company's former Chief Executive Officer, President and Director. The Company expensed approximately $43,000 to Intuition during the year ended December 31, 2018, which is included in research and development expenses in the accompanying consolidated statement of operations. At December 31, 2018 and 2019, approximately $9,000 remained unpaid relating to Intuition and is included in accounts payable and accrued expenses in the accompanying consolidated balance sheet.

In January 2018, the Company entered into an Assignment Agreement (the "Assignment Agreement") with BioNumerik Pharmaceuticals, Inc. ("BioNumerik"), pursuant to which the Company acquired rights to domestic and international patents, trademarks and related technology and data relating to LP-300 for human therapeutic treatment indications. Mr. Margrave, the Company's Chief Financial Officer and Secretary, formerly served as the President, Chief Administrative Officer, General Counsel and Secretary of BioNumerik and has a minority ownership interest in BioNumerik. The Company expensed less than $1,000 related to BioNumerik during the year ended December 31, 2019, which amount is included in general and administrative expenses in the accompanying consolidated statement of operations. The Company expensed approximately $82,000 related to BioNumerik during the year ended December 31, 2018, $25,000 of which was an assignment fee included in research and development expense, and $57,000 of which was patent related costs & reimbursements included in general and administrative expense. Amounts payable to BioNumerik as of December 31, 2019 and December 31, 2018 totaled approximately $11,000.

Note 9. Loss Per Share of Common Shares

Basic loss per share is derived by dividing net loss applicable to common stockholders by the weighted average number of shares of common stock outstanding during each period. Diluted loss per share includes the effect, if any, from the potential exercise or conversion of securities, such as warrants, and stock options, which would result in the issuance of incremental shares of common stock unless such effect is anti-dilutive. In calculating the basic and diluted net loss per share applicable to common stockholders, the weighted average number of shares remained the same for both calculations due to the fact that when a net loss exists, dilutive shares are not included in the calculation. Potentially dilutive securities outstanding that have been excluded from diluted loss per share due to being anti-dilutive include the following:

	For the year ended December 31,	
	2019	**2018**
Warrants	150,577	78,383
Stock options	349,131	361,527
Series A preferred stock	1,401,647	743,076
	1,901,355	1,182,986

Note 10. Income Taxes

Our effective tax rate differs from the statutory federal tax rate as presented in the following table:

	2019	**2018**
U.S. federal statutory tax rate	21%	21%
Permanent differences	(1)%	(1)%
Valuation allowance	(20)%	(20)%
Total:	-%	-%

As of December 31, 2019 and 2018, the Company was domiciled in Texas, and due to the losses generated and no revenues, it incurred no federal or state tax.

The tax effect of the temporary differences that give rise to the significant portions of the deferred tax assets and liabilities is presented below.

	December 31,	
	2019	2018
Depreciation	$ 502	$ 161
Research and development credits	93,102	54,619
Stock-based compensation	24,695	14,280
Net operating loss carryforwards	1,366,040	881,450
Deferred tax asset	1,484,340	950,510
Less: valuation allowance	(1,484,340)	(950,510)
Net deferred tax asset	$ -	$ -

Due to a history of losses we have generated since inception, we believe it is more-likely-than-not that all of the deferred tax assets will not be realized as of December 31, 2019 and 2018. Therefore, we have recorded a full valuation allowance on our deferred tax assets. At December 31, 2019 and 2018, we have net operating loss ("NOL") carryforwards for federal income tax purposes of approximately $6.5 million and $4.1 million, respectively. The NOL carryforwards generated prior to 2018 of $2.5 million expire in various years beginning in 2035. The NOL carryforwards generated in 2018 and 2019 of $4.0 million do not expire and are carried forward indefinitely. NOL carryforwards generated in subsequent years will not expire. The Company also has approximately $93,000 of research and development tax credit carryforwards for federal purposes. These credits begin expiring in 2034. Due to the change in ownership provisions of the Internal Revenue Code, the availability of the Company's NOL carryforwards may be subject to annual limitations under Section 382 of the Internal Revenue Code against taxable income in the future period, which could substantially limit the eventual utilization of such carryforwards.

Entities are also required to evaluate, measure, recognize and disclose any uncertain income tax provisions taken on their income tax returns. The Company has analyzed its tax positions and has concluded that as of December 31, 2019, there were no uncertain positions. The Company's U.S. federal operating losses have occurred since its inception and as such, tax years subject to potential tax examination could apply from that date because the utilization of net operating losses from prior years opens the relevant year to audit by the IRS and/or state taxing authorities.

[_____] Shares of Common Stock

Lantern Pharma Inc.

PROSPECTUS

ThinkEquity
a division of Fordham Financial Management, Inc.

Dougherty & Company LLC

, 2020

Through and including [____], 2020 (the 25th day after the date of this offering), all dealers effecting transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This is in addition to a dealer's obligation to deliver a prospectus when acting as an underwriter and with respect to an unsold allotment or subscription.

PART II - INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The estimated expenses payable by us in connection with the offering described in this registration statement will be as follows. With the exception of the filing fees for the Securities Exchange Commission and the FINRA filing fee, all amounts are estimates.

SEC registration fee	$ 3,731.75
FINRA filing fee	
NASDAQ Capital Market listing fee	
Legal fees and expenses	
Accounting fees and expenses	
Miscellaneous expenses	
Total	

Item 14. Indemnification of Directors and Officers

The Company's certificate of incorporation and by-laws provides that the Company's directors and officers will be indemnified by us to the fullest extent permitted by the Delaware law against all expenses incurred in connection with their service for or on behalf of the Company.

In addition, the Company's certificate of incorporation provides that the personal liability of the Company's directors and officers for monetary damages will be eliminated to the fullest extent permitted by Delaware law.

The Company intends to enter into indemnification agreements with the members of the Company's board of directors and officers, each an "indemnitee." Each indemnification agreement will require the Company to indemnify each indemnitee as described above. The Company also, among other things, intends to agree to advance costs and expenses subject to the condition that an indemnitee will reimburse the indemnitor for all amounts paid if a final judicial determination is made that the indemnitee is not entitled to be so indemnified under applicable law.

The indemnification provisions in the Company's certificate of incorporation and by-laws and the indemnification agreements may be sufficiently broad to permit indemnification of the Company's directors and officers for liabilities (including reimbursement of expenses incurred) arising under the Securities Act.

The Company also intends to procure directors' and officers' liability insurance effective upon the closing of this offering.

Item 15. Recent Sales of Unregistered Securities

Simple Agreement for Future Equity

In December 2018, we entered into Simple Agreement for Future Equity agreements (the "SAFE Financing") with five accredited investors ("SAFE Investors") pursuant to which we obtained funding for $535,000 in exchange for our agreement to issue the investors shares of preferred stock upon occurrence of a subsequent financing of preferred stock. In connection with the Series A preferred stock and Warrant Financings in March 2019, we issued 122,707 shares of Series A preferred stock and warrants to purchase 14,725 shares of Series A preferred stock to the Safe Investors pursuant to the Simple Agreement for Future Equity agreements entered into as part of the SAFE Financing.

Series A Preferred Stock and Warrant Financings

In connection with our offer and sale of shares of Series A preferred stock and warrants to purchase shares of Series A preferred stock, we have conducted three closings since January 1, 2017.

In March 2017, we sold 463,302 shares of Series A preferred stock to three accredited investors at a purchase price of $5.45 for aggregate cash proceeds of $2,525,000.

In March 2019, we sold 462,157 shares of Series A preferred stock for aggregate proceeds of approximately $2,385,000 to five accredited investors, of which $1,850,000 was paid in cash and $535,000 in the form of conversion pursuant to the SAFE Financing. In connection with the issuance of the Series A preferred stock in March 2019, we issued warrants to purchase an aggregate of 55,459 shares of Series A preferred stock at an initial exercise price of $5.45 per share.

In July 2019, we sold 196,414 shares of Series A preferred stock for aggregate proceeds of approximately $1,070,460 to ten accredited investors. In connection with the issuance of the Series A preferred stock, we issued warrants to purchase an aggregate of 23,572 shares of Series A preferred stock at an initial exercise price of $5.45 per share.

Conversion of Convertible Promissory Note

In March 2017, we issued an aggregate of 127,941 shares of Series A preferred stock at a conversion price of $2.34 per share to eleven accredited investors in connection with the conversion of outstanding convertible promissory notes previously issued by us in 2014 and 2015.

Options

In 2018, we granted options to purchase a total of 361,527 shares of common stock to eight option recipients in connection with services to the Company. In 2019, we granted options to purchase a total of 771 shares of common stock to one option recipient in connection with services to the Company. As of December 31, 2019, there were options to purchase 349,131 shares of common stock outstanding. The exercise price of the options is $1.79 per share. On January 14, 2020, Dr. Asaithambi exercised his options to purchase 29,000 shares of common stock in cash at an exercise price of $1.79 per share of common stock for an aggregate purchase price of $51,910.

None of the foregoing transactions involved any underwriters, underwriting discounts or commissions, or any public offering. We believe the offers, sales and issuances of the above securities were exempt from registration under the Securities Act (or Regulation D promulgated thereunder) by virtue of Section 4(a)(2) of the Securities Act because the issuance of securities to the recipients did not involve a public offering. The recipients of the securities in each of these transactions represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof, and appropriate legends were placed upon the stock certificates issued in these transactions. The sales of these securities were made without any general solicitation or advertising.

Item 16. Exhibits and Financial Statement Schedules

(a) Exhibits

The following exhibits are filed herewith or incorporated by reference in this prospectus:

Exhibit No.	Description
1.1*	Form of Underwriting Agreement
3.1.(i)	Certificate of Conversion (Texas)
3.1.(ii)	Certificate of Conversion (Delaware)
3.1.(iii)	Certificate of Incorporation
3.1.(iv)	By-laws
4.1.(i)	Form of Warrant (2014)
4.1.(ii)	Form of Warrant (2017)
4.1.(iii)	Form of Warrant (2019)
4.1.(iv)*	Amendment to Form of Warrants
4.2*	Specimen Stock Certificate evidencing shares of common stock
5.1*	Opinion of Lewis Brisbois Bisgaard & Smith, LLP
10.1+	Amended and Restated 2018 Equity Incentive Plan
10.2+	Employment Agreement dated July 23, 2018 with Panna Sharma
10.3+	Form of Indemnification Agreement
10.4	Amended and Restated Investors' Rights Agreement
10.5	Amended and Restated Right of First Refusal and Co-Sale Agreement
10.6	Amended and Restated Voting Agreement
10.7#	Technology License Agreement dated January 15, 2015, with AF Chemicals, LLC
10.8#	Drug License and Development Agreement dated as of May 23, 2015 with Oncology Venture A/S
10.9#	Addendum to Drug License and Development Agreement with Oncology Venture A/S dated February 8, 2016
10.10#	Amendment No. 2 to Drug License and Development Agreement with Oncology Venture A/S dated February 11, 2016
10.11#	Assignment Agreement dated as of January 5, 2018 with BioNumerik Pharmaceuticals, Inc.
10.12#	Addendum to Technology License Agreement dated February 8, 2016, with AF Chemicals, LLC
10.13*	Form of Lock-Up Agreement
14.1	Code of Business Conduct and Ethics
21.1	List of Subsidiary
23.1	Consent of EisnerAmper LLP, independent registered public accounting firm
23.2*	Consent of Lewis Brisbois Bisgaard & Smith, LLP (included in Exhibit 5.1)
24.1	Power of Attorney (included on the signature page).

* To be filed by Amendment.

\+ Indicates a management control or any compensatory plan, contract or arrangement.

\# Certain confidential portions of this Exhibit were omitted by means of marking such portions with an asterisk (the Mark) because the identified confidential portions (i) are not material and (ii) would be competitively harmful if publicly disclosed.

(b) Financial Statement Schedules

All financial statement schedules are omitted because the information called for is not required or is shown either in the consolidated financial statements or in the notes thereto.

Item 17. Undertakings

The undersigned Registrant hereby undertakes to provide to the underwriters at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriters to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant, the Registrant has been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registration of expenses incurred or paid by a director, officer or controlling person to the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question of whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

(1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Dallas, State of Texas, on April 16, 2020.

Lantern Pharma Inc.

By: /s/ Panna Sharma
Panna Sharma
Chief Executive Officer
(Principal Executive Officer)

By: /s/ David R. Margrave
David R. Margrave
Chief Financial Officer
(Principal Financial and Principal Accounting Officer)

Known All Persons By These Presents, that each person whose signature appears below appoints Panna Sharma or David R. Margrave as his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and in his or her name, place and stead, to sign any amendment (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he may do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or any of them, or of his substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Name	Title	Date
/s/ Panna Sharma Panna Sharma	Chief Executive Officer, and President *(Principal Executive Officer)*	April 16, 2020
/s/ David R. Margrave David R. Margrave	Chief Financial Officer (*Principal Financial and Principal Accounting Officer*)	April 16, 2020
/s/ Leslie W. Kreis, Jr. Leslie W. Kreis, Jr.	Director	April 16, 2020
/s/ Donald J. Keyser Donald J. Keyser	Chairman of the Board	April 16, 2020
/s/ David S. Silberstein David S. Silberstein	Director	April 16, 2020
/s/ Vijay Chandru Vijay Chandru	Director	April 16, 2020
/s/ Franklyn Prendergast Franklyn Prendergast	Director	April 16, 2020

Exhibit 3.1(i)

Corporations Section
P.O.Box 13697
Austin, Texas 78711-3697

Ruth R. Hughs
Secretary of State

Office of the Secretary of State

CERTIFICATE OF CONVERSION

The undersigned, as Secretary of State of Texas, hereby certifies that a filing instrument for

Lantern Pharma Inc
File Number: 801879299

Converting it to

Lantern Pharma Inc.
File Number: [Entity not of Record, Filing Number Not Available]

has been received in this office and has been found to conform to law. ACCORDINGLY, the undersigned, as Secretary of State, and by virtue of the authority vested in the secretary by law, hereby issues this certificate evidencing the acceptance and filing of the conversion on the date shown below.

Dated: 01/15/2020

Effective: 01/15/2020

/s/ Ruth R. Hughs
Ruth R. Hughs
Secretary of State

FILED
In the office the
Secretary of State of Texas

JAN 15 2020

Corporations Section

State of Texas
Certificate of Conversion of a
Texas Corporation Converting
to a Delaware Corporation

Converting Entity Information:

The name of the converting Texas corporation (the "converting entity") is Lantern Pharma Inc.

The jurisdiction of formation of the converting entity is Texas.

The date of formation of the converting entity is: November 7, 2013.

The file number issued to the converting entity by the Secretary of State is: 801879299.

Converted Entity Information:

The converting entity named above is converting to a Delaware corporation.

The jurisdiction of formation of the converted corporation (the "converted entity") is Delaware.

The name of the converted entity is Lantern Pharma Inc.

Statements Regarding Plan of Conversion:

In lieu of providing the plan of conversion, the converting entity certifies to the following statements:

A signed plan of conversion is on file at the principal place of business of the converting entity. The address of the principal place of business of the converting entity is: 1920 McKinney Ave, 7th floor, Dallas, TX 75201.

A signed plan of conversion will be on file after the conversion at the principal place of business of the converted entity. The address of the principal place of business of the converted entity is: 1920 McKinney Ave, 7th floor, Dallas, TX 75201.

A copy of the plan of conversion will be furnished on written request without cost by the converting entity before the conversion or by the converted entity after the conversion to any owner or member of the converting entity or the converted entity.

Approval of the Plan of Conversion:

The plan of conversion has been approved as required by the laws of the jurisdiction of formation and the governing documents of the converting entity.

Effectiveness of Filing:

This document becomes effective when the document is accepted and filed by the Secretary of State.

Tax Certificate:

In lieu of providing a tax certificate certifying that the converting entity is in good standing for purposes of conversion, Lantern Pharma Inc., a Delaware corporation, as the converted entity is liable for the payment of any required franchise taxes.

Execution:

The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument. The undersigned certifies that the statements contained herein are true and correct, and that the person signing is authorized under the provisions of the Business Organizations Code to execute the filing instrument.

Date: January 14, 2020

By: /s/ Panna Sharma
Name: Panna Sharma
Title: President & Chief Executive Officer

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF CONVERSION OF A TEXAS CORPORATION UNDER THE NAME OF "LANTERN PHARMA INC." TO A DELAWARE CORPORATION, FILED IN THIS OFFICE ON THE FIFTEENTH DAY OF JANUARY, A.D. 2020, AT 10:38 O`CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

Jeffrey W. Bullock, Secretary of State

7801204 8100F
SR# 20200291615

Authentication: 202196073
Date: 01-15-20

You may verify this certificate online at corp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:38 AM 01/15/2020
FILED 10:38 AM 01/15/2020
SR 20200291615 - File Number 7801204

STATE OF DELAWARE
CERTIFICATE OF CONVERSION
FROM A NON-DELAWARE CORPORATION
TO A DELAWARE CORPORATION
PURSUANT TO SECTION 265 OF THE
DELAWARE GENERAL CORPORATION LAW

1.) The jurisdiction where the Non-Delaware Corporation first formed is Texas.

2.) The jurisdiction immediately prior to filing this Certificate is Texas.

3.) The date the Non-Delaware Corporation first formed is November 7, 2013.

4.) The name of the Non-Delaware Corporation immediately prior to filing this Certificate is Lantern Pharma Inc.

5.) The name of the Corporation as set forth in the Certificate of Incorporation is Lantern Pharma Inc.

IN WITNESS WHEREOF, the undersigned being duly authorized to sign on behalf of the converting Non-Delaware Corporation has executed this Certificate on the 14th day of January, A.D. 2020.

By: /s/ Panna Sharma
Name: Panna Sharma
Title: President & Chief Executive Officer

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE DO HEREBY CERTIFY THAT THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF INCORPORATION OF "LANTERN PHARMA INC." FILED IN THIS OFFICE ON THE FIFTEENTH DAY OF JANUARY, A.D. 2020, AT 10:38 O`CLOCK A.M.

A FILED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS.

7801204 8100F
SR# 20200291615

Authentication: 202196073
Date: 01-15-20

You may verify this certificate online atcorp.delaware.gov/authver.shtml

State of Delaware
Secretary of State
Division of Corporations
Delivered 10:38 AM 01/15/2020
FILED 10:38 AM 01/15/2020
SR 20200291615 - File Number 7801204

CERTIFICATE OF INCORPORATION
OF
LANTERN PHARMA INC.

ARTICLE I
NAME OF THE CORPORATION

The name of the corporation is Lantern Pharma Inc. (the "**Corporation**").

ARTICLE II
REGISTERED AGENT

The address of the registered office of the Corporation in the State of Delaware is:1209 Orange Street, Wilmington, New Castle County, Delaware 19801 . The name of the registered agent of the Corporation at such address is: The Corporation Trust Company.

ARTICLE III
BUSINESS PURPOSE

The nature of the business or purposes to be conducted or promoted by the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware (the "**DGCL**").

ARTICLE IV
CAPITAL STOCK

Section 4.1 Authorized Classes of Stock. The total number of shares of stock of all classes of capital stock that the Corporation is authorized to issue is 17,559,061, of which 15,000,000 shares shall be shares of common stock having a par value of $0.0001 per share ("**Common Stock**") and 2,559,061 shares shall be shares of preferred stock having a par value of $0.0001 per share ("**Preferred Stock**").

Section 4.2 Common Stock. Except as otherwise required by law, as otherwise provided in this Certificate of Incorporation, and as otherwise provided in the resolution or resolutions, if any, adopted by the board of directors of the Corporation (the "**Board of Directors**") with respect to any series of the Preferred Stock, the holders of the Common Stock shall exclusively possess all voting power. Each holder of shares of Common Stock shall be entitled to one vote for each share held by such holder. Subject to the rights of holders of any series of outstanding Preferred Stock, holders of shares of Common Stock shall have equal rights of participation in the dividends and other distributions in cash, stock, or property of the Corporation when, as and if declared thereon by the Board of Directors from time to time out of assets or funds of the Corporation legally available therefor and shall have equal rights to receive the assets and funds of the Corporation available for distribution to stockholders in the event of any liquidation, dissolution, or winding up of the affairs of the Corporation, whether voluntary or involuntary.

Section 4.3 Preferred Stock. Except as otherwise required by law, and subject to Section 4.3.3.3 of this Certificate of Incorporation, the Board of Directors shall have the full authority permitted by law to divide the authorized and unissued shares of Preferred Stock (other than the "Series A Preferred Stock", as designated and defined below) into series, and to provide for the issuance of such shares (in an aggregate amount not exceeding the aggregate remaining number of shares of Preferred Stock authorized by this Certificate of Incorporation), as determined from time to time by the Board of Directors and stated, before the issuance of any shares thereof, in the resolution or resolutions providing for the issuance thereof. The Board of Directors shall have the authority to fix and determine and to amend the number of shares of any series of Preferred Stock that is wholly unissued or to be established and to fix and determine and to amend the designation, preferences, voting powers and limitations, and the relative, participating, optional or other rights, of any series of shares of Preferred Stock that is wholly unissued or to be established, including, without limiting the generality of the foregoing, the voting rights relating to shares of such series of Preferred Stock, the rate of dividend to which holders of shares of such series of Preferred Stock may be entitled, the rights of holders of shares of such series of Preferred Stock in the event of liquidation, dissolution or winding up of the affairs of the Corporation, the rights of holders of shares of such series of Preferred Stock to convert or exchange shares of such series of Preferred Stock for shares of any other capital stock or for any other securities, property or assets of the Corporation, and whether or not the shares of such series of Preferred Stock shall be redeemable and, if so, the term and conditions of such redemption. Up to 1,559,061 of the shares of the authorized Preferred Stock of the Corporation are hereby designated **"Series A Preferred Stock"** with the following rights, preferences, powers, privileges and restrictions, qualifications and limitations:

4.3.1. Dividends. From and after the date of the issuance of any shares of Series A Preferred Stock, in any calendar year, the holders of outstanding shares of Series A Preferred Stock shall be entitled to receive dividends, when, as and if declared by the Board of Directors, out of any assets at the time legally available therefore, at the rate per annum of 8% of the Series A Original Issue Price (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock) payable in preference and priority to any declaration or payment of dividends on Common Stock. The Corporation shall not declare, pay or set aside any dividends on shares of any other class or series of capital stock of the Corporation (other than dividends on shares of Common Stock payable in shares of Common Stock) unless (in addition to the obtaining of any consents required elsewhere in the Certificate of Incorporation) the holders of the Series A Preferred Stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of Series A Preferred Stock in an amount at least equal to the greater of (i) the amount of the aggregate dividends on each share of Series A Preferred Stock declared but not previously paid and (ii) (A) in the case of a dividend on Common Stock or any class or series that is convertible into Common Stock, that dividend per share of Series A Preferred Stock as would equal the product of (1) the dividend payable on each share of such class or series determined, if applicable, as if all shares of such class or series had been converted into Common Stock and (2) the number of shares of Common Stock issuable upon conversion of a share of Series A Preferred Stock, in each case calculated on the record date for determination of holders entitled to receive such dividend or (B) in the case of a dividend on any class or series that is not convertible into Common Stock, at a rate per share of Series A Preferred Stock determined by (1) dividing the amount of the dividend payable on each share of such class or series of capital stock by the original issuance price of such class or series of capital stock (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to such class or series) and (2) multiplying such fraction by an amount equal to the Series A Original Issue Price (as defined below); provided that if the Corporation declares, pays or sets aside, on the same date, a dividend on shares of more than one class or series of capital stock of the Corporation, the dividend payable to the holders of Series A Preferred Stock pursuant to this Section 4.3.1 shall be calculated based upon the dividend on the class or series of capital stock that would result in the highest Series A Preferred Stock dividend. The **"Series A Original Issue Price"** shall mean $5.45 per share, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Series A Preferred Stock. The right to receive dividends on shares of Series A Preferred Stock shall not be cumulative, and no right to such dividends shall accrue to holders of Series A Preferred Stock by reason of the fact that dividends on said shares are not declared or paid in any calendar year.

4.3.2. Liquidation, Dissolution or Winding Up Certain Mergers, Consolidations and Asset Sales.

4.3.2.1 Preferential Payments to Holders of Series A Preferred Stock. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the holders of shares of Series A Preferred Stock then outstanding shall be entitled to be paid out of the assets of the Corporation available for distribution to its stockholders before any payment shall be made to the holders of Common Stock by reason of their ownership thereof, an amount per share equal to one (1) times the Series A Original Issue Price, plus any dividends declared but unpaid thereon. If upon any such liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, the assets of the Corporation available for distribution to its stockholders shall be insufficient to pay the holders of shares of Series A Preferred Stock the full amount to which they shall be entitled under this Section 4.3.2.1, the holders of shares of Series A Preferred Stock shall share ratably in any distribution of the assets available for distribution in proportion to the respective amounts which would otherwise be payable in respect of the shares held by them upon such distribution if all amounts payable on or with respect to such shares were paid in full.

4.3.2.2 Distribution of Remaining Assets. In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Corporation or Deemed Liquidation Event, after the payment of all preferential amounts required to be paid to the holders of shares of Series A Preferred Stock pursuant to Section 4.3.2.1, the remaining assets of the Corporation available for distribution to its stockholders shall be distributed among the holders of the shares of Series A Preferred Stock and Common Stock, pro rata based on the number of shares held by each such holder, treating for this purpose all such securities as if they had been converted to Common Stock pursuant to the terms of this Certificate of Incorporation immediately prior to such liquidation, dissolution or winding up of the Corporation. The aggregate amount which a holder of a share of Series A Preferred Stock is entitled to receive under Sections 4.3.2.1 and 4.3.2.2 is hereinafter referred to as the **"Series A Liquidation Amount."**

4.3.2.3 Deemed Liquidation Events.

4.3.2.3.1 Definition. Each of the following events shall be considered a **"Deemed Liquidation Event"** unless the holders of at least majority of the outstanding shares of Series A Preferred Stock elect otherwise by written notice sent to the Corporation at least five (5) days prior to the effective date of any such event:

(a) a merger or consolidation in which

(i) the Corporation is a constituent party, or

(ii) a subsidiary of the Corporation is a constituent party and the Corporation issues shares of its capital stock pursuant to such merger or consolidation,

except any such merger or consolidation involving the Corporation or a subsidiary in which the shares of capital stock of the Corporation outstanding immediately prior to such merger or consolidation continue to represent, or are converted into or exchanged for shares of capital stock that represent, immediately following such merger or consolidation, at least a majority, by voting power, of the capital stock of (1) the surviving or resulting corporation; or (2) if the surviving or resulting corporation is a wholly owned subsidiary of another corporation immediately following such merger or consolidation, the parent corporation of such surviving or resulting corporation; or

(b) the sale, lease, transfer, exclusive license or other disposition, in a single transaction or series of related transactions, by the Corporation or any subsidiary of the Corporation of all or substantially all the assets of the Corporation and its subsidiaries taken as a whole, or the sale or disposition (whether by merger, consolidation or otherwise) of one or more subsidiaries of the Corporation if substantially all of the assets of the Corporation and its subsidiaries taken as a whole are held by such subsidiary or subsidiaries, except where such sale, lease, transfer, exclusive license or other disposition is to a wholly owned subsidiary of the Corporation.

4.3.2.3.2 Effecting a Deemed Liquidation Event.

(a) The Corporation shall not have the power to effect a Deemed Liquidation Event referred to in Section 4.3.2.3.1(a)(i) unless the agreement or plan of merger or consolidation for such transaction (the **"Merger Agreement")** provides that the consideration payable to the stockholders of the Corporation shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 4.3.2.1 and 4.3.2.2.

(b) In the event of a Deemed Liquidation Event referred to in Section 4.3.2.3.1(a)(ii) or 4.3.2.3.1(b), if the Corporation does not effect a dissolution of the Corporation under the DGCL within ninety (90) days after such Deemed Liquidation Event, then (i) the Corporation shall send a written notice to each holder of Series A Preferred Stock no later than the ninetieth (90th) day after the Deemed Liquidation Event advising such holders of their right (and the requirements to be met to secure such right) pursuant to the terms of the following clause; (ii) to require the redemption of such shares of Series A Preferred Stock, and (iii) if the holders of at least a majority of the then-outstanding shares of Series A Preferred Stock so request in a written instrument delivered to the Corporation not later than one hundred twenty (120) days after such Deemed Liquidation Event, the Corporation shall use the consideration received by the Corporation for such Deemed Liquidation Event (net of any retained liabilities associated with the assets sold or technology licensed, as determined in good faith by the Board of Directors of the Corporation), together with any other assets of the Corporation available for distribution to its stockholders, all to the extent permitted by Delaware law governing distributions to stockholders (the **"Available Proceeds")**, on the one hundred fiftieth (150th) day after such Deemed Liquidation Event, to redeem all outstanding shares of Series A Preferred Stock at a price per share equal to the Series A Liquidation Amount. Notwithstanding the foregoing, in the event of a redemption pursuant to the preceding sentence, if the Available Proceeds are not sufficient to redeem all outstanding shares of Series A Preferred Stock, the Corporation shall ratably redeem each holder's shares of Series A Preferred Stock to the fullest extent of such Available Proceeds, and shall redeem the remaining shares as soon as it may lawfully do so under Delaware law governing distributions to stockholders. The provisions of Section 4.3.6 shall apply, with such necessary changes in the details thereof as are necessitated by the context, to the redemption of the Series A Preferred Stock pursuant to this Section 4.3.2.3.2(b). Prior to the distribution or redemption provided for in this Section 4.3.2.3.2(b), the Corporation shall not expend or dissipate the consideration received for such Deemed Liquidation Event, except to discharge expenses incurred in connection with such Deemed Liquidation Event.

4.3.2.3.3 Amount Deemed Paid or Distributed. The amount deemed paid or distributed to the holders of capital stock of the Corporation upon any such merger, consolidation, sale, transfer, exclusive license, other disposition or redemption shall be the cash or the value of the property, rights or securities paid or distributed to such holders by the Corporation or the acquiring person, firm or other entity. The value of such property, rights or securities shall be determined in good faith by the Board of Directors of the Corporation.

4.3.2.3.4 Allocation of Escrow and Contingent Consideration. In the event of a Deemed Liquidation Event pursuant to Section 4.3.2.3.1(a)(i), if any portion of the consideration payable to the stockholders of the Corporation is payable only upon satisfaction of contingencies (the **"Additional Consideration")**, the Merger Agreement shall provide that (a) the portion of such consideration that is not Additional Consideration (such portion, the **"Initial Consideration")** shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 4.3.2.1 and 4.3.2.2 as if the Initial Consideration were the only consideration payable in connection with such Deemed Liquidation Event; and (b) any Additional Consideration which becomes payable to the stockholders of the Corporation upon satisfaction of such contingencies shall be allocated among the holders of capital stock of the Corporation in accordance with Sections 4.3.2.1 and 4.3.2.2 after taking into account the previous payment of the Initial Consideration as part of the same transaction. For the purposes of this Section 4.3.2.3.4, consideration placed into escrow or retained as holdback to be available for satisfaction of indemnification or similar obligations in connection with such Deemed Liquidation Event shall be deemed to be Additional Consideration.

4.3.3. Voting.

4.3.3.1 General. On any matter presented to the stockholders of the Corporation for their action or consideration at any meeting of stockholders of the Corporation (or by written consent of stockholders in lieu of meeting), each holder of outstanding shares of Series A Preferred Stock shall be entitled to cast the number of votes equal to the number of whole shares of Common Stock into which the shares of Series A Preferred Stock held by such holder are convertible as of the record date for determining stockholders entitled to vote on such matter. Except as provided by law or by the other provisions of this Certificate of Incorporation, holders of Series A Preferred Stock shall vote together with the holders of Common Stock as a single class.

4.3.3.2 Election of Directors. The holders of record of the shares of Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation (the "Series A Directors") and the holders of record of the shares of Common Stock, exclusively and as a separate class, shall be entitled to elect two (2) directors of the Corporation. The director elected as provided in the preceding sentence may be removed without cause by, and only by, the affirmative vote of the holders of the shares of the class or series of capital stock entitled to elect such director or directors, given either at a special meeting of such stockholders duly called for that purpose or pursuant to a written consent of stockholders. If the holders of shares of Series A Preferred Stock or Common Stock, as the case may be, fail to elect a sufficient number of directors to fill all directorships for which they are entitled to elect directors, voting exclusively and as a separate class, pursuant to the first sentence of this Section 4.3.3.2, then any directorship not so filled shall remain vacant until such time as the holders of the Series A Preferred Stock or Common Stock, as the case may be, elect a person to fill such directorship by vote or written consent in lieu of a meeting; and no such directorship may be filled by stockholders of the Corporation other than by the stockholders of the Corporation that are entitled to elect a person to fill such directorship, voting exclusively and as a separate class. The holders of record of the shares of Common Stock and of any other class or series of voting stock (including the Series A Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Corporation. At any meeting held for the purpose of electing a director, the presence in person or by proxy of the holders of a majority of the outstanding shares of the class or series entitled to elect such director shall constitute a quorum for the purpose of electing such director. Except as otherwise provided in this Section 4.3.3.2, a vacancy in any directorship filled by the holders of any class or series shall be filled only by vote or written consent in lieu of a meeting of the holders of such class or series or by any remaining director or directors elected by the holders of such class or series pursuant to this Section 4.3.3.2.

4.3.3.3 Series A Preferred Stock Protective Provisions. At any time when shares of Series A Preferred Stock are outstanding, the Corporation shall not, either directly or indirectly by amendment, merger, consolidation or otherwise, do any of the following without (in addition to any other vote required by law or this Certificate of Incorporation) the written consent or affirmative vote of the holders of at least a majority of the then-outstanding shares of Series A Preferred Stock, given in writing or by vote at a meeting, consenting or voting (as the case may be) separately as a class, and any such act or transaction entered into without such consent or vote shall be null and void *ab initio,* and of no force or effect:

4.3.3.3.1 liquidate, dissolve or wind-up the business and affairs of the Corporation, effect any merger or consolidation or any other Deemed Liquidation Event, or consent to any of the foregoing;

4.3.3.3.2 amend, alter or repeal any provision of this Certificate of Incorporation or Bylaws of the Corporation;

4.3.3.3.3 create, or authorize the creation of, or issue or obligate itself to issue shares of, any additional class or series of capital stock unless the same ranks junior to the Series A Preferred Stock with respect to the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends and rights of redemption, or increase or decrease the authorized number of shares of Series A Preferred Stock or Common Stock or increase or decrease the authorized number of shares of any additional class or series of capital stock;

4.3.3.3.4 (i) reclassify, alter or amend any existing security of the Corporation that is pari passu with the Series A Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to the Series A Preferred Stock in respect of any such right, preference, or privilege; (ii) reclassify, alter or amend any existing security of the Corporation that is junior to the Series A Preferred Stock in respect of the distribution of assets on the liquidation, dissolution or winding up of the Corporation, the payment of dividends or rights of redemption, if such reclassification, alteration or amendment would render such other security senior to or pari passu with the Series A Preferred Stock in respect of any such right, preference or privilege; or (iii) alter or change in any other way the rights, preferences, or privileges of the Series A Preferred Stock in a manner adverse to the holders of the Series A Preferred Stock;

4.3.3.3.5 purchase or redeem (or permit any subsidiary to purchase or redeem) or pay or declare any dividend or make any distribution on, any shares of capital stock of the Corporation other than (i) redemptions of or dividends or distributions on the Series A Preferred Stock as expressly authorized herein, (ii) dividends or other distributions payable on the Common Stock solely in the form of additional shares of Common Stock, (iii) repurchases of stock from former employees, officers, directors, consultants or other persons who performed services for the Corporation or any subsidiary in connection with the cessation of such employment or service at the lower of the original purchase price or the then-current fair market value thereof, or (iv) as approved by the Board of Directors, including the approval of each Series A Director;

4.3.3.3.6 create, or hold capital stock in, any subsidiary that is not wholly owned (either directly or through one or more other subsidiaries) by the Corporation, or sell, transfer or otherwise dispose of any capital stock of any direct or indirect subsidiary of the Corporation, or permit any direct or indirect subsidiary to sell, lease, transfer, exclusively license or otherwise dispose (in a single transaction or series of related transactions) of all or substantially all of the assets of such subsidiary;

4.3.3.3.7 increase or decrease the authorized size of the Board of Directors;

4.3.3.3.8 pay or declare any dividend on any share of Common Stock or Series A Preferred Stock, except as provided in this Certificate of Incorporation;

4.3.3.3.9 enter into any exclusive license, lease, sale, distribution or other disposition of all or substantially all of the Company's products or intellectual property;

4.3.3.3.10 acquire a material amount of assets through a merger or purchase of all or substantially all of the assets or capital of another entity;

4.3.3.3.11 increase the number of shares authorized for issuance under any existing stock plan or option plan or create any new stock or option plan;

4.3.3.3.12 enter into a joint venture;

4.3.3.3.13 enter into a transaction for the sale of all or substantially all of the assets of the Company, or a similar corporate reorganization;

4.3.3.3.14 encumber or grant a security interest in all or a substantial portion of the assets of the Company in connection with debt incurred by the Company;

4.3.3.3.15 incur indebtedness for borrowed money greater than $200,000;

4.3.3.3.16 make changes to the senior management team of the Company;

4.3.3.3.17 enter into any transaction between the Company and any director, founder, officer or other management employee or affiliate or family member of any such individual; or

4.3.3.3.18 amend these protective provisions in connection with the creation or addition of an additional class or series of preferred stock.

4.3.4. Optional Conversion. The holders of the Series A Preferred Stock shall have conversion rights as follows (the "Conversion Rights"):

4.3.4.1 Right to Convert.

4.3.4.1.1 Conversion Ratio. Each share of Series A Preferred Stock shall be convertible, at the option of the holder thereof, at any time and from time to time, and without the payment of additional consideration by the holder thereof, into such number of fully paid and non-assessable shares of Common Stock as is determined by dividing the Series A Original Issue Price by the Series A Conversion Price (as defined below) in effect at the time of conversion The **"Series A Conversion Price"** shall initially be equal to $5.45. Such initial Series A Conversion Price, and the rate at which shares of Series A Preferred Stock may be converted into shares of Common Stock, shall be subject to adjustment as provided below.

4.3.4.1.2 Termination of Conversion Rights. In the event of a liquidation, dissolution or winding up of the Corporation or a Deemed Liquidation Event, the Conversion Rights shall terminate at the close of business on the last full day preceding the date fixed for the payment of any such amounts distributable on such event to the holders of Series A Preferred Stock.

4.3.4.2 Fractional Shares. No fractional shares of Common Stock shall be issued upon conversion of the Series A Preferred Stock. In lieu of any fractional shares to which the holder would otherwise be entitled, the Corporation shall pay cash equal to such fraction multiplied by the fair market value of a share of Common Stock as determined in good faith by the Board of Directors of the Corporation. Whether or not fractional shares would be issuable upon such conversion shall be determined on the basis of the total number of shares of Series A Preferred Stock the holder is at the time converting into Common Stock and the aggregate number of shares of Common Stock issuable upon such conversion.

4.3.4.3 Mechanics of Conversion.

4.3.4.3.1 Notice of Conversion. In order for a holder of Series A Preferred Stock to voluntarily convert shares of Series A Preferred Stock into shares of Common Stock, such holder shall (a) provide written notice to the Corporation's transfer agent at the office of the transfer agent for the Series A Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent) that such holder elects to convert all or any number of such holder's shares of Series A Preferred Stock and, if applicable, any event on which such conversion is contingent and (b), if such holder's shares are certificated, surrender the certificate or certificates for such shares of Series A Preferred Stock (or, if such registered holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate), at the office of the transfer agent for the Series A Preferred Stock (or at the principal office of the Corporation if the Corporation serves as its own transfer agent). Such notice shall state such holder's name or the names of the nominees in which such holder wishes the shares of Common Stock to be issued. If required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by a written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or his, her or its attorney duly authorized in writing. The close of business on the date of receipt by the transfer agent (or by the Corporation if the Corporation serves as its own transfer agent) of such notice and, if applicable, certificates (or lost certificate affidavit and agreement) shall be the time of conversion (the **"Conversion Time"),** and the shares of Common Stock issuable upon conversion of the specified shares shall be deemed to be outstanding of record as of such date. The Corporation shall, as soon as practicable after the Conversion Time (i) issue and deliver to such holder of Series A Preferred Stock, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable upon such conversion in accordance with the provisions hereof and a certificate for the number (if any) of the shares of Series A Preferred Stock represented by the surrendered certificate that were not converted into Common Stock, (ii) pay in cash such amount as provided in Section 4.3.4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and (iii) pay all declared but unpaid dividends on the shares of Series A Preferred Stock converted.

4.3.4.3.2 Reservation of Shares. The Corporation shall at all times when the Series A Preferred Stock shall be outstanding, reserve and keep available out of its authorized but unissued capital stock, for the purpose of effecting the conversion of the Series A Preferred Stock, such number of its duly authorized shares of Common Stock as shall from time to time be sufficient to effect the conversion of all outstanding Series A Preferred Stock; and if at any time the number of authorized but unissued shares of Common Stock shall not be sufficient to effect the conversion of all then outstanding shares of the Series A Preferred Stock, the Corporation shall take such corporate action as may be necessary to increase its authorized but unissued shares of Common Stock to such number of shares as shall be sufficient for such purposes, including, without limitation, engaging in best efforts to obtain the requisite stockholder approval of any necessary amendment to this Certificate of Incorporation. Before taking any action which would cause an adjustment reducing the Series A Conversion Price below the then par value of the shares of Common Stock issuable upon conversion of the Series A Preferred Stock, the Corporation will take any corporate action which may, in the opinion of its counsel, be necessary in order that the Corporation may validly and legally issue fully paid and non-assessable shares of Common Stock at such adjusted Series A Conversion Price.

4.3.4.3.3 Effect of Conversion. All shares of Series A Preferred Stock which shall have been surrendered for conversion as herein provided shall no longer be deemed to be outstanding and all rights with respect to such shares shall immediately cease and terminate at the Conversion Time, except only the right of the holders thereof to receive shares of Common Stock in exchange therefor, to receive payment in lieu of any fraction of a share otherwise issuable upon such conversion as provided in Section 4.3.4.2 and to receive payment of any dividends declared but unpaid thereon. Any shares of Series A Preferred Stock so converted shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series A Preferred Stock accordingly.

4.3.4.3.4 No Further Adjustment. Upon any such conversion, no adjustment to the Series A Conversion Price shall be made for any declared but unpaid dividends on the Series A Preferred Stock surrendered for conversion or on the Common Stock delivered upon conversion.

4.3.4.3.5 Taxes. The Corporation shall pay any and all issue and other similar taxes that may be payable in respect of any issuance or delivery of shares of Common Stock upon conversion of shares of Series A Preferred Stock pursuant to this Section 4.3.4. The Corporation shall not, however, be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of shares of Common Stock in a name other than that in which the shares of Series A Preferred Stock so converted were registered, and no such issuance or delivery shall be made unless and until the person or entity requesting such issuance has paid to the Corporation the amount of any such tax or has established, to the satisfaction of the Corporation, that such tax has been paid.

4.3.4.4 Adjustments to Series A Conversion Price for Diluting Issues.

4.3.4.4.1 Special Definitions. For purposes of this Article IV, the following definitions shall apply:

(a) **"Option"** shall mean rights, options or warrants to subscribe for, purchase or otherwise acquire Common Stock or Convertible Securities.

(b) **"Series A Original Issue Date"** shall mean the date on which the first share of Series A Preferred Stock was issued.

(c) **"Convertible Securities"** shall mean any evidences of indebtedness, shares or other securities directly or indirectly convertible into or exchangeable for Common Stock, but excluding Options.

(d) **"Additional Shares of Common Stock"** shall mean all shares of Common Stock issued (or, pursuant to Section 4.3.4.4.3 below, deemed to be issued) by the Corporation after the Series A Original Issue Date, other than (1) the following shares of Common Stock and (2) shares of Common Stock deemed issued pursuant to the following Options and Convertible Securities (clauses (1) and (2), collectively, **"Exempted Securities"):**

(i) shares of Common Stock, Options or Convertible Securities issued as a dividend or distribution on Series A Preferred Stock, including outstanding warrants issuable for Series A Preferred Stock;

(ii) shares of Common Stock, Options or Convertible Securities issued by reason of a dividend, stock split, split-up or other distribution on shares of Common Stock that is covered by Section 4.3.4.5, 4.3.4.6, 4.3.4.7 or 4.3.4.8;

(iii) shares of Common Stock or Options issued to employees or directors of, or consultants or advisors to, the Corporation or any of its subsidiaries pursuant to a plan, agreement or arrangement approved by the Board of Directors of the Corporation, including each Series A Director;

(iv) shares of Common Stock or Convertible Securities actually issued upon the exercise of Options or shares of Common Stock actually issued upon the conversion or exchange of Convertible Securities, in each case provided such issuance is pursuant to the terms of such Option or Convertible Security; or

(v) shares of Common Stock, Options or Convertible Securities issued to banks, equipment lessors or other financial institutions pursuant to a debt financing or equipment leasing transaction approved by the Board of Directors of the Corporation, including each Series A Director; shares of Common Stock, Options or Convertible Securities issued to suppliers or third party service providers in connection with the provision of goods or services pursuant to transactions approved by the Board of Directors of the Corporation, including each Series A Director;

(vi) shares of Common Stock, Options or Convertible Securities issued pursuant to the acquisition of another corporation by the Corporation by merger, purchase of substantially all of the assets or other reorganization or to a joint venture agreement, provided that such issuances are approved by the Board of Directors of the Corporation, including each Series A Director;

(vii) shares of Common Stock, Options or Convertible Securities issued in connection with sponsored research, collaboration, technology license, development, OEM, marketing or other similar agreements or strategic partnerships approved by the Board of Directors of the Corporation, including each Series A Director;

(viii) shares issued in connection with an underwritten public offering of shares of the Common Stock at a public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $25 million of gross proceeds to the Corporation;

(ix) shares issued or issuable in connection with any settlement approved by the Board of Directors, including each Series A Director;

(x) shares issued pursuant to other transactions approved by the Board of Directors, including each Series A Director; or

(xi) shares of Series A Preferred Stock and warrants issued or issuable pursuant to the Purchase Agreement (or any shares of Common Stock issued or issuable upon the conversion or exercise thereof).

4.3.4.4.2 No Adjustment of Series A Conversion Price. No adjustment in the Series A Conversion Price shall be made as the result of the issuance or deemed issuance of Additional Shares of Common Stock if the Corporation receives written notice from the holders of at least a majority of the then-outstanding shares of Series A Preferred Stock agreeing that no such adjustment shall be made as the result of the issuance or deemed issuance of such Additional Shares of Common Stock.

4.3.4.4.3 Deemed Issue of Additional Shares of Common Stock.

(a) If the Corporation at any time or from time to time after the Series A Original Issue Date shall issue any Options or Convertible Securities (excluding Options or Convertible Securities which are themselves Exempted Securities) or shall fix a record date for the determination of holders of any class of securities entitled to receive any such Options or Convertible Securities, then the maximum number of shares of Common Stock (as set forth in the instrument relating thereto, assuming the satisfaction of any conditions to exercisability, convertibility or exchangeability but without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or, in the case of Convertible Securities and Options therefor, the conversion or exchange of such Convertible Securities, shall be deemed to be Additional Shares of Common Stock issued as of the time of such issue or, in case such a record date shall have been fixed, as of the close of business on such record date.

(b) If the terms of any Option or Convertible Security, the issuance of which resulted in an adjustment to the Series A Conversion Price pursuant to the terms of Section 4.3.4.4.4, are revised as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase or decrease in the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any such Option or Convertible Security or (2) any increase or decrease in the consideration payable to the Corporation upon such exercise, conversion and/or exchange, then, effective upon such increase or decrease becoming effective, the Series A Conversion Price computed upon the original issue of such Option or Convertible Security (or upon the occurrence of a record date with respect thereto) shall be readjusted to such Series A Conversion Price as would have obtained had such revised terms been in effect upon the original date of issuance of such Option or Convertible Security. Notwithstanding the foregoing, no readjustment pursuant to this clause (b) shall have the effect of increasing the Series A Conversion Price to an amount which exceeds the lower of (i) the Series A Conversion Price in effect immediately prior to the original adjustment made as a result of the issuance of such Option or Convertible Security, or (ii) the Series A Conversion Price that would have resulted from any issuances of Additional Shares of Common Stock (other than deemed issuances of Additional Shares of Common Stock as a result of the issuance of such Option or Convertible Security) between the original adjustment date and such readjustment date.

(c) If the terms of any Option or Convertible Security (excluding Options or Convertible Securities which are themselves Exempted Securities), the issuance of which did not result in an adjustment to the Series A Conversion Price pursuant to the terms of Section 4.3.4.4.4 (either because the consideration per share (determined pursuant to Section 4.3.4.4.5) of the Additional Shares of Common Stock subject thereto was equal to or greater than the Series A Conversion Price then in effect, or because such Option or Convertible Security was issued before the Series A Original Issue Date), are revised after the Series A Original Issue Date as a result of an amendment to such terms or any other adjustment pursuant to the provisions of such Option or Convertible Security (but excluding automatic adjustments to such terms pursuant to anti-dilution or similar provisions of such Option or Convertible Security) to provide for either (1) any increase in the number of shares of Common Stock issuable upon the exercise, conversion or exchange of any such Option or Convertible Security or (2) any decrease in the consideration payable to the Corporation upon such exercise, conversion or exchange, then such Option or Convertible Security, as so amended or adjusted, and the Additional Shares of Common Stock subject thereto (determined in the manner provided in Section 4.3.4.4.3(a) shall be deemed to have been issued effective upon such increase or decrease becoming effective.

(d) Upon the expiration or termination of any unexercised Option or unconverted or unexchanged Convertible Security (or portion thereof) which resulted (either upon its original issuance or upon a revision of its terms) in an adjustment to the Series A Conversion Price pursuant to the terms of Section 4.3.4.4.4, the Series A Conversion Price shall be readjusted to such Series A Conversion Price as would have obtained had such Option or Convertible Security (or portion thereof) never been issued.

(e) If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, is calculable at the time such Option or Convertible Security is issued or amended but is subject to adjustment based upon subsequent events, any adjustment to the Series A Conversion Price provided for in this Section 4.3.4.4.3 shall be effected at the time of such issuance or amendment based on such number of shares or amount of consideration without regard to any provisions for subsequent adjustments (and any subsequent adjustments shall be treated as provided in clauses (b) and (c) of this Section 4.3.4.4.3). If the number of shares of Common Stock issuable upon the exercise, conversion and/or exchange of any Option or Convertible Security, or the consideration payable to the Corporation upon such exercise, conversion and/or exchange, cannot be calculated at all at the time such Option or Convertible Security is issued or amended, any adjustment to the Series A Conversion Price that would result under the terms of this Section 4.3.4.4.3 at the time of such issuance or amendment shall instead be effected at the time such number of shares and/or amount of consideration is first calculable (even if subject to subsequent adjustments), assuming for purposes of calculating such adjustment to the Series A Conversion Price that such issuance or amendment took place at the time such calculation can first be made.

4.3.4.4.4 Adjustment of Series A Conversion Price Upon Issuance of Additional Shares of Common Stock. In the event the Corporation shall at any time after the Series A Original Issue Date issue Additional Shares of Common Stock (including Additional Shares of Common Stock deemed to be issued pursuant to Section 4.3.4.4.3), without consideration or for a consideration per share less than the Series A Conversion Price in effect immediately prior to such issue, then the Series A Conversion Price shall be reduced, concurrently with such issue, to a price (calculated to the nearest one-hundredth of a cent) determined in accordance with the following formula:

$$CP2 = CP1 * (A + B) \div (A + C).$$

For purposes of the foregoing formula, the following definitions shall apply:

(a) “CP2” shall mean the Series A Conversion Price in effect immediately after such issue of Additional Shares of Common Stock

(b) “CP1” shall mean the Series A Conversion Price in effect immediately prior to such issue of Additional Shares of Common Stock;

(c) “A” shall mean the number of shares of Common Stock outstanding immediately prior to such issue of Additional Shares of Common Stock (treating for this purpose as outstanding all shares of Common Stock issuable upon exercise of Options outstanding immediately prior to such issue or upon conversion or exchange of Convertible Securities (including the Series A Preferred Stock) outstanding (assuming exercise of any outstanding Options therefor) immediately prior to such issue);

(d) “B” shall mean the number of shares of Common Stock that would have been issued if such Additional Shares of Common Stock had been issued at a price per share equal to CP1 (determined by dividing the aggregate consideration received by the Corporation in respect of such issue by CP1); and

(e) “C” shall mean the number of such Additional Shares of Common Stock issued in such transaction.

4.3.4.4.5 Determination of Consideration. For purposes of this Section 4.3.4.4, the consideration received by the Corporation for the issue of any Additional Shares of Common Stock shall be computed as follows:

(a) Cash and Property: Such consideration shall:

(i) insofar as it consists of cash, be computed at the aggregate amount of cash received by the Corporation, excluding amounts paid or payable for accrued interest;

(ii) insofar as it consists of property other than cash, be computed at the fair market value thereof at the time of such issue, as determined in good faith by the Board of Directors of the Corporation; and

(iii) in the event Additional Shares of Common Stock are issued together with other shares or securities or other assets of the Corporation for consideration which covers both, be the proportion of such consideration so received, computed as provided in clauses (i) and (ii) above, as determined in good faith by the Board of Directors of the Corporation.

(b) Options and Convertible Securities. The consideration per share received by the Corporation for Additional Shares of Common Stock deemed to have been issued pursuant to Section 4.3.4.4.3 relating to Options and Convertible Securities, shall be determined by dividing:

(i) The total amount, if any, received or receivable by the Corporation as consideration for the issue of such Options or Convertible Securities, plus the minimum aggregate amount of additional consideration (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such consideration) payable to the Corporation upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities, by

(ii) the maximum number of shares of Common Stock (as set forth in the instruments relating thereto, without regard to any provision contained therein for a subsequent adjustment of such number) issuable upon the exercise of such Options or the conversion or exchange of such Convertible Securities, or in the case of Options for Convertible Securities, the exercise of such Options for Convertible Securities and the conversion or exchange of such Convertible Securities.

4.3.4.4.6 Multiple Closing Dates. In the event the Corporation shall issue on more than one date Additional Shares of Common Stock that are a part of one transaction or a series of related transactions and that would result in an adjustment to the Series A Conversion Price pursuant to the terms of Section 4.3.4.4.4, and such issuance dates occur within a period of no more than one hundred twenty (120) days from the first such issuance to the final such issuance, then, upon the final such issuance, the Series A Conversion Price shall be readjusted to give effect to all such issuances as if they occurred on the date of the first such issuance (and without giving effect to any additional adjustments as a result of any such subsequent issuances within such period).

4.3.4.5 Adjustment for Stock Splits and Combinations. If the Corporation shall at any time or from time to time after the Series A Original Issue Date effect a subdivision of the outstanding Common Stock, the Series A Conversion Price in effect immediately before that subdivision shall be proportionately decreased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be increased in proportion to such increase in the aggregate number of shares of Common Stock outstanding. If the Corporation shall at any time or from time to time after the Series A Original Issue Date combine the outstanding shares of Common Stock, the Series A Conversion Price in effect immediately before the combination shall be proportionately increased so that the number of shares of Common Stock issuable on conversion of each share of such series shall be decreased in proportion to such decrease in the aggregate number of shares of Common Stock outstanding. Any adjustment under this section shall become effective at the close of business on the date the subdivision or combination becomes effective.

4.3.4.6 Adjustment for Certain Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series A Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable on the Common Stock in additional shares of Common Stock, then and in each such event the Series A Conversion Price in effect immediately before such event shall be decreased as of the time of such issuance or, in the event such a record date shall have been fixed, as of the close of business on such record date, by multiplying the Series A Conversion Price then in effect by a fraction:

(1) the numerator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date, and

(2) the denominator of which shall be the total number of shares of Common Stock issued and outstanding immediately prior to the time of such issuance or the close of business on such record date plus the number of shares of Common Stock issuable in payment of such dividend or distribution.

Notwithstanding the foregoing (a) if such record date shall have been fixed and such dividend is not fully paid or if such distribution is not fully made on the date fixed therefor, the Series A Conversion Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Series A Conversion Price shall be adjusted pursuant to this subsection as of the time of actual payment of such dividends or distributions; and (b) that no such adjustment shall be made if the holders of Series A Preferred Stock simultaneously receive a dividend or other distribution of shares of Common Stock in a number equal to the number of shares of Common Stock as they would have received if all outstanding shares of Series A Preferred Stock had been converted into Common Stock on the date of such event.

4.3.4.7 Adjustments for Other Dividends and Distributions. In the event the Corporation at any time or from time to time after the Series A Original Issue Date shall make or issue, or fix a record date for the determination of holders of Common Stock entitled to receive, a dividend or other distribution payable in securities of the Corporation (other than a distribution of shares of Common Stock in respect of outstanding shares of Common Stock) or in other property and the provisions of Section 4.3.1 do not apply to such dividend or distribution, then and in each such event provision shall be made so that the holders of the Series A Preferred Stock shall receive upon conversion thereof, in addition to the number of shares of Common Stock receivable thereupon, the kind and amount of securities of the Corporation, cash or other property which they would have been entitled to receive had the Series A Preferred Stock been converted into Common Stock on the date of such event and had they thereafter, during the period from the date of such event to and including the conversion date, retained such securities receivable by them as aforesaid during such period, giving application to all adjustments called for during such period under this paragraph with respect to the rights of the holders of the Series A Preferred Stock; provided however that no such provision shall be made if the holders of Series A Preferred Stock receive, simultaneously with the distribution to the holders of Common Stock, a dividend or other distribution of such securities, cash or other property in an amount equal to the amount of such securities, cash or other property as they would have received if all outstanding shares of Series A Preferred Stock had been converted into Common Stock on the date of such event.

4.3.4.8 Adjustment for Merger or Reorganization, etc. Subject to the provisions of Section 4.3.2.3, if there shall occur any reorganization, recapitalization, reclassification, consolidation or merger involving the Corporation in which the Common Stock (but not the Series A Preferred Stock) is converted into or exchanged for securities, cash or other property (other than a transaction covered by Sections 4.3.4.4, 4.6 or 4.3.4.7), then, following any such reorganization, recapitalization, reclassification, consolidation or merger, each share of Series A Preferred Stock shall thereafter be convertible in lieu of the Common Stock into which it was convertible prior to such event into the kind and amount of securities, cash or other property which a holder of the number of shares of Common Stock of the Corporation issuable upon conversion of one share of Series A Preferred Stock immediately prior to such reorganization, recapitalization, reclassification, consolidation or merger would have been entitled to receive pursuant to such transaction; and, in such case, appropriate adjustment (as determined in good faith by the Board of Directors of the Corporation) shall be made in the application of the provisions in this Section 4.3.4 with respect to the rights and interests thereafter of the holders of the Series A Preferred Stock, to the end that the provisions set forth in this Section 4.3.4 (including provisions with respect to changes in and other adjustments of the Series A Conversion Price shall thereafter be applicable, as nearly as reasonably as may be in relation to any securities or other property thereafter deliverable upon the conversion of the Series A Preferred Stock. For the avoidance of doubt, nothing in this Section 4.3.4.8 shall be construed as preventing the holders of Series A Preferred Stock from seeking any appraisal rights to which they are otherwise entitled under the DGCL in connection with a merger triggering an adjustment hereunder, nor shall this Section 4.3.4.8 be deemed conclusive evidence of the fair value of the shares of Series A Preferred Stock in any such appraisal proceeding.

4.3.4.9 Certificate as to Adjustments. Upon the occurrence of each adjustment or readjustment of the Series A Conversion Price pursuant to this Section 4.3.4, the Corporation at its expense shall, as promptly as reasonably practicable but in any event not later than ten (10) days thereafter, compute such adjustment or readjustment in accordance with the terms hereof and furnish to each holder of Series A Preferred Stock a certificate setting forth such adjustment or readjustment (including the kind and amount of securities, cash or other property into which the Series A Preferred Stock is convertible) and showing in detail the facts upon which such adjustment or readjustment is based. The Corporation shall, as promptly as reasonably practicable after the written request at any time of any holder of Series A Preferred Stock (but in any event not later than ten (10) days thereafter), furnish or cause to be furnished to such holder a certificate setting forth (i) the Series A Conversion Price then in effect, and (ii) the number of shares of Common Stock and the amount, if any, of other securities, cash or property which then would be received upon the conversion of Series A Preferred Stock.

4.3.4.10 Notice of Record Date. In the event:

(a) the Corporation shall take a record of the holders of its Common Stock (or other capital stock or securities at the time issuable upon conversion of the Series A Preferred Stock) for the purpose of entitling or enabling them to receive any dividend or other distribution, or to receive any right to subscribe for or purchase any shares of capital stock of any class or any other securities, or to receive any other security;

(b) of any capital reorganization of the Corporation, any reclassification of the Common Stock of the Corporation, or any Deemed Liquidation Event; or

(c) of the voluntary or involuntary dissolution, liquidation or winding-up of the Corporation, then, and in each such case, the Corporation will send or cause to be sent to the holders of the Series A Preferred Stock a notice specifying, as the case may be, (i) the record date for such dividend, distribution or right, and the amount and character of such dividend, distribution or right, or (ii) the effective date on which such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up is proposed to take place, and the time, if any is to be fixed, as of which the holders of record of Common Stock (or such other capital stock or securities at the time issuable upon the conversion of the Series A Preferred Stock) shall be entitled to exchange their shares of Common Stock (or such other capital stock or securities) for securities or other property deliverable upon such reorganization, reclassification, consolidation, merger, transfer, dissolution, liquidation or winding-up, and the amount per share and character of such exchange applicable to the Series A Preferred Stock and the Common Stock. Such notice shall be sent at least ten (10) days prior to the record date or effective date for the event specified in such notice.

4.3.5. Mandatory Conversion.

4.3.5.1 Trigger Events. Upon either (a) the closing of the sale of shares of Common Stock to the public at a price of at least $21.80 per share (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to the Common Stock), in a firm-commitment underwritten public offering pursuant to an effective registration statement under the Securities Act of 1933, as amended, resulting in at least $25 million of gross proceeds to the Corporation or (b) the date and time, or the occurrence of an event, specified by vote or written consent of the holders of at least 75% of the then-outstanding shares of Series A Preferred Stock (the time of such closing or the date and time specified or the time of the event specified in such vote or written consent is referred to herein as the **"Mandatory Conversion Time"),** then (i) all outstanding shares of Series A Preferred Stock shall automatically be converted into shares of Common Stock, at the then effective conversion rate as calculated pursuant to Section 4.3.4.1.1, and (ii) such shares may not be reissued by the Corporation.

4.3.5.2 Procedural Requirements. All holders of record of shares of Series A Preferred Stock shall be sent written notice of the Mandatory Conversion Time and the place designated for mandatory conversion of all such shares of Series A Preferred Stock pursuant to this Section 4.3.5. Such notice need not be sent in advance of the occurrence of the Mandatory Conversion Time. Upon receipt of such notice, each holder of shares of Series A Preferred Stock in certificated form shall surrender his, her or its certificate or certificates for all such shares (or, if such holder alleges that such certificate has been lost, stolen or destroyed, a lost certificate affidavit and agreement reasonably acceptable to the Corporation to indemnify the Corporation against any claim that may be made against the Corporation on account of the alleged loss, theft or destruction of such certificate) to the Corporation at the place designated in such notice. If so required by the Corporation, any certificates surrendered for conversion shall be endorsed or accompanied by written instrument or instruments of transfer, in form satisfactory to the Corporation, duly executed by the registered holder or by his, her or its attorney duly authorized in writing. All rights with respect to the Series A Preferred Stock converted pursuant to Section 4.3.5.1, including the rights, if any, to receive notices and vote (other than as a holder of Common Stock), will terminate at the Mandatory Conversion Time (notwithstanding the failure of the holder or holders thereof to surrender any certificates at or prior to such time), except only the rights of the holders thereof, upon surrender of any certificate or certificates of such holders (or lost certificate affidavit and agreement) therefor, to receive the items provided for in the next sentence of this Section 4.3.5.2. As soon as practicable after the Mandatory Conversion Time and, if applicable, the surrender of any certificate or certificates (or lost certificate affidavit and agreement) for Series A Preferred Stock, the Corporation shall (a) issue and deliver to such holder, or to his, her or its nominees, a certificate or certificates for the number of full shares of Common Stock issuable on such conversion in accordance with the provisions hereof and (b) pay cash as provided in Section 4.3.4.2 in lieu of any fraction of a share of Common Stock otherwise issuable upon such conversion and the payment of any declared but unpaid dividends on the shares of Series A Preferred Stock converted. Such converted Series A Preferred Stock shall be retired and cancelled and may not be reissued as shares of such series, and the Corporation may thereafter take such appropriate action (without the need for stockholder action) as may be necessary to reduce the authorized number of shares of Series A Preferred Stock accordingly.

4.3.6 Redeemed or Otherwise Acquired Shares. Any shares of Series A Preferred Stock that are redeemed or otherwise acquired by the Corporation or any of its subsidiaries shall be automatically and immediately cancelled and retired and shall not be reissued, sold or transferred. Neither the Corporation nor any of its subsidiaries may exercise any voting or other rights granted to the holders of Series A Preferred Stock following redemption.

4.3.7 Waiver. Any of the rights, powers, preferences and other terms of the Series A Preferred Stock set forth herein may be waived on behalf of all holders of Series A Preferred Stock by the affirmative written consent or vote of the holders of at least a majority of the shares of Series A Preferred Stock then outstanding.

4.3.8 Notices. Any notice required or permitted by the provisions of this Article IV to be given to a holder of shares of Series A Preferred Stock shall be mailed, postage prepaid, to the post office address last shown on the records of the Corporation, or given by electronic communication in compliance with the provisions of the DGCL, and shall be deemed sent upon such mailing or electronic transmission.

ARTICLE V
BOARD OF DIRECTORS

Section 5.1 General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors.

Section 5.2 Number. Subject to (i) any rights of the holders of any series of Preferred Stock to elect additional directors under specified circumstances and (ii) any rights of the holders of Series A Preferred Stock and Common Stock to elect directors pursuant to Section 4.3.3.2, the number of directors of the Corporation which shall constitute the entire Board of Directors shall consist of not less than three (3) and not more than nine (9) directors as fixed from time to time solely by resolution of at least a majority of the total number of directors that the Corporation would have at the time of such resolution if there were no vacancies adopting an amendment to the bylaws of the Corporation (the "**Bylaws**") setting forth the number of directors therein.

Section 5.3 Newly Created Directorships and Vacancies. Except as otherwise required by law and subject to (i) any rights of the holders of any series of Preferred Stock to elect directors under specified circumstances and (ii) any rights of the holders of Series A Preferred Stock and Common Stock to elect directors pursuant to Section 4.3.3.2, any newly created directorships resulting from an increase in the authorized number of directors and any vacancies occurring in the Board of Directors, shall be filled solely by the affirmative votes of a majority of the remaining members of the Board of Directors, although less than a quorum, or by a sole remaining director. A director so elected shall be elected to hold office until the earlier of the expiration of the term of office of the director whom he or she has replaced, a successor is duly elected and qualified, or the earlier of such director's death, resignation, or removal.

Section 5.4 Written Ballot. Unless and except to the extent that the Bylaws shall so require, the election of directors of the Corporation need not be by written ballot.

ARTICLE VI
LIMITATION OF LIABILITY; INDEMNIFICATION

Section 6.1 Limitation of Liability. To the fullest extent permitted by the DGCL as it presently exists or may hereafter be amended, a director of the Corporation shall not be personally liable to the Corporation or to its stockholders for monetary damages for any breach of fiduciary duty as a director. No amendment to, modification of, or repeal of this Section 6.1 shall apply to or have any effect on the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment.

Section 6.2 Indemnification. The Corporation may indemnify to the fullest extent permitted by law as it presently exists or may hereafter be amended any person made or threatened to be made a party to an action or proceeding, whether criminal, civil, administrative, or investigative, by reason of the fact that he or she, his or her testator, or intestate is or was a director, officer, or employee, or agent of the Corporation or any predecessor of the Corporation, or serves or served at any other enterprise as a director, officer, employee or agent at the request of the Corporation or any predecessor to the Corporation. Any amendment, repeal, or modification of this Section 6.2 shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such amendment, repeal or modification.

ARTICLE VII
STOCKHOLDER ACTION

Section 7.1 Stockholder Consent Prohibition. Subject to the rights of the holders of any series of Preferred Stock and provided that the Corporation has registered its Common Stock under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or is required to file reports with the Securities and Exchange Commission under Section 15(d) of the Exchange Act, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of the stockholders of the Corporation and may not be effected by any written consent by such stockholders without a meeting. At any time that both (i) the Common Stock of the Corporation is not registered under Section 12 of the Exchange Act and (ii) the Corporation is not required to file reports with the Securities and Exchange Commission under Section 15(d) of the Exchange Act, then any action required by the DGCL or other applicable Delaware law to be taken at any annual or special meeting of stockholders, or any action which may be taken at any annual or special meeting of stockholders, may be taken without a meeting, without prior notice and without a vote, if a consent or consents in writing, setting forth the action so taken, shall be signed by the holders of outstanding stock having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Section 7.2 Special Meetings of Stockholders. Except as otherwise required by law and subject to the rights of the holders of any series of Preferred Stock, special meetings of the stockholders of the Corporation shall be called only by: (i) the Board of Directors or (ii) the Secretary of the Corporation, following receipt of one or more written demands to call a special meeting of the stockholders from stockholders of record who own, in the aggregate, at least Twenty Five Percent (25%) of the voting power of the outstanding shares of the Corporation then entitled to vote on the matter or matters to be brought before the proposed special meeting that complies with the procedures for calling a special meeting of the stockholders as may be set forth in the Bylaws.

ARTICLE VIII
BYLAWS

Section 8.1 Board of Directors. In furtherance and not in limitation of the powers conferred by law, the Board of Directors is expressly authorized and empowered to adopt, amend, alter, or repeal the Bylaws without any action on the part of the stockholders.

Section 8.2 Stockholders. The stockholders shall also have the power to adopt, amend, alter, or repeal the Bylaws; provided that, in addition to any affirmative vote of the holders of any particular class or series of capital stock of the Corporation required by applicable law or this Certificate of Incorporation, such adoption, amendment, alteration, or repeal shall be approved by the affirmative vote of the holders of at least Fifty percent (50%) of the voting power of the shares of the then outstanding voting stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class.

ARTICLE IX
AMENDMENTS

The Corporation reserves the right to amend, alter, or repeal any provision contained in this Certificate of Incorporation, in the manner now or hereafter prescribed by the laws of the State of Delaware, and all rights conferred herein are granted subject to this reservation; provided however, that notwithstanding any other provision of this Certificate of Incorporation or applicable law that might permit a lesser vote or no vote and in addition to any affirmative vote of the holders of any particular class or series of capital stock of the Corporation required by applicable law or this Certificate of Incorporation, the affirmative vote of the holders of at least Fifty percent (50%) of the voting power of the shares of the then outstanding voting stock of the Corporation entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend, alter, repeal, or adopt any provisions inconsistent with this Article IX or inconsistent with Article VII or Article VIII of this Certificate of Incorporation.

ARTICLE X
INCORPORATOR

The name and mailing address of the incorporator are as follows:

Name: Panna Sharma Address: 1920 McKinney Avenue, 7th Floor, Dallas, TX 75201

[signature page follows]

THE UNDERSIGNED, being duly authorized to file this Certificate in accordance with the General Corporation Law of the State of Delaware, does hereby file this Certificate, and declare and certify that the facts herein stated are true and correct, and accordingly has hereunto set his hand this 15th day of January, 2020.

By: /s/ Panna Sharma
Name: Panna Sharma
Title: Incorporator

BY-LAWS
OF
LANTERN PHARMA INC.

ARTICLE I
OFFICES

Section 1.01 Registered Office. The registered office of Lantern Pharma Inc. (the "**Corporation**") will be fixed in the Certificate of Incorporation of the Corporation (the "**Certificate of Incorporation**").

Section 1.02 Other Offices. The Corporation may have other offices, both within and without the State of Delaware, as the board of directors of the Corporation (the "**Board of Directors**") from time to time shall determine or the business of the Corporation may require.

ARTICLE II
MEETINGS OF THE STOCKHOLDERS

Section 2.01 Place of Meetings. All meetings of the stockholders shall be held at such place, if any, either within or without the State of Delaware, or by means of remote communication, as shall be designated from time to time by resolution of the Board of Directors and stated in the notice of meeting.

Section 2.02 Annual Meeting. The annual meeting of the stockholders for the election of directors and for the transaction of such other business as may properly come before the meeting in accordance with these by-laws shall be held at such date, time, and place, if any, as shall be determined by the Board of Directors and stated in the notice of the meeting.

Section 2.03 Special Meetings.

(a) **Purpose.** Special meetings of stockholders for any purpose or purposes shall be called only:

(i) by the Board of Directors; or

(ii) by the Secretary (as defined in Section 4.01) following receipt of one or more written demands to call a special meeting of the stockholders in accordance with, and subject to, this Section 2.03 from stockholders of record who own, in the aggregate, at least Twenty Five percent (25%) of the voting power of the outstanding shares of the Corporation then entitled to vote on the matter or matters to be brought before the proposed special meeting.

(b) **Notice.** A request to the Secretary shall be delivered to him or her at the Corporation's principal executive offices and signed by each stockholder, or a duly authorized agent of such stockholder, requesting the special meeting and shall set forth:

(i) a brief description of each matter of business desired to be brought before the special meeting;

(ii) the reasons for conducting such business at the special meeting;

(iii) the text of any proposal or business to be considered at the special meeting (including the text of any resolutions proposed to be considered and in the event that such business includes a proposal to amend these by-laws, the language of the proposed amendment); and

(iv) the information required in Section 2.12(b) of these by-laws (for stockholder nomination demands) or Section 2.12(c) of these by-laws (for all other stockholder proposal demands), as applicable.

(c) **Business.** Business transacted at a special meeting requested by stockholders shall be limited to the matters described in the special meeting request; *provided, however,* that nothing herein shall prohibit the Board of Directors from submitting matters to the stockholders at any special meeting requested by stockholders.

(d) **Time and Date**. A special meeting requested by stockholders shall be held at such date and time as may be fixed by the Board of Directors;*provided, however,* that the date of any such special meeting shall be not more than 90 days after the request to call the special meeting is received by the Secretary. Notwithstanding the foregoing, a special meeting requested by stockholders shall not be held if:

(i) the Board of Directors has called or calls for an annual or special meeting of the stockholders to be held within 90 days after the Secretary receives the request for the special meeting and the Board of Directors determines in good faith that the business of such meeting includes (among any other matters properly brought before the meeting) the business specified in the request;

(ii) the stated business to be brought before the special meeting is not a proper subject for stockholder action under applicable law;

(iii) an identical or substantially similar item (a '**Similar Item")** was presented at any meeting of stockholders held within 120 days prior to the receipt by the Secretary of the request for the special meeting (and, for purposes of this Section 2.03(d)(iii), the election of directors shall be deemed a Similar Item with respect to all items of business involving the election or removal of directors); or

(iv) the special meeting request was made in a manner that involved a violation of Regulation 14A under the Securities Exchange Act of 1934, as amended and the rules and regulations promulgated thereunder (the "**Exchange Act**").

(e) **Revocation.** A stockholder may revoke a request for a special meeting at any time by written revocation delivered to the Secretary, and if, following such revocation, there are unrevoked requests from stockholders holding in the aggregate less than the requisite number of shares entitling the stockholders to request the calling of a special meeting, the Board of Directors, in its discretion, may cancel the special meeting.

Section 2.04 Adjournments. Any meeting of the stockholders, annual or special, may be adjourned from time to time to reconvene at the same or some other place, if any, and notice need not be given of any such adjourned meeting if the time, place, if any, thereof and the means of remote communication, if any, are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than 30 days, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the meeting. If after the adjournment a new record date is fixed for stockholders entitled to vote at the adjourned meeting, the Board of Directors shall fix a new record date for notice of the adjourned meeting and shall give notice of the adjourned meeting to each stockholder of record entitled to vote at the adjourned meeting as of the record date fixed for notice of the adjourned meeting.

Section 2.05 Notice of Meetings. Notice of the place (if any), date, hour, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting), and means of remote communication, if any, of every meeting of stockholders shall be given by the Corporation not less than ten days nor more than 60 days before the meeting (unless a different time is specified by law) to every stockholder entitled to vote at the meeting as of the record date for determining the stockholders entitled to notice of the meeting. Notices of special meetings shall also specify the purpose or purposes for which the meeting has been called. Notices of meetings to stockholders may be given by mailing the same, addressed to the stockholder entitled thereto, at such stockholder's mailing address as it appears on the records of the corporation and such notice shall be deemed to be given when deposited in the U.S. mail, postage prepaid. Without limiting the manner by which notices of meetings otherwise may be given effectively to stockholders, any such notice may be given by electronic transmission in the manner provided in Section 232 of the Delaware General Corporation Law. Notice of any meeting need not be given to any stockholder who shall, either before or after the meeting, submit a waiver of notice or who shall attend such meeting, except when the stockholder attends for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Any stockholder so waiving notice of the meeting shall be bound by the proceedings of the meeting in all respects as if due notice thereof had been given.

Section 2.06 List of Stockholders. The Corporation shall prepare a complete list of the stockholders entitled to vote at any meeting of stockholders (*provided, however,* if the record date for determining the stockholders entitled to vote is less than ten days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth day before the meeting date), arranged in alphabetical order, and showing the address of each stockholder and the number of shares of capital stock of the Corporation registered in the name of each stockholder at least ten days before any meeting of the stockholders. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten days before the meeting: (a) on a reasonably accessible electronic network, provided that the information required to gain access to such list was provided with the notice of the meeting; or (b) during ordinary business hours, at the principal place of business of the Corporation. If the meeting is to be held at a place, the list shall also be produced and kept at the time and place of the meeting the whole time thereof and may be inspected by any stockholder who is present. If the meeting is held solely by means of remote communication, the list shall also be open for inspection by any stockholder during the whole time of the meeting as provided by applicable law. Except as provided by applicable law, the stock ledger of the Corporation shall be the only evidence as to who are the stockholders entitled to examine the stock ledger and the list of stockholders or to vote in person or by proxy at any meeting of stockholders.

Section 2.07 Quorum. Unless otherwise required by law, the Certificate of Incorporation or these by-laws, at each meeting of the stockholders, a majority in voting power of the shares of the Corporation entitled to vote at the meeting, present in person or represented by proxy, shall constitute a quorum. If, however, such quorum shall not be present or represented at any meeting of the stockholders, the chair of the meeting or the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power, by the affirmative vote of a majority in voting power thereof, to adjourn the meeting from time to time, in the manner provided in Section 2.04, until a quorum shall be present or represented. A quorum, once established, shall not be broken by the subsequent withdrawal of enough votes to leave less than a quorum. At any such adjourned meeting at which there is a quorum, any business may be transacted that might have been transacted at the meeting originally called.

Section 2.08 Organization. The Board of Directors may adopt by resolution such rules and regulations for the conduct of the meeting of the stockholders as it shall deem appropriate. At every meeting of the stockholders, the Chair of the Board, or in his or her absence or inability to act, the Chief Executive Officer (as defined in Section 4.01), or, in his or her absence or inability to act, the officer or director whom the Board of Directors shall appoint, shall act as chair of, and preside at, the meeting. The Secretary or, in his or her absence or inability to act, the person whom the chair of the meeting shall appoint secretary of the meeting, shall act as secretary of the meeting and keep the minutes thereof. Except to the extent inconsistent with such rules and regulations as adopted by the Board of Directors, the chair of any meeting of the stockholders shall have the right and authority to prescribe such rules, regulations, and procedures and to do all such acts as, in the judgment of such chair, are appropriate for the proper conduct of the meeting. Such rules, regulations, or procedures, whether adopted by the Board of Directors or prescribed by the chair of the meeting, may include, without limitation, the following:

(a) the establishment of an agenda or order of business for the meeting;

(b) the determination of when the polls shall open and close for any given matter to be voted on at the meeting;

(c) rules and procedures for maintaining order at the meeting and the safety of those present;

(d) limitations on attendance at or participation in the meeting to stockholders of record of the corporation, their duly authorized and constituted proxies, or such other persons as the chair of the meeting shall determine;

(e) restrictions on entry to the meeting after the time fixed for the commencement thereof; and

(f) limitations on the time allotted to questions or comments by participants.

Section 2.09 Voting; Proxies.

(a) **General.** Unless otherwise required by law or provided in the Certificate of Incorporation, each stockholder shall be entitled to one vote, in person or by proxy, for each share of capital stock held by such stockholder.

(b) **Election of Directors.** Unless otherwise required by the Certificate of Incorporation, the election of directors shall be by written ballot. Unless otherwise required by law, the Certificate of Incorporation, or these by-laws, the election of directors shall be decided by a plurality of the votes cast at a meeting of the stockholders by the holders of stock entitled to vote in the election.

(c) **Other Matters.** Unless otherwise required by law, the Certificate of Incorporation, or these by-laws, any matter, other than the election of directors, brought before any meeting of stockholders shall be decided by the affirmative vote of the majority of shares present in person or represented by proxy at the meeting and entitled to vote on the matter.

(d) **Proxies.** Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three years from its date, unless the proxy provides for a longer period. Such authorization may be in a writing executed by the stockholder or his or her authorized officer, director, employee, or agent. To the extent permitted by law, a stockholder may authorize another person or persons to act for him or her as proxy by transmitting or authorizing the transmission of an electronic transmission to the person who will be the holder of the proxy or to a proxy solicitation firm, proxy support service organization, or like agent duly authorized by the person who will be the holder of the proxy to receive such transmission, provided that the electronic transmission either sets forth or is submitted with information from which it can be determined that the electronic transmission was authorized by the stockholder. A copy, facsimile transmission, or other reliable reproduction of the proxy authorized by this Section 2.09(d) may be substituted for or used in lieu of the original writing or electronic transmission for any and all purposes for which the original writing or electronic transmission could be used, provided that such copy, facsimile transmission, or other reproduction shall be a complete reproduction of the entire original writing or electronic transmission. A proxy shall be irrevocable if it states that it is irrevocable and if, and only as long as, it is coupled with an interest sufficient in law to support an irrevocable power. A stockholder may revoke any proxy that is not irrevocable by attending the meeting and voting in person or by delivering to the Secretary a revocation of the proxy or a new proxy bearing a later date.

Section 2.10 Inspectors at Meetings of Stockholders. In advance of any meeting of the stockholders, the Board of Directors shall, appoint one or more inspectors, who may be employees of the Corporation, to act at the meeting or any adjournment thereof and make a written report thereof. The Board of Directors may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If no inspector or alternate is able to act at a meeting, the person presiding at the meeting shall appoint one or more inspectors to act at the meeting. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath faithfully to execute the duties of inspector with strict impartiality and according to the best of his or her ability. The inspector or inspectors may appoint or retain other persons or entities to assist the inspector or inspectors in the performance of their duties. In determining the validity and counting of proxies and ballots cast at any meeting of stockholders, the inspector or inspectors may consider such information as is permitted by applicable law. No person who is a candidate for office at an election may serve as an inspector at such election. When executing the duties of inspector, the inspector or inspectors shall:

(a) ascertain the number of shares outstanding and the voting power of each;

(b) determine the shares represented at the meeting and the validity of proxies and ballots;

(c) count all votes and ballots;

(d) determine and retain for a reasonable period a record of the disposition of any challenges made to any determination by the inspectors; and

(e) certify their determination of the number of shares represented at the meeting and their count of all votes and ballots.

Section 2.11 Fixing the Record Date.

(a) In order that the Corporation may determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however,* that the Board of Directors may fix a new record date for the determination of stockholders entitled to notice of or to vote at the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion, or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty (60) days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

Section 2.12 Advance Notice of Stockholder Nominations and Proposals.

(a) **Annual Meetings.** At a meeting of the stockholders, only such nominations of persons for the election of directors and such other business shall be conducted as shall have been properly brought before the meeting. Except for nominations that are included in the Corporation's annual meeting proxy statement pursuant to Section 2.13, to be properly brought before an annual meeting, nominations or such other business must be:

(i) specified in the notice of meeting (or any supplement thereto) given by or at the direction of the Board of Directors or any committee thereof;

(ii) otherwise properly brought before the meeting by or at the direction of the Board of Directors or any committee thereof; or

(iii) otherwise properly brought before an annual meeting by a stockholder who is a stockholder of record of the Corporation at the time such notice of meeting is delivered, who is entitled to vote at the meeting, and who complies with the notice procedures set forth in this Section 2.12.

In addition, any proposal of business (other than the nomination of persons for election to the Board of Directors) must be a proper matter for stockholder action. For business (including, but not limited to, director nominations) to be properly brought before an annual meeting by a stockholder pursuant to Section 2.12(a)(iii), the stockholder or stockholders of record intending to propose the business (the "**Proposing Stockholder**") must have given timely notice thereof pursuant to this Section 2.12(a), in writing to the Secretary even if such matter is already the subject of any notice to the stockholders or Public Disclosure from the Board of Directors. To be timely, a Proposing Stockholder's notice for an annual meeting must be delivered to or mailed and received at the principal executive offices of the Corporation: (x) not later than the close of business on the 90th day, nor earlier than the close of business on the 120th day, in advance of the anniversary of the previous year's annual meeting if such meeting is to be held on a day which is not more than 30 days in advance of the anniversary of the previous year's annual meeting or not later than 60 days after the anniversary of the previous year's annual meeting; and (y) with respect to any other annual meeting of stockholders, including in the event that no annual meeting was held in the previous year, not earlier than the close of business on the 120th day prior to the annual meeting and not later than the close of business on the later of: (1) the 90th day prior to the annual meeting and (2) the close of business on the tenth day following the first date of Public Disclosure of the date of such meeting. In no event shall the Public Disclosure of an adjournment or postponement of an annual meeting commence a new notice time period (or extend any notice time period). For the purposes of this Section 2.12 and Section 2.13, "**Public Disclosure**" shall mean a disclosure made in a press release reported by the Dow Jones News Services, The Associated Press, or a comparable national news service or in a document filed by the Corporation with the Securities and Exchange Commission ("**SEC**") pursuant to Section 13, 14, or 15(d) of the Exchange Act.

(b) **Stockholder Nominations.** For the nomination of any person or persons for election to the Board of Directors pursuant to Section 2.12(a)(iii) or Section 2.12(d), a Proposing Stockholder's notice to the Secretary shall set forth or include:

(i) the name, age, business address, and residence address of each nominee proposed in such notice;

(ii) the principal occupation or employment of each such nominee;

(iii) the class and number of shares of capital stock of the Corporation which are owned of record and beneficially by each such nominee (if any);

(iv) such other information concerning each such nominee as would be required to be disclosed in a proxy statement soliciting proxies for the election of such nominee as a director in an election contest (even if an election contest is not involved) or that is otherwise required to be disclosed, under Section 14(a) of the Exchange Act;

(v) a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the Secretary upon written request) and a written statement and agreement executed by each such nominee acknowledging that such person:

(A) consents to being named in the Company's proxy statement as a nominee and to serving as a director if elected,

(B) intends to serve as a director for the full term for which such person is standing for election, and

(C) makes the following representations: (1) that the director nominee has read and agrees to adhere to the Corporation's **CODE OF BUSINESS CONDUCT AND ETHICS**, and any other of the Corporation's policies or guidelines applicable to directors, including with regard to securities trading, and (2) that the director nominee is not and will not become a party to any agreement, arrangement, or understanding with, and has not given any commitment or assurance to, any person or entity as to how such person, if elected as a director of the Corporation, will act or vote on any issue or question (a "**Voting Commitment**") that has not been disclosed to the Corporation or any Voting Commitment that could limit or interfere with such person's ability to comply, if elected as a director of the Corporation, with such person's fiduciary duties under applicable law,and (3) that the director nominee is not and will not become a party to any agreement, arrangement, or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement, or indemnification ("**Compensation Arrangement**") that has not been disclosed to the Corporation in connection with such person's nomination for director or service as a director; and

(vi) as to the Proposing Stockholder:

(A) the name and address of the Proposing Stockholder as they appear on the Corporation's books and of the beneficial owner, if any, on whose behalf the nomination is being made,

(B) the class and number of shares of the Corporation which are owned by the Proposing Stockholder (beneficially and of record) and owned by the beneficial owner, if any, on whose behalf the nomination is being made, as of the date of the Proposing Stockholder's notice, and a representation that the Proposing Stockholder will notify the Corporation in writing of the class and number of such shares owned of record and beneficially as of the record date for the meeting within five business days after the record date for such meeting,

(C) a description of any agreement, arrangement, or understanding with respect to such nomination between or among the Proposing Stockholder or the beneficial owner, if any, on whose behalf the nomination is being made and any of their affiliates or associates, and any others (including their names) acting in concert with any of the foregoing, and a representation that the Proposing Stockholder will notify the Corporation in writing of any such agreement, arrangement, or understanding in effect as of the record date for the meeting within five business days after the record date for such meeting,

(D) a description of any agreement, arrangement, or understanding (including any derivative or short positions, profit interests, options, hedging transactions, and borrowed or loaned shares) that has been entered into as of the date of the Proposing Stockholder's notice by, or on behalf of, the Proposing Stockholder or the beneficial owner, if any, on whose behalf the nomination is being made and any of their affiliates or associates, the effect or intent of which is to mitigate loss to, manage risk or benefit of share price changes for, or increase or decrease the voting power of such person or any of their affiliates or associates with respect to shares of stock of the Corporation, and a representation that the Proposing Stockholder will notify the Corporation in writing of any such agreement, arrangement, or understanding in effect as of the record date for the meeting within five business days after the record date for such meeting,

(E) a representation that the Proposing Stockholder is a holder of record of shares of the Corporation entitled to vote at the meeting and intends to appear in person or by proxy at the meeting to nominate the person or persons specified in the notice, and

(F) a representation whether the Proposing Stockholder intends to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve the nomination and/or otherwise to solicit proxies from stockholders in support of the nomination. The Corporation may require any proposed nominee to furnish such other information as it may reasonably require to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation or that could be material to a reasonable stockholder's understanding of the independence, or lack thereof, of such nominee.

(c) **Other Stockholder Proposals.** For all business other than director nominations, a Proposing Stockholder's notice to the Secretary shall set forth as to each matter the Proposing Stockholder proposes to bring before the annual meeting:

(i) a brief description of the business desired to be brought before the annual meeting;

(ii) the reasons for conducting such business at the annual meeting;

(iii) the text of any proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend these by-laws, the language of the proposed amendment);

(iv) any substantial interest (within the meaning of Item 5 of Schedule 14A under the Exchange Act) in such business of such stockholder and the beneficial owner (within the meaning of Section 13(d) of the Exchange Act), if any, on whose behalf the business is being proposed;

(v) any other information relating to such stockholder and beneficial owner, if any, on whose behalf the proposal is being made, required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for the proposal and pursuant to and in accordance with Section 14(a) of the Exchange Act and the rules and regulations promulgated thereunder;

(vi) a description of all agreements, arrangements, or understandings between or among such stockholder, the beneficial owner, if any, on whose behalf the proposal is being made, any of their affiliates or associates, and any other person or persons (including their names) in connection with the proposal of such business and any material interest of such stockholder, beneficial owner, or any of their affiliates or associates, in such business, including any anticipated benefit therefrom to such stockholder, beneficial owner, or their affiliates or associates; and

(vii) the information required by Section 2.12(b)(vi) above.

(d) **Special Meetings of Stockholders.** Only such business shall be conducted at a special meeting of stockholders as shall have been brought before the meeting pursuant to the Corporation's notice of meeting. Nominations of persons for election to the Board of Directors may be made at a special meeting of stockholders called by the Board of Directors at which directors are to be elected pursuant to the Corporation's notice of meeting:

(i) by or at the direction of the Board of Directors or any committee thereof; or

(ii) provided that the Board of Directors has determined that directors shall be elected at such meeting, by any stockholder of the Corporation who is a stockholder of record at the time the notice provided for in this Section 2.12(d) is delivered to the Secretary, who is entitled to vote at the meeting, and upon such election and who complies with the notice procedures set forth in this Section 2.12.

In the event the Corporation calls a special meeting of stockholders for the purpose of electing one or more directors to the Board of Directors, any such stockholder entitled to vote in such election of directors may nominate a person or persons (as the case may be) for election to such position(s) as specified in the Corporation's notice of meeting, if such stockholder delivers a stockholder's notice that complies with the requirements of Section 2.12(b) to the Secretary at its principal executive offices not earlier than the close of business on the 120th day prior to such special meeting and not later than the close of business on the later of: (x) the 90th day prior to such special meeting; or (y) the tenth (10th) day following the date of the first Public Disclosure of the date of the special meeting and of the nominees proposed by the Board of Directors to be elected at such meeting. In no event shall the Public Disclosure of an adjournment or postponement of a special meeting commence a new time period (or extend any notice time period).

(e) **Effect of Noncompliance.** Only such persons who are nominated in accordance with the procedures set forth in this Section 2.12 or Section 2.13 shall be eligible to be elected at any meeting of stockholders of the Corporation to serve as directors and only such other business shall be conducted at a meeting as shall be brought before the meeting in accordance with the procedures set forth in this Section 2.12 or Section 2.13, as applicable. If any proposed nomination was not made or proposed in compliance with this Section 2.12 or Section 2.13, as applicable, or other business was not made or proposed in compliance with this Section 2.12, then except as otherwise required by law, the chair of the meeting shall have the power and duty to declare that such nomination shall be disregarded or that such proposed other business shall not be transacted. Notwithstanding anything in these by-laws to the contrary, unless otherwise required by law, if a Proposing Stockholder intending to propose business or make nominations at an annual meeting or propose a nomination at a special meeting pursuant to this Section 2.12 does not provide the information required under this Section 2.12 to the Corporation, including the updated information required by Section 2.12(b)(vi)(B), Section 2.12(b)(vi)(C), and Section 2.12(b)(vi)(D) within five business days after the record date for such meeting or the Proposing Stockholder (or a qualified representative of the Proposing Stockholder) does not appear at the meeting to present the proposed business or nominations, such business or nominations shall not be considered, notwithstanding that proxies in respect of such business or nominations may have been received by the Corporation.

(f) **Rule 14a-8.** This Section 2.12 and Section 2.13 shall not apply to a proposal proposed to be made by a stockholder if the stockholder has notified the Corporation of the stockholder's intention to present the proposal at an annual or special meeting only pursuant to and in compliance with Rule 14a-8 under the Exchange Act and such proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such meeting.

Section 2.13 Proxy Access.

(a) **Inclusion of Proxy Access Stockholder Nominee in Proxy Statement.** Subject to the provisions of this Section 2.13, the Corporation shall include in its proxy statement (including its form of proxy and ballot) for an annual meeting of stockholders the name of any stockholder nominee for election to the Board of Directors submitted pursuant to this Section 2.13 (each a "**Proxy Access Stockholder Nominee**") provided:

(i) timely written notice of such Proxy Access Stockholder Nominee satisfying this Section 2.13 ("**Proxy Access Notice**") is delivered to the Corporation by or on behalf of a stockholder or stockholders that, at the time the Proxy Access Notice is delivered, satisfy the ownership and other requirements of this Section 2.13 (such stockholder or stockholders, and any person on whose behalf they are acting, the "**Eligible Stockholder**");

(ii) the Eligible Stockholder expressly elects in writing at the time of providing the Proxy Access Notice to have its Proxy Access Stockholder Nominee included in the Corporation's proxy statement pursuant to this Section 2.13; and

(iii) the Eligible Stockholder and the Proxy Access Stockholder Nominee otherwise satisfy the requirements of this Section 2.13.

(b) **Timely Notice.** To be timely, the Proxy Access Notice must be delivered to the Secretary at the principal executive offices of the Corporation, not later than 120 days nor more than 150 days prior to the first anniversary of the date (as stated in the Corporation's proxy materials) that the Corporation's definitive proxy statement was first sent to stockholders in connection with the preceding year's annual meeting of stockholders/of the preceding year's annual meeting; *provided, however*, that in the event that the date of the annual meeting is advanced by more than 30 days or delayed by more than 60 days from the anniversary of the preceding year's annual meeting, or if no annual meeting was held in the preceding year, the Proxy Access Notice must be so delivered not earlier than the close of business on the 150th day prior to such annual meeting and not later than the close of business on the later of: (i) the 120th day prior to such annual meeting; or (ii) the 10th day following the day on which Public Disclosure of the date of such annual meeting is first made by the Corporation. In no event shall the public announcement of an adjournment or postponement of an annual meeting commence a new time period (or extend any time period) for the giving of the Proxy Access Notice.

(c) **Information to be Included in Proxy Statement.** In addition to including the name of the Proxy Access Stockholder Nominee in the Corporation's proxy statement for the annual meeting, the Corporation shall also include (collectively, the "**Required Information**"):

(i) the information concerning the Proxy Access Stockholder Nominee and the Eligible Stockholder that is required to be disclosed in the Corporation's proxy statement pursuant to the Exchange Act, and the rules and regulations promulgated thereunder; and

(ii) if the Eligible Stockholder so elects, a written statement of the Eligible Stockholder (or in the case of a group, a written statement of the group), not to exceed 500 words, in support of its Proxy Access Stockholder Nominee, which must be provided at the same time as the Proxy Access Notice for inclusion in the Corporation's proxy statement for the annual meeting (a "**Statement**").

Notwithstanding anything to the contrary contained in this Section 2.13, the Corporation may omit from its proxy materials any information or Statement that it, in good faith, believes is untrue in any material respect (or omits a material fact necessary in order to make the statements made, in light of the circumstances under which they are made, not misleading) or would violate any applicable law, rule, regulation, or listing standard. Additionally, nothing in this Section 2.13 shall limit the Corporation's ability to solicit against and include in its proxy statement its own statements relating to any Proxy Access Stockholder Nominee.

(d) **Proxy Access Stockholder Nominee Limits.** The number of Proxy Access Stockholder Nominees (including Proxy Access Stockholder Nominees that were submitted by an Eligible Stockholder for inclusion in the Corporation's proxy statement pursuant to this Section 2.13 but either are subsequently withdrawn or that the Board of Directors decides to nominate (a "**Board Nominee**")) appearing in the Corporation's proxy statement with respect to a meeting of stockholders shall not exceed the greater of: (x) two; or (y) 20% of the number of directors in office as of the last day on which notice of a nomination may be delivered pursuant to this Section 2.13 (the "**Final Proxy Access Nomination Date**") or, if such amount is not a whole number, the closest whole number below 20% (the "**Permitted Number**"); *provided, however*, that:

(i) in the event that one or more vacancies for any reason occurs on the Board of Directors at any time after the Final Proxy Access Nomination Date and before the date of the applicable annual meeting of stockholders and the Board of Directors resolves to reduce the size of the Board of Directors in connection therewith, the Permitted Number shall be calculated based on the number of directors in office as so reduced; and

(ii) any Proxy Access Stockholder Nominee who is included in the Corporation's proxy statement for a particular meeting of stockholders but either: (A) withdraws from or becomes ineligible or unavailable for election at the meeting, or (B) does not receive a number of votes cast in favor of his or her election at least equal to 25% of the shares present in person or represented by proxy at the annual meeting and entitled to vote on the Proxy Access Stockholder Nominee's election, shall be ineligible to be included in the Corporation's proxy statement as a Proxy Access Stockholder Nominee pursuant to this Section 2.13 for the next two annual meetings of stockholders following the meeting for which the Proxy Access Stockholder Nominee has been nominated for election; and

(iii) any director in office as of the nomination deadline who was included in the Corporation's proxy statement as a Proxy Access Stockholder Nominee for any of the two preceding annual meetings and whom the Board of Directors decides to nominate for election to the Board of Directors also will be counted against the Permitted Number.

In the event that the number of Proxy Access Stockholder Nominees submitted by Eligible Stockholders pursuant to this Section 2.13 exceeds the Permitted Number, each Eligible Stockholder shall select one Proxy Access Stockholder Nominee for inclusion in the Corporation's proxy statement until the Permitted Number is reached, going in order of the amount (from greatest to least) of voting power of the Corporation's capital stock entitled to vote on the election of directors as disclosed in the Proxy Access Notice. If the Permitted Number is not reached after each Eligible Stockholder has selected one Proxy Access Stockholder Nominee, this selection process shall continue as many times as necessary, following the same order each time, until the Permitted Number is reached.

(e) **Eligibility of Nominating Stockholder; Stockholder Groups.** An Eligible Stockholder must have owned (as defined below) continuously for at least three years a number of shares that represents 3% or more of the outstanding shares of the Corporation entitled to vote in the election of directors (the "**Required Shares**") as of both the date the Proxy Access Notice is delivered to or received by the Corporation in accordance with this Section 2.13 and the record date for determining stockholders entitled to vote at the meeting and must intend to continue to own the Required Shares for at least one year following the date of the annual meeting/deliver a statement regarding the Eligible Stockholder's intent with respect to continued ownership of the Required Shares for at least one year following the annual meeting. For purposes of satisfying the ownership requirement under this Section 2.13, the voting power represented by the shares of the Corporation's capital stock owned by one or more stockholders, or by the person or persons who own shares of the Corporation's capital stock and on whose behalf any stockholder is acting, may be aggregated, provided that:

(i) the number of stockholders and other persons whose ownership of shares is aggregated for such purpose shall not exceed 10; and

(ii) each stockholder or other person whose shares are aggregated shall have held such shares continuously for at least three years.

Whenever an Eligible Stockholder consists of a group of stockholders and/or other persons, any and all requirements and obligations for an Eligible Stockholder set forth in this Section 2.13 must be satisfied by and as to each such stockholder or other person, except that shares may be aggregated to meet the Required Shares as provided in this Section 2.13(e). With respect to any one particular annual meeting, no stockholder or other person may be a member of more than one group of persons constituting an Eligible Stockholder under this Section 2.13.

(f) **Funds.** A group of two or more funds shall be treated as one stockholder or person for this Section 2.13 provided that the other terms and conditions in this Section 2.13 are met (including Section 2.13(h)(v)(A)) and the funds are:

(i) under common management and investment control;

(ii) under common management and funded primarily by the same employer (or by a group of related employers that are under common control); or

(iii) a "group of investment companies," as such term is defined in Section 12(d)(1)(G)(ii) of the Investment Company Act of 1940, as amended.

(g) **Ownership.** For purposes of this Section 2.13, an Eligible Stockholder shall be deemed to "**own**" only those outstanding shares of the Corporation's capital stock as to which the person possesses both:

(i) the full voting and investment rights pertaining to the shares; and

(ii) the full economic interest in (including the opportunity for profit and risk of loss on) such shares; provided that the number of shares calculated in accordance with clauses (i) and (ii) shall not include any shares:

(A) sold by such person or any of its affiliates in any transaction that has not been settled or closed,

(B) borrowed by such person or any of its affiliates for any purposes or purchased by such person or any of its affiliates pursuant to an agreement to resell, or

(C) subject to any option, warrant, forward contract, swap, contract of sale, other derivative, or similar agreement entered into by such person or any of its affiliates, whether any such instrument or agreement is to be settled with shares or with cash based on the notional amount or value of outstanding shares of the Corporation's capital stock, in any such case which instrument or agreement has, or is intended to have, the purpose or effect of: (1) reducing in any manner, to any extent or at any time in the future, such person's or affiliates' full right to vote or direct the voting of any such shares; and/or (2) hedging, offsetting, or altering to any degree gain or loss arising from the full economic ownership of such shares by such person or affiliate.

An Eligible Stockholder "**owns**" shares held in the name of a nominee or other intermediary so long as the Eligible Stockholder retains the right to instruct how the shares are voted with respect to the election of directors and possesses the full economic interest in the shares. An Eligible Stockholder's ownership of shares shall be deemed to continue during any period in which the Eligible Stockholder has delegated any voting power by means of a proxy, power of attorney, or other instrument or arrangement that is revocable at any time by the person. An Eligible Stockholder's ownership of shares shall be deemed to continue during any period in which the Eligible Stockholder has loaned such shares, provided that the Eligible Stockholder has the power to recall such loaned shares on three business days' notice and recalls such loaned shares not more than three business days after being notified that any of its Proxy Access Stockholder Nominees will be included in the Corporation's proxy statement. The terms "**owned**," "**owning**," and other variations of the word "**own**" shall have correlative meanings. For purposes of this Section 2.13, the term "**affiliate**" shall have the meaning ascribed thereto in the regulations promulgated under the Exchange Act.

(h) **Nomination Notice and Other Eligible Stockholder Deliverables.** An Eligible Stockholder must provide with its Proxy Access Notice the following information in writing to the Secretary:

(i) one or more written statements from the record holder of the shares (and from each intermediary through which the shares are or have been held during the requisite three-year holding period) verifying that, as of a date within seven calendar days prior to the date the Proxy Access Notice is delivered to or received by the Corporation, the Eligible Stockholder owns, and has owned continuously for the preceding three years, the Required Shares, and the Eligible Stockholder's agreement to provide:

(A) within five business days after the record date for the meeting, written statements from the record holder and intermediaries verifying the Eligible Stockholder's continuous ownership of the Required Shares through the record date, and

(B) immediate notice if the Eligible Stockholder ceases to own any of the Required Shares prior to the date of the applicable annual meeting of stockholders;

(ii) the Eligible Stockholder's representation and agreement that the Eligible Stockholder (including each member of any group of stockholders that together is an Eligible Stockholder under this Section 2.13):

(A) intends to continue to satisfy the eligibility requirements described in this Section 2.13 through the date of the annual meeting, including a statement that the Eligible Stockholder intends to continue to own the Required Shares for at least one year following the date of the annual meeting/regarding the Eligible Stockholder's intent with respect to continued ownership of the Required Shares for at least one year following the annual meeting,

(B) acquired the Required Shares in the ordinary course of business and not with the intent to change or influence control of the Corporation, and does not presently have such intent,

(C) has not nominated and will not nominate for election to the Board of Directors at the meeting any person other than the Proxy Access Stockholder Nominee(s) being nominated pursuant to this Section 2.13,

(D) has not engaged and will not engage in, and has not and will not be, a "participant" in another person's "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act in support of the election of any individual as a director at the meeting other than its Proxy Access Stockholder Nominee(s) or a Board Nominee,

(E) will not distribute to any stockholder any form of proxy for the meeting other than the form distributed by the Corporation,

(F) has provided and will provide facts, statements, and other information in all communications with the Corporation and its stockholders that are or will be true and correct in all material respects and do not and will not omit to state a material fact necessary in order to make the statements made, in light of the circumstances under which they were made, not misleading,

(G) agrees to assume all liability stemming from any legal or regulatory violation arising out of the Eligible Stockholder's communications with the Corporation's stockholders or out of the information that the Eligible Stockholder provides to the Corporation,

(H) agrees to indemnify and hold harmless the Corporation and each of its directors, officers, and employees individually against any liability, loss, or damages in connection with any threatened or pending action, suit, or proceeding, whether legal, administrative, or investigative, against the Corporation or any of its directors, officers, or employees arising out of any nomination submitted by the Eligible Stockholder pursuant to this Section 2.13,

(I) will file with the SEC any solicitation or other communication with the Corporation's stockholders relating to the meeting at which the Proxy Access Stockholder Nominee will be nominated, regardless of whether any such filing is required under Section 14 of the Exchange Act and the rules and regulations promulgated thereunder or whether any exemption from filing is available for such solicitation or other communication under Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, and

(J) will comply with all other applicable laws, rules, regulations, and listing standards with respect to any solicitation in connection with the meeting;

(iii) the written consent of each Proxy Access Stockholder Nominee to be named in the Corporation's proxy statement, and form of proxy and ballot and, as a nominee and, if elected, to serve as a director;

(iv) a copy of the Schedule 14N (or any successor form) that has been filed with the SEC as required by Rule 14a-18 under the Exchange Act;

(v) in the case of a nomination by a group of stockholders that together is an Eligible Stockholder:

(A) documentation satisfactory to the Corporation demonstrating that a group of funds qualifies pursuant to the criteria set forth in Section 2.13(f) to be treated as one stockholder or person for purposes of this Section 2.13, and

(B) the designation by all group members of one group member that is authorized to act on behalf of all members of the nominating stockholder group with respect to the nomination and matters related thereto, including withdrawal of the nomination; and

(vi) if desired, a Statement.

(i) **Stockholder Nominee Agreement.** Each Proxy Access Stockholder Nominee must:

(i) provide within five business days of the Corporation's request an executed agreement, in a form deemed satisfactory to the Corporation, providing the following representations:

(A) the Proxy Access Stockholder Nominee has read and agrees to adhere to the Corporation's **CODE OF BUSINESS CONDUCT AND ETHICS**, and any other of the Corporation's policies or guidelines applicable to directors, including with regard to securities trading, and

(B) the Proxy Access Stockholder Nominee is not and will not become a party to: (1) any Voting Commitment that has not been disclosed to the Corporation; or (2) any Voting Commitment that could limit or interfere with such person's ability to comply, if elected as a director of the Corporation, with such person's fiduciary duties under applicable law, and

(C) the Proxy Access Stockholder Nominee is not and will not become a party to any Compensation Arrangement in connection with such person's nomination for director or service as a director that has not been disclosed to the Corporation;

(ii) complete, sign, and submit all questionnaires required of the Corporation's Board of Directors within five business days of receipt of each such questionnaire from the Corporation; and

(iii) provide within five business days of the Corporation's request such additional information as the Corporation determines may be necessary to permit the Board of Directors to determine whether such Proxy Access Stockholder Nominee meets the requirements of this Section 2.13 or the Corporation's requirements with regard to director qualifications and policies and guidelines applicable to directors, including whether:

(A) such Proxy Access Stockholder Nominee is independent under the independence requirements, including the committee independence requirements, set forth in the listing standards of the stock exchange on which shares of the Corporation's capital stock are listed, any applicable rules of the SEC, and any publicly disclosed standards used by the Board of Directors in determining and disclosing the independence of the directors (the "**Independence Standards**"),

(B) such Proxy Access Stockholder Nominee has any direct or indirect relationship with the Corporation that has not been deemed categorically immaterial pursuant to the Corporation's **CODE OF BUSINESS CONDUCT AND ETHICS**, and

(C) such Proxy Access Stockholder Nominee is not and has not been subject to: (1) any event specified in Item 401(f) of Regulation S-K under the Securities Act of 1933, as amended (the "**Securities Act**"), or (2) any order of the type specified in Rule 506(d) of Regulation D under the Securities Act.

(j) **Eligible Stockholder/Proxy Access Stockholder Nominee Undertaking.** In the event that any information or communications provided by the Eligible Stockholder or Proxy Access Stockholder Nominee to the Corporation or its stockholders ceases to be true and correct in any respect or omits a fact necessary to make the statements made, in light of the circumstances under which they were made, not misleading, each Eligible Stockholder or Proxy Access Stockholder Nominee, as the case may be, shall promptly notify the Secretary of any such inaccuracy or omission in such previously provided information and of the information that is required to make such information or communication true and correct. Notwithstanding the foregoing, the provision of any such notification pursuant to the preceding sentence shall not be deemed to cure any defect or limit the Corporation's right to omit a Proxy Access Stockholder Nominee from its proxy materials as provided in this Section 2.13.

(k) **Exceptions Permitting Exclusion of Proxy Access Stockholder Nominee.** The Corporation shall not be required to include pursuant to this Section 2.13 a Proxy Access Stockholder Nominee in its proxy statement (or, if the proxy statement has already been filed, to allow the nomination of a Proxy Access Stockholder Nominee, notwithstanding that proxies in respect of such vote may have been received by the Corporation):

(i) if the Eligible Stockholder who has nominated such Proxy Access Stockholder Nominee has nominated for election to the Board of Directors at the meeting any person other than pursuant to this Section 2.13, or has or is engaged in, or has been or is a "participant" in another person's, "solicitation" within the meaning of Rule 14a-1(l) under the Exchange Act in support of the election of any individual as a director at the meeting other than its Proxy Access Stockholder Nominee(s) or a Board Nominee;

(ii) if the Corporation has received a notice (whether or not subsequently withdrawn) that a stockholder intends to nominate any candidate for election to the Board of Directors pursuant to the advance notice requirements in Section 2.12 of these by-laws;

(iii) who is not independent under the Independence Standards;

(iv) whose election as a member of the Board of Directors would violate or cause the Corporation to be in violation of these by-laws, the Corporation's **CODE OF BUSINESS CONDUCT AND ETHICS**, or other document setting forth qualifications for directors, the listing standards of the stock exchange on which shares of the Corporation's capital stock is listed, or any applicable state or federal law, rule, or regulation;

(v) if the Proxy Access Stockholder Nominee is or becomes a party to any undisclosed Voting Commitment;

(vi) if the Proxy Access Stockholder Nominee is or becomes a party to any undisclosed Compensation Arrangement;

(vii) who is or has been, within the past three years, an officer or director of a competitor, as defined in Section 8 of the Clayton Antitrust Act of 1914;

(viii) who is a named subject of a pending criminal proceeding (excluding traffic violations and other minor offenses) or has been convicted in such a criminal proceeding within the past ten years;

(ix) who is subject to any order of the type specified in Rule 506(d) of Regulation D under the Securities Act; or

(x) if such Proxy Access Stockholder Nominee or the applicable Eligible Stockholder shall have provided information to the Corporation in respect of such nomination that was untrue in any material respect or omitted to state a material fact necessary in order to make the statement made, in light of the circumstances under which they were made, not misleading or shall have breached its or their agreements, representations, undertakings, or obligations pursuant to this Section 2.13.

(l) **Invalidity.** Notwithstanding anything to the contrary set forth herein, the Board of Directors or the person presiding at the meeting shall be entitled to declare a nomination by an Eligible Stockholder to be invalid, and such nomination shall be disregarded notwithstanding that proxies in respect of such vote may have been received by the Corporation; and the Corporation shall not be required to include in its proxy statement any successor or replacement nominee proposed by the applicable Eligible Stockholder or any other Eligible Stockholder if:

(i) the Proxy Access Stockholder Nominee and/or the applicable Eligible Stockholder shall have breached its or their agreements, representations, undertakings, or obligations pursuant to this Section 2.13, as determined by the Board of Directors or the person presiding at the meeting; or

(ii) the Eligible Stockholder (or a qualified representative thereof) does not appear at the meeting to present any nomination pursuant to this Section 2.13.

(m) **Interpretation.** The Board of Directors (and any other person or body authorized by the Board of Directors) shall have the power and authority to interpret this Section 2.13 and to make any and all determinations necessary or advisable to apply this Section 2.13 to any persons, facts, or circumstances, including the power to determine whether:

(i) a person or group of persons qualifies as an Eligible Stockholder;

(ii) outstanding shares of the Corporation's capital stock are "owned" for purposes of meeting the ownership requirements of this Section 2.13;

(iii) a notice complies with the requirements of this Section 2.13;

(iv) a person satisfies the qualifications and requirements to be a Proxy Access Stockholder Nominee;

(v) inclusion of the Required Information in the Corporation's proxy statement is consistent with all applicable laws, rules, regulations, and listing standards; and

(vi) any and all requirements of this Section 2.13 have been satisfied.

(vii) Any such interpretation or determination adopted in good faith by the Board of Directors (or any other person or body authorized by the Board of Directors) shall be conclusive and binding on all persons, including the Corporation and all record or beneficial owners of stock of the Corporation.

Section 2.14 No Action by Stockholder Consent in Lieu of a Meeting. Provided that the Corporation's Common Stock is registered under Section 12 of the Exchange Act or is required to file reports with the Securities and Exchange Commission under Section 15(d) of the Exchange Act, any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of the stockholders of Corporation and may not be effected by any consent by such stockholders without a meeting.

ARTICLE III
BOARD OF DIRECTORS

Section 3.01 General Powers. The business and affairs of the Corporation shall be managed by or under the direction of the Board of Directors. The Board of Directors may adopt such rules and procedures, not inconsistent with the Certificate of Incorporation, these by-laws, or applicable law, as it may deem proper for the conduct of its meetings and the management of the Corporation.

Section 3.02 Number; Term of Office. The Board of Directors shall consist of not less than three (3) and not more than nine (9) directors as fixed from time to time solely by resolution of a majority of the total number of directors that the Corporation would have if there were no vacancies adopting an amendment to these by-laws setting forth the number of directors therein. Until changed by such a resolution of directors, the number of directors shall be six (6). Each director shall hold office until a successor is duly elected and qualified or until the director's earlier death, resignation, disqualification, or removal.

Section 3.03 Newly Created Directorships and Vacancies. Any newly created directorships resulting from an increase in the authorized number of directors and any vacancies occurring in the Board of Directors, shall be filled solely by the affirmative votes of a majority of the remaining members of the Board of Directors, although less than a quorum, or by a sole remaining director. A director so elected shall be elected to hold office until the earlier of the expiration of the term of office of the director whom he or she has replaced, a successor is duly elected and qualified, or the earlier of such director's death, resignation, or removal.

Section 3.04 Resignation. Any director may resign at any time by notice given in writing or by electronic transmission to the Corporation. Such resignation shall take effect at the date of receipt of such notice by the Corporation or at such later effective date or upon the happening of an event or events as is therein specified. A resignation that is conditioned on a director failing to receive a specified vote for reelection as a director may provide that it is irrevocable. A verbal resignation shall not be deemed effective until confirmed by the director in writing or by electronic transmission to the Corporation.

Section 3.05 Removal. Except as prohibited by applicable law or the Certificate of Incorporation, the stockholders holding a majority of the shares then entitled to vote at an election of directors may remove any director from office with or without cause.

Section 3.06 Fees and Expenses. Directors shall receive such reasonable fees for their services on the Board of Directors and any committee thereof and such reimbursement of their actual and reasonable expenses as may be fixed or determined by the Board of Directors.

Section 3.07 Regular Meetings. Regular meetings of the Board of Directors may be held without notice at such times and at such places as may be determined from time to time by the Board of Directors.

Section 3.08 Special Meetings. Special meetings of the Board of Directors may be held at such times and at such places as may be determined by the Chair of the Board or the Chief Executive Officer on at least 24 hours' notice to each director given by one of the means specified in Section 3.11 hereof other than by mail or on at least three days' notice if given by mail. Special meetings shall be called by the Chair of the Board or the Chief Executive Officer in like manner and on like notice on the written request of any three (3) or more directors. The notice need not state the purposes of the special meeting and, unless indicated in the notice thereof, any and all business may be transacted at a special meeting.

Section 3.09 Telephone Meetings. Board of Directors or Board of Directors committee meetings may be held by means of telephone conference or other communications equipment by means of which all persons participating in the meeting can hear each other and be heard. Participation by a director in a meeting pursuant to this Section 3.09 shall constitute presence in person at such meeting.

Section 3.10 Adjourned Meetings. A majority of the directors present at any meeting of the Board of Directors, including an adjourned meeting, whether or not a quorum is present, may adjourn and reconvene such meeting to another time and place. At least 24 hours' notice of any adjourned meeting of the Board of Directors shall be given to each director whether or not present at the time of the adjournment, if such notice shall be given by one of the means specified in Section 3.11 hereof other than by mail, or at least three days' notice if by mail. Any business may be transacted at an adjourned meeting that might have been transacted at the meeting as originally called.

Section 3.11 Notices. Subject to Section 3.08, Section 3.10, and Section 3.12 hereof, whenever notice is required to be given to any director by applicable law, the Certificate of Incorporation, or these by-laws, such notice shall be deemed given effectively if given in person or by telephone, mail addressed to such director at such director's address as it appears on the records of the Corporation, facsimile, e-mail, or by other means of electronic transmission.

Section 3.12 Waiver of Notice. Whenever notice to directors is required by applicable law, the Certificate of Incorporation, or these by-laws, a waiver thereof, in writing signed by, or by electronic transmission by, the director entitled to the notice, whether before or after such notice is required, shall be deemed equivalent to notice. Attendance by a director at a meeting shall constitute a waiver of notice of such meeting except when the director attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business on the ground that the meeting was not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special Board of Directors or committee meeting need be specified in any waiver of notice.

Section 3.13 Organization. At each regular or special meeting of the Board of Directors, the Chair of the Board or, in his or her absence, another director selected by the Board of Directors shall preside. The Secretary shall act as secretary at each meeting of the Board of Directors. If the Secretary is absent from any meeting of the Board of Directors, an assistant secretary of the Corporation shall perform the duties of secretary at such meeting; and in the absence from any such meeting of the Secretary and all assistant secretaries of the Corporation, the person presiding at the meeting may appoint any person to act as secretary of the meeting.

Section 3.14 Quorum of Directors. Except as otherwise provided by these by-laws, the Certificate of Incorporation, or required by applicable law, the presence of a majority of the total number of directors on the Board of Directors shall be necessary and sufficient to constitute a quorum for the transaction of business at any meeting of the Board of Directors.

Section 3.15 Action by Majority Vote. Except as otherwise provided by these by-laws, the Certificate of Incorporation, or required by applicable law, the vote of a majority of the directors present at a meeting at which a quorum is present shall be the act of the Board of Directors.

Section 3.16 Directors' Action Without Meeting. Unless otherwise restricted by the Certificate of Incorporation or these by-laws, any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all directors or members of such committee, as the case may be, consent thereto in writing or by electronic transmission.

Section 3.17 Chair of the Board. The Board of Directors shall annually elect one of its members to be its chair (the "**Chair of the Board**") and shall fill any vacancy in the position of Chair of the Board at such time and in such manner as the Board of Directors shall determine. Except as otherwise provided in these by-laws, the Chair of the Board shall preside at all meetings of the Board of Directors and of stockholders. The Chair of the Board shall perform such other duties and services as shall be assigned to or required of the Chair of the Board by the Board of Directors.

Section 3.18 Committees of the Board of Directors. The Board of Directors may designate one or more committees, each committee to consist of one or more of the directors of the Corporation. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. If a member of a committee shall be absent from any meeting, or disqualified from voting thereat, the remaining member or members present at the meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board of Directors to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent permitted by applicable law, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation and may authorize the seal of the Corporation to be affixed to all papers that may require it to the extent so authorized by the Board of Directors. Unless the Board of Directors provides otherwise, at all meetings of such committee, a majority of the then authorized members of the committee shall constitute a quorum for the transaction of business, and the vote of a majority of the members of the committee present at any meeting at which there is a quorum shall be the act of the committee. Each committee shall keep regular minutes of its meetings. Unless the Board of Directors provides otherwise, each committee designated by the Board of Directors may make, alter and repeal rules and procedures for the conduct of its business. In the absence of such rules and procedures each committee shall conduct its business in the same manner as the Board of Directors conducts its business pursuant to this Article III.

ARTICLE IV
OFFICERS

Section 4.01 Positions and Election. The officers of the Corporation shall be chosen by the Board of Directors and shall include a chief executive officer (the "**Chief Executive Officer"**), a president (the "**President**"), a chief financial officer (the "**Chief Financial Officer**"), a treasurer (the "**Treasurer**"), and a secretary (the "**Secretary**"). The Board of Directors, in its discretion, may also elect one or more vice presidents, assistant treasurers, assistant secretaries, and other officers in accordance with these by-laws. Any two or more offices may be held by the same person.

Section 4.02 Term. Each officer of the Corporation shall hold office until such officer's successor is elected and qualified or until such officer's earlier death, resignation, or removal. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors at any time with or without cause by the majority vote of the members of the Board of Directors then in office. The removal of an officer shall be without prejudice to his or her contract rights, if any. The election or appointment of an officer shall not of itself create contract rights. Any officer of the Corporation may resign at any time by giving written notice of his or her resignation to the President or the Secretary. Any such resignation shall take effect at the time specified therein or, if the time when it shall become effective shall not be specified therein, immediately upon its receipt. Unless otherwise specified therein, the acceptance of such resignation shall not be necessary to make it effective. Should any vacancy occur among the officers, the position shall be filled for the unexpired portion of the term by appointment made by the Board of Directors.

Section 4.03 Chief Executive Officer. The Chief Executive Officer shall, subject to the provisions of these by-laws and the control of the Board of Directors, have general supervision, direction, and control over the business of the Corporation and over its officers. The Chief Executive Officer shall perform all duties incident to the office of the Chief Executive Officer, and any other duties as may be from time to time assigned to the Chief Executive Officer by the Board of Directors, in each case subject to the control of the Board of Directors.

Section 4.04 President. The President shall report and be responsible to the Chief Executive Officer. The President shall have such powers and perform such duties as from time to time may be assigned or delegated to the President by the Board of Directors or the Chief Executive Officer or that are incident to the office of president.

Section 4.05 Vice Presidents. Each vice president of the Corporation shall have such powers and perform such duties as may be assigned to him or her from time to time by the Board of Directors, the Chief Executive Officer, or the President, or that are incident to the office of vice president.

Section 4.06 Secretary. The Secretary shall attend all sessions of the Board of Directors and all meetings of the stockholders and record all votes and the minutes of all proceedings in a book to be kept for that purpose, and shall perform like duties for committees of the Board of Directors when required. He or she shall give, or cause to be given, notice of all meetings of the stockholders and meetings of the Board of Directors, and shall perform such other duties as may be prescribed by the Board of Directors, the Chair of the Board, or the Chief Executive Officer. The Secretary shall keep in safe custody the seal of the Corporation and have authority to affix the seal to all documents requiring it and attest to the same.

Section 4.07 Chief Financial Officer. The Chief Financial Officer shall be the principal financial officer of the Corporation and shall have such powers and perform such duties as may be assigned by the Board of Directors, the Chair of the Board, or the Chief Executive Officer.

Section 4.08 Treasurer. The treasurer of the Corporation shall have the custody of the Corporation's funds and securities, except as otherwise provided by the Board of Directors, and shall keep full and accurate accounts of receipts and disbursements in records belonging to the Corporation and shall deposit all moneys and other valuable effects in the name and to the credit of the Corporation in such depositories as may be designated by the Board of Directors. The treasurer shall disburse the funds of the Corporation as may be ordered by the Board of Directors, taking proper vouchers for such disbursements, and shall render to the Chief Executive Officer and the President and the directors, at the regular meetings of the Board of Directors, or whenever they may require it, an account of all his or her transactions as treasurer and of the financial condition of the Corporation.

Section 4.09 Other Officers. Such other officers as the Board of Directors may choose shall perform such duties and have such powers as from time to time may be assigned to them by the Board of Directors. The Board of Directors may delegate to any other officer of the Corporation the power to choose such other officers and to prescribe their respective duties and powers.

Section 4.10 Duties of Officers May Be Delegated. In case any officer is absent, or for any other reason that the Board of Directors may deem sufficient, the Chief Executive Officer or the President or the Board of Directors may delegate for the time being the powers or duties of such officer to any other officer or to any director.

ARTICLE V
INDEMNIFICATION

Section 5.01 Indemnification. The Corporation shall indemnify and hold harmless to the fullest extent permitted by applicable law as it presently exists or may hereafter be amended, any person who was or is made or is threatened to be made a party or is otherwise involved in any action, suit, or proceeding, whether civil, criminal, administrative, or investigative (a "**Proceeding**"), by reason of the fact that he or she, or a person for whom he or she is the legal representative, is or was a director, officer, employee, or agent of the Corporation or, while a director, officer, employee, or agent of the Corporation, is or was serving at the request of the Corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, enterprise, or nonprofit entity, including service with respect to employee benefit plans, against all liability and loss suffered and expenses (including attorneys' fees) actually and reasonably incurred by such person. Notwithstanding the preceding sentence, the Corporation shall be required to indemnify a person in connection with a Proceeding (or part thereof) commenced by such person only if the commencement of such Proceeding (or part thereof) by the person was authorized in the specific case by the Board of Directors.

Section 5.02 Advancement of Expenses. The Corporation shall pay the expenses (including attorneys' fees) actually and reasonably incurred by a director, officer, employee, or agent of the Corporation in defending any Proceeding in advance of its final disposition, upon receipt of an undertaking by or on behalf of such person to repay all amounts advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such person is not entitled to be indemnified for such expenses under this Section 5.02 or otherwise. Payment of such expenses actually and reasonably incurred by such person, may be made by the Corporation, subject to such terms and conditions as the general counsel of the Corporation in his or her discretion deems appropriate.

Section 5.03 Non-Exclusivity of Rights. The rights conferred on any person by this Article V will not be exclusive of any other right which such person may have or hereafter acquire under any statute, provision of the Certificate of Incorporation, these by-laws, agreement, vote of stockholders or disinterested directors, or otherwise, both as to action in his or her official capacity and as to action in another capacity while holding office. The Corporation is specifically authorized to enter into individual contracts with any or all of its directors, officers, employees, or agents respecting indemnification and advances, to the fullest extent not prohibited by the DGCL.

Section 5.04 Other Indemnification. The Corporation's obligation, if any, to indemnify any person who was or is serving at its request as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, enterprise, or nonprofit entity shall be reduced by any amount such person may collect as indemnification from such other corporation, partnership, joint venture, trust, enterprise, or nonprofit entity.

Section 5.05 Insurance. The Corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee, or agent of the Corporation, or is or was serving at the request of Corporation as a director, officer, employee, or agent of another corporation, partnership, joint venture, trust, enterprise, or nonprofit entity against any liability asserted against him or her and incurred by him or her in any such capacity, or arising out of his or her status as such, whether or not the Corporation would have the power to indemnify him or her against such liability under the provisions of the DGCL.

Section 5.06 Repeal, Amendment, or Modification. Any amendment, repeal, or modification of this Article V shall not adversely affect any right or protection hereunder of any person in respect of any act or omission occurring prior to the time of such repeal or modification.

ARTICLE VI
STOCK CERTIFICATES AND THEIR TRANSFER

Section 6.01 Certificates Representing Shares. The shares of stock of the Corporation shall be represented by certificates; provided that the Board of Directors may provide by resolution or resolutions that some or all of any class or series shall be uncertificated shares that may be evidenced by a book-entry system maintained by the registrar of such stock. If shares are represented by certificates, such certificates shall be in the form, other than bearer form, approved by the Board of Directors. The certificates representing shares of stock shall be signed by, or in the name of, the Corporation by any two authorized officers of the Corporation. Any or all such signatures may be facsimiles. Although any officer, transfer agent, or registrar whose manual or facsimile signature is affixed to such a certificate ceases to be such officer, transfer agent, or registrar before such certificate has been issued, it may nevertheless be issued by the Corporation with the same effect as if such officer, transfer agent, or registrar were still such at the date of its issue.

Section 6.02 Transfers of Stock. Stock of the Corporation shall be transferable in the manner prescribed by law and in these by-laws. Transfers of stock shall be made on the books administered by or on behalf of the Corporation only by the direction of the registered holder thereof or such person's attorney, lawfully constituted in writing, and, in the case of certificated shares, upon the surrender to the Company or its transfer agent or other designated agent of the certificate thereof, which shall be cancelled before a new certificate or uncertificated shares shall be issued.

Section 6.03 Transfer Agents and Registrars. The Board of Directors may appoint, or authorize any officer or officers to appoint, one or more transfer agents and one or more registrars.

Section 6.04 Lost, Stolen, or Destroyed Certificates. The Board of Directors or the Secretary may direct a new certificate or uncertificated shares to be issued in place of any certificate theretofore issued by the Corporation alleged to have been lost, stolen, or destroyed upon the making of an affidavit of that fact by the owner of the allegedly lost, stolen, or destroyed certificate. When authorizing such issue of a new certificate or uncertificated shares, the Board of Directors or the Secretary may, in its discretion and as a condition precedent to the issuance thereof, require the owner of the lost, stolen, or destroyed certificate, or the owner's legal representative to give the Corporation a bond sufficient to indemnify it against any claim that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen, or destroyed or the issuance of such new certificate or uncertificated shares.

ARTICLE VII
GENERAL PROVISIONS

Section 7.01 Seal. The seal of the Corporation shall be in such form as shall be approved by the Board of Directors. The seal may be used by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise, as may be prescribed by law or custom or by the Board of Directors.

Section 7.02 Fiscal Year. The fiscal year of the Corporation shall be the calendar year.

Section 7.03 Checks, Notes, Drafts, Etc. All checks, notes, drafts, or other orders for the payment of money of the Corporation shall be signed, endorsed, or accepted in the name of the Corporation by such officer, officers, person, or persons as from time to time may be designated by the Board of Directors or by an officer or officers authorized by the Board of Directors to make such designation.

Section 7.04 Conflict with Applicable Law or Certificate of Incorporation. These by-laws are adopted subject to any applicable law and the Certificate of Incorporation. Whenever these by-laws may conflict with any applicable law or the Certificate of Incorporation, such conflict shall be resolved in favor of such law or the Certificate of Incorporation.

Section 7.05 Books and Records. Any records administered by or on behalf of the Corporation in the regular course of its business, including its stock ledger, books of account, and minute books, may be maintained on any information storage device, method, or one or more electronic networks or databases (including one or more distributed electronic networks or databases); provided that the records so kept can be converted into clearly legible paper form within a reasonable time, and, with respect to the stock ledger, the records so kept comply with Section 224 of the DGCL. The Corporation shall so convert any records so kept upon the request of any person entitled to inspect such records pursuant to applicable law.

Section 7.06 Forum for Adjudication of Disputes. Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for:

(a) any derivative action or proceeding brought on behalf of the Corporation;

(b) any action asserting a claim for breach of a fiduciary duty owed by any director, officer, employee, or agent of the Corporation to the Corporation or the Corporation's stockholders;

(c) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, the Certificate of Incorporation, or these by-laws; or

(d) any action asserting a claim governed by the internal affairs doctrine;

in each case, subject to said court having personal jurisdiction over the indispensable parties named as defendants therein. If any action the subject matter of which is within the scope of this Section 7.06 is filed in a court other than a court located within the State of Delaware (a "**Foreign Action**") in the name of any stockholder, such stockholder shall be deemed to have consented to: (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce this Section 7.06 (an "**Enforcement Action**"); and (ii) having service of process made upon such stockholder in any such Enforcement Action by service upon such stockholder's counsel in the Foreign Action as agent for such stockholder. Any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Section 7.06.

ARTICLE VIII
AMENDMENTS

These by-laws may be adopted, amended, or repealed by the stockholders entitled to vote; *provided, however,* that the Corporation may, in its Certificate of Incorporation, confer the power to adopt, amend, or repeal these by-laws upon the Board of Directors; and, provided further, that any proposal by a stockholder to amend these by-laws will be subject to the provisions of Article II of these by-laws except as otherwise required by law. The fact that such power has been so conferred upon the Board of Directors will not divest the stockholders of the power, nor limit their power to adopt, amend, or repeal by-laws.

Exhibit 4.1(i)

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

Date of Issuance: March 17, 2017

LANTERN PHARMA INC

Preferred Stock Warrant

This certifies that _____ or its assigns ("Holder"), for value received, is entitled to purchase from LANTERN PHARMA INC (the "Company"), _____ shares of fully paid and nonassessable shares of the Company's Series A Preferred Stock, par value $0.01 (the " Warrant Stock") at a price equal to the Stock Purchase Price (as such terms are defined below). Holder also may exercise this Warrant on a cashless or "net issuance" basis as described in Section 1(b) below. This Warrant is being issued in connection with the Series A Preferred Stock and Warrant Purchase Agreement, dated as of December 31, 2014 (the " Purchase Agreement"), between the Company and the Purchasers named therein. Capitalized terms used herein and not otherwise defined in this Warrant shall have the meaning(s) ascribed to them in the Purchase Agreement unless the context would otherwise require.

Additional defined terms for this Warrant. For purposes of this Warrant:

"Change of Control" means a "Deemed Liquidation Event" as defined in the Company's Amended and Restated Certificate of Formation.

"Stock Purchase Price" shall be $5.45 per share.

"Qualified Public Offering" means a firm commitment underwritten public offering with a price per share of $21.64 or more (subject to adjustments for stock dividends, splits, combinations and similar events), net proceeds to the Company of not less than $25 million.

This Warrant may be exercised at any time and from time to time, during the period beginning on the date on which the Notes are converted into Equity Securities, and ending at 5:00 p.m. (Pacific time) on December 31, 2020 (the "Expiration Date") (subject to the automatic exercise of this Warrant in connection with a Change of Control or Qualified Public Offering pursuant to Section 4.3 below), upon surrender to the Company at its principal office of this Warrant properly endorsed with the purchase/exercise form attached hereto as Exhibit A duly executed by Holder, and upon payment in cash or by check of the aggregate Stock Purchase Price for the number of shares of Warrant Stock for which this Warrant is being exercised determined in accordance with the provisions hereof. The Stock Purchase Price and the number of shares purchasable hereunder are subject to further adjustment as provided in Section 4 of this Warrant.

This Warrant is subject to the following terms and conditions:

1. Exercise; Issuance of Certificates; Payment for Shares

(a) Subject to the terms and conditions hereof, this Warrant is exercisable at the option of Holder, at any time or from time to time, on or before the Expiration Date for all or any portion of the shares of Warrant Stock that may be purchased hereunder for the Stock Purchase Price multiplied by the number of shares of Warrant Stock to be purchased. In the event that, pursuant to the Company's Amended and Restated Certificate of Formation, an event causing automatic conversion of all of the Company's Series A Preferred Stock shall have occurred prior to the exercise of this Warrant, in whole or in part, then this Warrant shall be exercisable for the number of shares of Common Stock of the Company into which the Warrant Stock not purchased upon any prior exercise of this Warrant would have been so converted. Subject to the provisions of Section 2, certificates for the shares of Warrant Stock so purchased shall be delivered to Holder hereof by the Company within a reasonable time after the rights represented by this Warrant have been so exercised. In the event that this Warrant is exercised for less than the full number of shares that may be purchased under this Warrant, the Company shall cancel this Warrant and execute and deliver a new Warrant of like tenor for the balance of the shares purchasable under this Warrant. Each stock certificate so delivered shall be in such denominations of Warrant Stock as may be requested by Holder hereof and shall be registered in the name of such Holder or such other name as shall be designated by such Holder, subject to the limitations contained in Section 2. No fractional shares shall be issued upon exercise of this Warrant. The Company shall, in lieu of issuing any fractional share, pay the holder entitled to such fraction a sum in cash equal to such fraction multiplied by the then effective Stock Purchase Price.

(b) *Cashless Exercise*. Holder, in lieu of exercising this Warrant by the cash payment of the Stock Purchase Price pursuant to clause (a) of this Section 1, may elect, at any time on or before the Expiration Date, to surrender this Warrant and receive that number of shares of Warrant Stock computed using the following formula:

$$X = \frac{Y\ (A - B)}{A}$$

Where: X = the number of shares of Warrant Stock to be issued to Holder.

Y = the number of shares of Warrant Stock that Holder would otherwise have been entitled to purchase hereunder pursuant to Section 1(a) (or such lesser number of shares as Holder may designate in the case of a partial exercise of this Warrant).

A = the Per Share Price (as defined in Section 1(c) below) of one share of Warrant Stock at the time the net issuance election under this Section 1(b) is made.

B = the Stock Purchase Price then in effect.

Election to exercise under this Section 1(b) may be made by delivering the purchase/exercise form attached hereto as Exhibit A duly executed by Holder, to be followed by surrender of this Warrant.

(c) For purposes of Section 1(b), "Per Share Price" means:

(i) If this Warrant is exercised in connection with the Company's Qualified Public Offering of Common Stock, and if the Company's registration statement relating to such public offering has been declared effective by the Securities and Exchange Commission, then the Per Share Price shall be the product of (A) the initial "Price to Public" of the Common Stock specified in the final prospectus with respect to the offering and (B) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, as applicable.

(ii) If this Warrant is exercised prior to the date of the Company's Qualified Public Offering of Common Stock, the Per Share Price shall be determined in good faith by the Board of Directors of the Company based on relevant facts and circumstances at the time of the net exercise under Section 1(b), including, in the case of a Change of Control, the consideration receivable by the holders of the Warrant Stock in such Change of Control and the liquidation preference (including any declared but unpaid dividends), if any, then applicable to the Warrant Stock; provided, however, where a public market exists for the Company's Common Stock at the time of such exercise, the Per Share Price shall be the product of (x) the average of the closing bid and asked prices of the Common Stock or the closing price quoted on the national securities exchange on which the Common Stock is listed as published in the Wall Street Journal, as applicable, for the ten (10) trading day period ending five (5) trading days prior to the date of determination of the Per Share Price and (y) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, as applicable.

2. Limitation on Transfer.

(a) This Warrant and the Warrant Stock issuable hereunder shall not be transferable except upon the conditions specified in this Section 2, which conditions are intended to ensure compliance with the provisions of the Securities Act. Holder or any holder of the Warrant Stock issuable hereunder will cause any proposed transferee of the Warrant or Warrant Stock issuable hereunder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Section 2.

(b) Each certificate or instrument representing (i) this Warrant, (ii) the Warrant Stock, (iii) shares of the Company's Common Stock issued upon conversion of the Warrant Stock and (iv) any other securities issued in respect to the Preferred Stock or Common Stock issued upon conversion of the Warrant Stock upon any stock split, stock dividend, recapitalization, merger, consolidation or similar event, shall (unless otherwise permitted by the provisions of this Section 2 or unless such securities have been registered under the Securities Act or sold under Rule 144) be stamped or otherwise imprinted with a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

> THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

(c) Holder and each person to whom this Warrant is subsequently transferred represents and warrants to the Company (by acceptance of such transfer) that it is an "accredited investor" (as defined in Rule 501 of Regulation D under the Securities Act) and that it will not transfer this Warrant (or securities issuable upon exercise hereof unless a registration statement under the Securities Act was in effect with respect to such securities at the time of issuance thereof) except pursuant to (i) an effective registration statement under the Securities Act, (ii) Rule 144 under the Securities Act (or any other rule under the Securities Act relating to the disposition of securities), or (iii) an opinion of counsel, reasonably satisfactory to counsel for the Company, that an exemption from such registration is available; provided, however, that Holder may transfer this Warrant without the consent of the Company or the necessity of an opinion of counsel as follows: (a) if Holder is a partnership or a limited liability company (an "LLC"), to a partner or member of such partnership or LLC or a retired partner or member of such partnership or LLC who retires after the date hereof; (b) to the estate of any person or partner or member or retired partner or member (referred to in clause (a)) or for a transfer by gift, will or intestate succession of any such person, partner or member to his or her spouse or to the siblings, lineal descendants or ancestors of such person, partner or member or his or her spouse or any partnership or LLC or other estate planning vehicle whose equity interests are beneficially and solely owned by such family members or trusts for the benefit of such family members; (c) to an affiliate (as defined pursuant to Rule 405 under the Act) for which Holder controls all of the equity interests; (d) if Holder is a trust, to a grantor or grantors of such trust; or (e) pursuant to SEC Rule 144 or any successor rule, or for a transfer pursuant to a registration statement declared effective by the SEC under the Act.

(d) Market Stand-Off Provisions. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by any "market stand-off" provisions applicable to Series A Preferred Stock in the Purchase Agreement.

(e) Right of First Refusal and Co-Sale Agreement. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by the Amended and Restated Right of Refusal and Co-Sale Agreement, dated as of March 17, 2017, by and between the Company and the Investors (as defined therein) and Key Holders (as defined therein) thereto.

3. Shares to be Fully Paid; Reservation of Shares. The Company covenants and agrees that all shares of Warrant Stock which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be duly authorized, validly issued, fully paid and nonassessable and free from all preemptive rights of any stockholder and free of all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved, for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of authorized but unissued Warrant Stock, or other securities and property, when and as required to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that such shares of Warrant Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any domestic securities exchange upon which the Warrant Stock may be listed.

4. Adjustment of Stock Purchase Price and Number of Shares. The Stock Purchase Price and the number of shares purchasable upon the exercise of this Warrant shall be subject to adjustment from time to time upon the occurrence of certain events described in this Section 4. Upon each adjustment of the Stock Purchase Price, Holder shall thereafter be entitled to purchase, at the Stock Purchase Price resulting from such adjustment, the number of shares obtained by multiplying the Stock Purchase Price in effect immediately prior to such adjustment by the number of shares purchasable pursuant hereto immediately prior to such adjustment, and dividing the product thereof by the Stock Purchase Price resulting from such adjustment.

4.1 Subdivision or Combination of Stock. In case the Company shall at any time subdivide its outstanding shares of Warrant Stock into a greater number of shares, the Stock Purchase Price in effect immediately prior to such subdivision shall be proportionately reduced, and conversely, in case the outstanding shares of Warrant Stock shall be combined into a smaller number of shares, the Stock Purchase Price in effect immediately prior to such combination shall be proportionately increased.

4.2 Dividends; Reclassification. If at any time or from time to time the holders of Warrant Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) shall have received or become entitled to receive, without payment therefor,

(a) Warrant Stock, or any shares of stock or other securities whether or not such securities are at any time directly or indirectly convertible into or exchangeable for Warrant Stock, or any rights or options to subscribe for, purchase or otherwise acquire any of the foregoing by way of dividend or other distribution,

(b) any cash paid or payable otherwise than as a cash dividend; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend, or

(c) Warrant Stock or other or additional stock or other securities or property (including cash) by way of spin off, split-up, reclassification, combination of shares or similar corporate rearrangement, (other than shares of Warrant Stock issued as a stock split, adjustments in respect of which shall be covered by the terms of Section 4.1 above),

then and in each such case, Holder hereof shall, upon the exercise of this Warrant, be entitled to receive, in addition to the number of shares of Warrant Stock receivable thereupon, and without payment of any additional consideration therefore, the amount of stock and other securities and property (including cash in the cases referred to in clauses (b) and (c) above) which such Holder would hold on the date of such exercise had he been the holder of record of such Warrant Stock as of the date on which holders of Warrant Stock received or became entitled to receive such shares and/or all other additional stock and other securities and property.

4.3 Automatic Exercise upon Change of Control or Initial Public Offering. In the event of a Change of Control or the Company's Qualified Public Offering of Common Stock, unless Holder elects otherwise, this Warrant shall be deemed to have been exercised with respect to all shares of Warrant Stock purchasable hereunder, automatically on a cashless basis pursuant to Section 1(b) with no further action on the part of Holder, effective upon the consummation of the Change of Control or Qualified Public Offering.

4.4 Notice of Adjustment. Upon any adjustment of the Stock Purchase Price, and/or any increase or decrease in the number of shares purchasable upon the exercise of this Warrant, the Company shall give written notice thereof, by first class mail, postage prepaid, addressed to Holder at the address of Holder as shown on the books of the Company. The notice shall be signed by the Company's chief financial officer and shall state the Stock Purchase Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of this Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based.

5. No Voting or Dividend Rights. Nothing contained in this Warrant shall be construed as conferring upon Holder hereof the right to vote or to consent as a stockholder in respect of meetings of stockholders for the election of directors of the Company or any other matters or any rights whatsoever as a stockholder of the Company. No dividends or interest shall be payable or accrued in respect of this Warrant or the interest represented hereby or the shares purchasable hereunder until, and only to the extent that, this Warrant shall have been exercised; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend and shall be subject to adjustment in accordance with Section 4.2 hereof.

6. Amendment and Waiver. Any term of this Warrant may be amended or waived upon written consent of the Company and the holders of a majority-in-interest of the Warrant Stock issuable upon exercise of all outstanding Warrants issued pursuant to the Purchase Agreement. By acceptance hereof, Holder acknowledges that in the event the required consent is obtained, any term of this Warrant may be amended or waived with or without the consent of the Holder; provided, however, that any amendment hereof that would materially adversely affect Holder in a manner different from the holders of the remaining Warrants issued pursuant to the Purchase Agreement shall also require the consent of Holder.

7. Notices. All notices, requests, demands, consents, instructions or other communications required or permitted hereunder shall be in writing and faxed, mailed or delivered to each party at the respective addresses of the parties as set forth on the signature page hereto, or at such other address or facsimile number as either party shall have furnished to the other party in writing. Except as otherwise provided in this Warrant, all such notices and communications shall be effective (a) when sent by Federal Express or other overnight service of recognized standing, on the business day following the deposit with such service; (b) when mailed, by registered or certified mail, first class postage prepaid and addressed as aforesaid through the United States Postal Service, upon receipt; (c) when delivered by hand, upon delivery; and (d) when faxed, upon confirmation of receipt.

8. Descriptive Headings and Governing Law. The descriptive headings of the sections of this Warrant are inserted for convenience only and do not constitute a part of this Warrant. This Warrant and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the State of Texas, without giving effect to principles of conflicts of law.

9. Lost Warrants or Stock Certificates. Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction, or mutilation of any Warrant or stock certificate and, in the case of any such loss, theft or destruction, upon receipt of an indemnity reasonably satisfactory to the Company, or in the case of any such mutilation upon surrender and cancellation of such Warrant or stock certificate, the Company at its expense will make and deliver a new Warrant or stock certificate, of like tenor, in lieu of the lost, stolen, destroyed or mutilated Warrant or stock certificate provided, however, that, if the Company's stock is publicly traded, the Company may require the posting of a bond in an amount and nature as is customary and reasonable given the circumstances.

10. Reservation of Capital Stock. The Company has reserved, and will at all times prior to the Expiration Date continue to reserve and keep available, solely for issuance, sale and delivery upon the exercise of this Warrant, a number of shares of capital stock of the Company equal to the number of shares of capital stock issuable upon the exercise of this Warrant.

11. Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company as of the Date of Issuance set forth above.

[Signature Page Follows]

LANTERN PHARMA INC.

By:
Title: President & CEO
Date:

[Signature Page to the Warrant]

EXHIBIT A

PURCHASE/EXERCISE FORM

To: LANTERN PHARMA INC Dated:

The undersigned, pursuant to the provisions set forth in the attached Warrant, hereby irrevocably elects to (a) purchase shares of the Warrant Stock covered by such Warrant and herewith makes payment of $, representing the full purchase price for such shares at the price per share provided for in such Warrant, or (b) exercise such Warrant for shares purchasable under the Warrant pursuant to the Net Issue Exercise provisions of Section 1(b) of such Warrant.

The undersigned acknowledges that it has reviewed the representations and warranties contained in the Purchase Agreement (as defined in the Warrant) and by its signature below hereby makes such representations and warranties to the Company. Defined terms contained in such representations and warranties shall have the meanings assigned to them in the Purchase Agreement, provided that the term "Purchaser" shall refer to the undersigned and the term "Securities" shall refer to the Warrant Stock and the Common Stock of the Company issuable upon conversion of the Warrant Stock.

The undersigned further acknowledges that it has reviewed the lock-up provisions set forth in Section 4(h) of the Purchase Agreement and agrees to be bound by such provisions.

Signature: _____

Name (print): _____

Title (if applic.): _____

Company (if applic.): _____

Exhibit 4.1(ii)

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

Date of Issuance: March 17, 2017

LANTERN PHARMA INC

Preferred Stock Warrant

This certifies that _____ or its assigns ("Holder"), for value received, is entitled to purchase from LANTERN PHARMA INC (the "Company"), _____ shares of fully paid and nonassessable shares of the Company's Series A Preferred Stock, par value $0.01 (the " Warrant Stock ") at a price equal to the Stock Purchase Price (as such terms are defined below). Holder also may exercise this Warrant on a cashless or "net issuance" basis as described in Section 1(b) below. This Warrant is being issued in connection with the Series A Preferred Stock and Warrant Purchase Agreement, dated as of March 17, 2017 (the " Purchase Agreement "), between the Company and the Purchasers named therein. Capitalized terms used herein and not otherwise defined in this Warrant shall have the meaning(s) ascribed to them in the Purchase Agreement unless the context would otherwise require.

Additional defined terms for this Warrant. For purposes of this Warrant:

"Change of Control" means a "Deemed Liquidation Event" as defined in the Company's Amended and Restated Certificate of Formation.

"Stock Purchase Price" shall be $5.45 per share.

"Qualified Public Offering" means a firm commitment underwritten public offering with a price per share of $21.64 or more (subject to adjustments for stock dividends, splits, combinations and similar events), net proceeds to the Company of not less than $25 million.

This Warrant may be exercised at any time and from time to time, during the period beginning on the date on which the Notes are converted into Equity Securities, and ending at 5:00 p.m. (Pacific time) on the fifth anniversary of the Date of Issuance hereof (the "Expiration Date") (subject to the automatic exercise of this Warrant in connection with a Change of Control or Qualified Public Offering pursuant to Section 4.3 below), upon surrender to the Company at its principal office of this Warrant properly endorsed with the purchase/exercise form attached hereto as Exhibit A duly executed by Holder, and upon payment in cash or by check of the aggregate Stock Purchase Price for the number of shares of Warrant Stock for which this Warrant is being exercised determined in accordance with the provisions hereof. The Stock Purchase Price and the number of shares purchasable hereunder are subject to further adjustment as provided in Section 4 of this Warrant.

This Warrant is subject to the following terms and conditions:

1. Exercise; Issuance of Certificates; Payment for Shares

(a) Subject to the terms and conditions hereof, this Warrant is exercisable at the option of Holder, at any time or from time to time, on or before the Expiration Date for all or any portion of the shares of Warrant Stock that may be purchased hereunder for the Stock Purchase Price multiplied by the number of shares of Warrant Stock to be purchased. In the event that, pursuant to the Company's Amended and Restated Certificate of Formation, an event causing automatic conversion of all of the Company's Series A Preferred Stock shall have occurred prior to the exercise of this Warrant, in whole or in part, then this Warrant shall be exercisable for the number of shares of Common Stock of the Company into which the Warrant Stock not purchased upon any prior exercise of this Warrant would have been so converted. Subject to the provisions of Section 2, certificates for the shares of Warrant Stock so purchased shall be delivered to Holder hereof by the Company within a reasonable time after the rights represented by this Warrant have been so exercised. In the event that this Warrant is exercised for less than the full number of shares that may be purchased under this Warrant, the Company shall cancel this Warrant and execute and deliver a new Warrant of like tenor for the balance of the shares purchasable under this Warrant. Each stock certificate so delivered shall be in such denominations of Warrant Stock as may be requested by Holder hereof and shall be registered in the name of such Holder or such other name as shall be designated by such Holder, subject to the limitations contained in Section 2. No fractional shares shall be issued upon exercise of this Warrant. The Company shall, in lieu of issuing any fractional share, pay the holder entitled to such fraction a sum in cash equal to such fraction multiplied by the then effective Stock Purchase Price.

(b) *Cashless Exercise*. Holder, in lieu of exercising this Warrant by the cash payment of the Stock Purchase Price pursuant to clause (a) of this Section 1, may elect, at any time on or before the Expiration Date, to surrender this Warrant and receive that number of shares of Warrant Stock computed using the following formula:

$$X = \frac{Y\ (A - B)}{A}$$

Where: X = the number of shares of Warrant Stock to be issued to Holder.

Y = the number of shares of Warrant Stock that Holder would otherwise have been entitled to purchase hereunder pursuant to Section 1(a) (or such lesser number of shares as Holder may designate in the case of a partial exercise of this Warrant).

A = the Per Share Price (as defined in Section 1(c) below) of one share of Warrant Stock at the time the net issuance election under this Section 1(b) is made.

B= the Stock Purchase Price then in effect.

Election to exercise under this Section 1(b) may be made by delivering the purchase/exercise form attached hereto as Exhibit A duly executed by Holder, to be followed by surrender of this Warrant.

(c) For purposes of Section 1(b), "Per Share Price" means:

(i) If this Warrant is exercised in connection with the Company's Qualified Public Offering of Common Stock, and if the Company's registration statement relating to such public offering has been declared effective by the Securities and Exchange Commission, then the Per Share Price shall be the product of (A) the initial "Price to Public" of the Common Stock specified in the final prospectus with respect to the offering and (B) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, as applicable.

(ii) If this Warrant is exercised prior to the date of the Company's Qualified Public Offering of Common Stock, the Per Share Price shall be determined in good faith by the Board of Directors of the Company based on relevant facts and circumstances at the time of the net exercise under Section 1(b), including, in the case of a Change of Control, the consideration receivable by the holders of the Warrant Stock in such Change of Control and the liquidation preference (including any declared but unpaid dividends), if any, then applicable to the Warrant Stock; provided, however, where a public market exists for the Company's Common Stock at the time of such exercise, the Per Share Price shall be the product of (x) the average of the closing bid and asked prices of the Common Stock or the closing price quoted on the national securities exchange on which the Common Stock is listed as published in the Wall Street Journal, as applicable, for the ten (10) trading day period ending five (5) trading days prior to the date of determination of the Per Share Price and (y) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, as applicable.

2. Limitation on Transfer.

(a) This Warrant and the Warrant Stock issuable hereunder shall not be transferable except upon the conditions specified in this Section 2, which conditions are intended to ensure compliance with the provisions of the Securities Act. Holder or any holder of the Warrant Stock issuable hereunder will cause any proposed transferee of the Warrant or Warrant Stock issuable hereunder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Section 2.

(b) Each certificate or instrument representing (i) this Warrant, (ii) the Warrant Stock, (iii) shares of the Company's Common Stock issued upon conversion of the Warrant Stock and (iv) any other securities issued in respect to the Preferred Stock or Common Stock issued upon conversion of the Warrant Stock upon any stock split, stock dividend, recapitalization, merger, consolidation or similar event, shall (unless otherwise permitted by the provisions of this Section 2 or unless such securities have been registered under the Securities Act or sold under Rule 144) be stamped or otherwise imprinted with a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933.

(c) Holder and each person to whom this Warrant is subsequently transferred represents and warrants to the Company (by acceptance of such transfer) that it is an "accredited investor" (as defined in Rule 501 of Regulation D under the Securities Act) and that it will not transfer this Warrant (or securities issuable upon exercise hereof unless a registration statement under the Securities Act was in effect with respect to such securities at the time of issuance thereof) except pursuant to (i) an effective registration statement under the Securities Act, (ii) Rule 144 under the Securities Act (or any other rule under the Securities Act relating to the disposition of securities), or (iii) an opinion of counsel, reasonably satisfactory to counsel for the Company, that an exemption from such registration is available; provided, however, that Holder may transfer this Note without the consent of the Company or the necessity of an opinion of counsel as follows:

(a) if Holder is a partnership or a limited liability company (an "LLC"), to a partner or member of such partnership or LLC or a retired partner or member of such partnership or LLC who retires after the date hereof; (b) to the estate of any person or partner or member or retired partner or member (referred to in clause (a)) or for a transfer by gift, will or intestate succession of any such person, partner or member to his or her spouse or to the siblings, lineal descendants or ancestors of such person, partner or member or his or her spouse or any partnership or LLC or other estate planning vehicle whose equity interests are beneficially and solely owned by such family members or trusts for the benefit of such family members; (c) to an affiliate (as defined pursuant to Rule 405 under the Act) for which Holder controls all of the equity interests; (d) if Holder is a trust, to a grantor or grantors of such trust; or (e) pursuant to SEC Rule 144 or any successor rule, or for a transfer pursuant to a registration statement declared effective by the SEC under the Act.

(d) Market Stand-Off Provisions. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by any "market stand-off" provisions applicable to Series A Preferred Stock in the Purchase Agreement.

(e) Right of First Refusal and Co-Sale Agreement. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by the Amended and Restated Right of Refusal and Co-Sale Agreement, dated as of March 17, 2017, by and between the Company and the Investors (as defined therein) and Key Holders (as defined therein) thereto.

3. Shares to be Fully Paid; Reservation of Shares. The Company covenants and agrees that all shares of Warrant Stock which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be duly authorized, validly issued, fully paid and nonassessable and free from all preemptive rights of any stockholder and free of all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved, for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of authorized but unissued Warrant Stock, or other securities and property, when and as required to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that such shares of Warrant Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any domestic securities exchange upon which the Warrant Stock may be listed.

4. Adjustment of Stock Purchase Price and Number of Shares. The Stock Purchase Price and the number of shares purchasable upon the exercise of this Warrant shall be subject to adjustment from time to time upon the occurrence of certain events described in this Section 4. Upon each adjustment of the Stock Purchase Price, Holder shall thereafter be entitled to purchase, at the Stock Purchase Price resulting from such adjustment, the number of shares obtained by multiplying the Stock Purchase Price in effect immediately prior to such adjustment by the number of shares purchasable pursuant hereto immediately prior to such adjustment, and dividing the product thereof by the Stock Purchase Price resulting from such adjustment.

4.1 Subdivision or Combination of Stock. In case the Company shall at any time subdivide its outstanding shares of Warrant Stock into a greater number of shares, the Stock Purchase Price in effect immediately prior to such subdivision shall be proportionately reduced, and conversely, in case the outstanding shares of Warrant Stock shall be combined into a smaller number of shares, the Stock Purchase Price in effect immediately prior to such combination shall be proportionately increased.

4.2 Dividends; Reclassification. If at any time or from time to time the holders of Warrant Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) shall have received or become entitled to receive, without payment therefor,

(a) Warrant Stock, or any shares of stock or other securities whether or not such securities are at any time directly or indirectly convertible into or exchangeable for Warrant Stock, or any rights or options to subscribe for, purchase or otherwise acquire any of the foregoing by way of dividend or other distribution,

(b) any cash paid or payable otherwise than as a cash dividend; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend, or

(c) Warrant Stock or other or additional stock or other securities or property (including cash) by way of spin off, split-up, reclassification, combination of shares or similar corporate rearrangement, (other than shares of Warrant Stock issued as a stock split, adjustments in respect of which shall be covered by the terms of Section 4.1 above),

then and in each such case, Holder hereof shall, upon the exercise of this Warrant, be entitled to receive, in addition to the number of shares of Warrant Stock receivable thereupon, and without payment of any additional consideration therefore, the amount of stock and other securities and property (including cash in the cases referred to in clauses (b) and (c) above) which such Holder would hold on the date of such exercise had he been the holder of record of such Warrant Stock as of the date on which holders of Warrant Stock received or became entitled to receive such shares and/or all other additional stock and other securities and property.

4.3 Automatic Exercise upon Change of Control or Initial Public Offering. In the event of a Change of Control or the Company's Qualified Public Offering of Common Stock, unless Holder elects otherwise, this Warrant shall be deemed to have been exercised with respect to all shares of Warrant Stock purchasable hereunder, automatically on a cashless basis pursuant to Section 1(b) with no further action on the part of Holder, effective upon the consummation of the Change of Control or Qualified Public Offering.

4.4 Notice of Adjustment. Upon any adjustment of the Stock Purchase Price, and/or any increase or decrease in the number of shares purchasable upon the exercise of this Warrant, the Company shall give written notice thereof, by first class mail, postage prepaid, addressed to Holder at the address of Holder as shown on the books of the Company. The notice shall be signed by the Company's chief financial officer and shall state the Stock Purchase Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of this Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based.

5. No Voting or Dividend Rights. Nothing contained in this Warrant shall be construed as conferring upon Holder hereof the right to vote or to consent as a stockholder in respect of meetings of stockholders for the election of directors of the Company or any other matters or any rights whatsoever as a stockholder of the Company. No dividends or interest shall be payable or accrued in respect of this Warrant or the interest represented hereby or the shares purchasable hereunder until, and only to the extent that, this Warrant shall have been exercised; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend and shall be subject to adjustment in accordance with Section 4.2 hereof.

6. Amendment and Waiver. Any term of this Warrant may be amended or waived upon written consent of the Company and the holders of a majority-in-interest of the Warrant Stock issuable upon exercise of all outstanding Warrants issued pursuant to the Purchase Agreement. By acceptance hereof, Holder acknowledges that in the event the required consent is obtained, any term of this Warrant may be amended or waived with or without the consent of the Holder; provided, however, that any amendment hereof that would materially adversely affect Holder in a manner different from the holders of the remaining Warrants issued pursuant to the Purchase Agreement shall also require the consent of Holder.

7. Notices. All notices, requests, demands, consents, instructions or other communications required or permitted hereunder shall be in writing and faxed, mailed or delivered to each party at the respective addresses of the parties as set forth on the signature page hereto, or at such other address or facsimile number as either party shall have furnished to the other party in writing. Except as otherwise provided in this Note, all such notices and communications shall be effective (a) when sent by Federal Express or other overnight service of recognized standing, on the business day following the deposit with such service; (b) when mailed, by registered or certified mail, first class postage prepaid and addressed as aforesaid through the United States Postal Service, upon receipt; (c) when delivered by hand, upon delivery; and (d) when faxed, upon confirmation of receipt.

8. Descriptive Headings and Governing Law. The descriptive headings of the sections of this Warrant are inserted for convenience only and do not constitute a part of this Warrant. This Warrant and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the State of Texas, without giving effect to principles of conflicts of law.

9. Lost Warrants or Stock Certificates. Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction, or mutilation of any Warrant or stock certificate and, in the case of any such loss, theft or destruction, upon receipt of an indemnity reasonably satisfactory to the Company, or in the case of any such mutilation upon surrender and cancellation of such Warrant or stock certificate, the Company at its expense will make and deliver a new Warrant or stock certificate, of like tenor, in lieu of the lost, stolen, destroyed or mutilated Warrant or stock certificate provided, however, that, if the Company's stock is publicly traded, the Company may require the posting of a bond in an amount and nature as is customary and reasonable given the circumstances.

10. Reservation of Capital Stock. The Company has reserved, and will at all times prior to the Expiration Date continue to reserve and keep available, solely for issuance, sale and delivery upon the exercise of this Warrant, a number of shares of capital stock of the Company equal to the number of shares of capital stock issuable upon the exercise of this Warrant.

11. Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respect as if it had been issued and delivered by the Company on the date set forth below.

[Signature Page Follows]

LANTERN PHARMA INC

By: _____

Title: President

[Signature Page to the Warrant]

EXHIBIT A

PURCHASE/EXERCISE FORM

To: LANTERN PHARMA INC Dated:

The undersigned, pursuant to the provisions set forth in the attached Warrant, hereby irrevocably elects to (a) purchase _____ shares of the Warrant Stock covered by such Warrant and herewith makes payment of $ _____, representing the full purchase price for such shares at the price per share provided for in such Warrant, or (b) exercise such Warrant for _____ shares purchasable under the Warrant pursuant to the Net Issue Exercise provisions of Section 1(b) of such Warrant.

The undersigned acknowledges that it has reviewed the representations and warranties contained in the Purchase Agreement (as defined in the Warrant) and by its signature below hereby makes such representations and warranties to the Company. Defined terms contained in such representations and warranties shall have the meanings assigned to them in the Purchase Agreement, provided that the term "Purchaser" shall refer to the undersigned and the term "Securities" shall refer to the Warrant Stock and the Common Stock of the Company issuable upon conversion of the Warrant Stock.

The undersigned further acknowledges that it has reviewed the lock-up provisions set forth in Section 4(h) of the Purchase Agreement and agrees to be bound by such provisions.

Signature: _____

Name (print): _____

Title (if applic.): _____

Company (if applic.): _____

THE SECURITIES REPRESENTED BY THIS WARRANT HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT.

Warrant No.: ____ Date of Issuance: _____, 2019

LANTERN PHARMA INC.

Preferred Stock Warrant

This certifies that _____ or its assigns ("Holder"), for value received, is entitled to purchase from LANTERN PHARMA INC., a Texas corporation (the "Company"), _____ fully paid and nonassessable shares of the Company's Series A Preferred Stock, par value $0.01 (the "Warrant Stock") at a price equal to the Stock Purchase Price (as such term is defined below). Holder also may exercise this Warrant on a cashless or "net issuance" basis as described in Section 1(b) below. This Warrant is being issued in connection with the Series A Preferred Stock and Warrant Purchase Agreement, entered into as of_____, 2019 and [amended as of _____] (the " Purchase Agreement"), among the Company and the Purchasers named therein. Capitalized terms used herein and not otherwise defined in this Warrant shall have the meaning(s) ascribed to them in the Purchase Agreement unless the context would otherwise require.

Additional defined terms for this Warrant. For purposes of this Warrant:

"Amended and Restated Certificate of Formation" means the Company's Amended and Restated Certificate of Formation filed with the Secretary of State of the State of Texas on March 16, 2017, as amended by the Certificate of Amendment filed with the Secretary of State of the State of Texas on November 20, 2018, as may be further amended from time to time.

"Change of Control" means a "Sale of the Company" as defined in the Voting Agreement.

"Qualified Public Offering" means the first closing of a firm commitment underwritten public offering of Common Stock pursuant to an effective registration statement under the Securities Act with a price per share of $21.64 or more (subject to appropriate adjustments for stock dividends, splits, combinations and similar events) and resulting in net proceeds to the Company of not less than $25 million.

"Stock Purchase Price" shall be $5.45 per share.

"Voting Agreement" means the Amended and Restated Voting Agreement, dated as of March 17, 2017, and further amended as of February 26, 2019, by and among the Company and the Investors (as defined therein) and Key Holders (as defined therein) thereto.

This Warrant shall expire and shall no longer be exercisable upon the earliest to occur of (the "Expiration Date"):

(a) at 5:00 p.m. (Pacific time) on the fifth anniversary of the Date of Issuance hereof; and

(b) the consummation of a Change of Control or Qualified Public Offering; provided, however, that the Company shall have provided at least ten (10) days prior written notice of such Change of Control or Qualified Public Offering to Holder. In addition, in the event of any taking by the Company of a record of holders of any class of securities for the purpose of determining the holders thereof who or which are entitled to receive any dividend or other distribution, the Company shall provide notice thereof to the Holder, at least ten (10) days prior thereto, of the date on which any record is to be taken for the purpose of such dividend or distribution.

This Warrant may be exercised at any time and from time to time prior to the Expiration Date upon surrender to the Company at its principal office of this Warrant properly endorsed with the purchase/exercise form attached hereto as Exhibit A (the "Exercise Notice") duly executed by Holder, and upon payment in cash or by check of the aggregate Stock Purchase Price (the "Exercise Price") for the number of shares of Warrant Stock for which this Warrant is being exercised determined in accordance with the provisions hereof (except in the event of a cashless exercise pursuant to Section 1(b) if so indicated in the Exercise Notice). The Stock Purchase Price and the number of shares purchasable hereunder are subject to further adjustment as provided in Section 4 of this Warrant.

This Warrant is subject to the following terms and conditions:

1. Exercise; Issuance of Certificates; Payment for Shares

(a) Subject to the terms and conditions hereof, this Warrant is exercisable at the option of Holder, at any time or from time to time, on or before the Expiration Date for all or any portion of the shares of Warrant Stock that may be purchased hereunder for the Stock Purchase Price multiplied by the number of shares of Warrant Stock to be purchased. In the event that, pursuant to the Company's Amended and Restated Certificate of Formation, an event causing automatic conversion of all of the Company's Series A Preferred Stock shall have occurred prior to the exercise of this Warrant, in whole or in part, then this Warrant shall be exercisable for the number of shares of Common Stock into which the Warrant Stock not purchased upon any prior exercise of this Warrant would have been so converted (and all references to Warrant Stock in this Warrant shall thereafter be deemed to be a reference to such shares of Common Stock). Subject to the provisions of Section 2, certificates for the shares of Warrant Stock so purchased shall be delivered to Holder hereof by the Company within a reasonable time after the rights represented by this Warrant have been so exercised. In the event that this Warrant is exercised for less than the full number of shares that may be purchased under this Warrant, the Company shall cancel this Warrant and execute and deliver a new Warrant of like tenor for the balance of the shares purchasable under this Warrant. Each stock certificate so delivered shall be in such denominations of Warrant Stock as may be requested by Holder hereof and shall be registered in the name of such Holder or such other name as shall be designated by such Holder, subject to the limitations contained in Section 2. No fractional shares shall be issued upon exercise of this Warrant. The Company shall, in lieu of issuing any fractional share, pay the holder entitled to such fraction a sum in cash equal to such fraction multiplied by the then effective Stock Purchase Price.

(b) *Cashless Exercise*. Holder, in lieu of exercising this Warrant by the cash payment of the Stock Purchase Price pursuant to clause (a) of this Section 1, may elect, at any time on or before the Expiration Date, to surrender this Warrant and receive that number of shares of Warrant Stock computed using the following formula:

$$X = \frac{Y\ (A - B)}{A}$$

Where: X = the number of shares of Warrant Stock to be issued to Holder.

Y = the number of shares of Warrant Stock that Holder would otherwise have been entitled to purchase hereunder pursuant to Section 1(a) (or such lesser number of shares as Holder may designate in the case of a partial exercise of this Warrant).

A = the Per Share Price (as defined in Section 1(c) below) of one share of Warrant Stock at the time the net issuance election under this Section 1(b) is made.

B = the Stock Purchase Price then in effect for the applicable shares of Warrant Stock at the time of exercise.

Election to exercise under this Section 1(b) may be made by delivering the purchase/exercise form attached hereto as Exhibit A duly executed by Holder, to be followed by surrender of this Warrant.

For purposes of Rule 144, it is intended, understood and acknowledged that the shares of Warrant Stock issued hereunder upon exercise of this Warrant pursuant to this Section 1(b) shall be deemed to have been acquired at the time this Warrant was issued. Moreover, it is intended, understood and acknowledged that the holding period for the shares of Warrant Stock issued hereunder upon exercise of this Warrant pursuant to this Section 1(b) shall be deemed, for both federal tax and Rule 144 purposes, to have commenced on the date this Warrant was issued.

(c) For purposes of Section 1(b), "Per Share Price" means:

(i) If this Warrant is exercised in connection with the Company's Qualified Public Offering, and if the Company's registration statement relating to such Qualified Public Offering has been declared effective by the Securities and Exchange Commission, then the Per Share Price shall be the product of (A) the initial "Price to Public" of the Common Stock specified in the final prospectus with respect to the offering and (B) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, or, following the occurrence of the event described in the second sentence of Section 1(a), the number of shares of Common Stock for which the Warrant is exercised at such time, as applicable.

(ii) If this Warrant is exercised prior to the date of the Company's Qualified Public Offering of Common Stock, the Per Share Price shall be determined in good faith by the Board of Directors of the Company based on relevant facts and circumstances at the time of the net exercise under Section 1(b), including, in the case of a Change of Control, the consideration receivable by the holders of the Warrant Stock in such Change of Control and the liquidation preference (including any declared but unpaid dividends), if any, then applicable to the Warrant Stock; provided, however, where a public market exists for the Common Stock at the time of such exercise, the Per Share Price shall be the product of (x) the average of the closing bid and asked prices of the Common Stock or the closing price quoted on the national securities exchange on which the Common Stock is listed as published in the Wall Street Journal, as applicable, for the ten (10) trading day period ending five (5) trading days prior to the date of determination of the Per Share Price and (y) the number of shares of Common Stock into which each share of Warrant Stock is convertible at the time of such exercise, or, following the occurrence of the event described in the second sentence of Section 1(a), the number of shares of Common Stock for which the Warrant is exercised at such time, as applicable.

2. Limitation on Transfer.

(a) This Warrant and the Warrant Stock issuable hereunder shall not be transferable except upon the conditions specified in this Section 2, which conditions are intended to ensure compliance with the provisions of the Securities Act. Holder or any holder of the Warrant Stock issuable hereunder will cause any proposed transferee of the Warrant or Warrant Stock issuable hereunder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Section 2.

(b) Each certificate or instrument representing (i) this Warrant, (ii) the Warrant Stock, (iii) shares of the Common Stock issued upon conversion of the Warrant Stock and (iv) any other securities issued in respect to the Series A Preferred Stock or Common Stock issued upon conversion of the Warrant Stock upon any stock split, stock dividend, recapitalization, merger, consolidation or similar event, shall (unless otherwise permitted by the provisions of this Section 2 or unless such securities have been registered under the Securities Act or sold under Rule 144) be stamped or otherwise imprinted with a legend substantially in the following form (in addition to any legend required under applicable state securities laws):

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, AND HAVE BEEN ACQUIRED FOR INVESTMENT AND NOT WITH A VIEW TO, OR IN CONNECTION WITH, THE SALE OR DISTRIBUTION THEREOF. NO SUCH SALE OR DISTRIBUTION MAY BE EFFECTED WITHOUT AN EFFECTIVE REGISTRATION STATEMENT RELATED THERETO OR AN OPINION OF COUNSEL IN A FORM REASONABLY SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED UNDER THE SECURITIES ACT OF 1933, AS AMENDED.

(c) Holder and each person to whom this Warrant is subsequently transferred represents and warrants to the Company (by acceptance of such transfer) that it is an "accredited investor" (as defined in Rule 501 of Regulation D under the Securities Act) and that it will not transfer this Warrant (or securities issuable upon exercise hereof) except pursuant to (i) an effective registration statement under the Securities Act, (ii) Rule 144 under the Securities Act (or any other rule under the Securities Act relating to the disposition of securities), or (iii) an opinion of counsel, reasonably satisfactory to counsel for the Company, that an exemption from such registration is available; provided, however, that Holder may transfer this Warrant (or securities issuable upon exercise hereof unless a registration statement under the Securities Act was in effect with respect to such securities at the time of issuance thereof) without the consent of the Company or the necessity of an opinion of counsel as follows: (a) if Holder is a partnership or a limited liability company (an "LLC"), to a partner or member of such partnership or LLC or a retired partner or member of such partnership or LLC who retires after the date hereof; (b) to the estate of any person or partner or member or retired partner or member (referred to in clause (a)) or for a transfer by gift, will or intestate succession of any such person, partner or member to his or her spouse or to the siblings, lineal descendants or ancestors of such person, partner or member or his or her spouse or any partnership or LLC or other estate planning vehicle whose equity interests are beneficially and solely owned by such family members or trusts for the benefit of such family members; (c) to an affiliate (as defined pursuant to Rule 405 under the Act) for which Holder controls all of the equity interests; (d) if Holder is a trust, to a grantor or grantors of such trust; or (e) pursuant to SEC Rule 144 or any successor rule, or for a transfer pursuant to a registration statement declared effective by the SEC under the Act.

(d) Market Stand-Off Provisions. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by the lock-up provisions applicable to Series A Preferred Stock in the Right of First Refusal and Co-Sale Agreement (as defined below).

(e) Right of First Refusal and Co-Sale Agreement. Holder further agrees to be bound (and shall cause any transferee of this Warrant to be bound) by the Amended and Restated Right of First Refusal and Co-Sale Agreement, dated as of March 17, 2017 (the "Right of First Refusal and Co-Sale Agreement"), by and among the Company and the Investors (as defined therein) and Key Holders (as defined therein) thereto.

3. Shares to be Fully Paid; Reservation of Shares; Prior Notice. The Company covenants and agrees that all shares of Warrant Stock which may be issued upon the exercise of the rights represented by this Warrant will, upon issuance, be duly authorized, validly issued, fully paid and nonassessable and free from all preemptive rights of any shareholder and free of all taxes, liens and charges with respect to the issue thereof. The Company further covenants and agrees that during the period within which the rights represented by this Warrant may be exercised, the Company will at all times have authorized and reserved, for the purpose of issue or transfer upon exercise of the subscription rights evidenced by this Warrant, a sufficient number of shares of authorized but unissued Warrant Stock, or other securities and property, when and as required to provide for the exercise of the rights represented by this Warrant. The Company will take all such action as may be necessary to assure that such shares of Warrant Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any domestic securities exchange upon which the Warrant Stock may be listed.

4. Adjustment of Stock Purchase Price and Number of Shares. The Stock Purchase Price and the number of shares purchasable upon the exercise of this Warrant shall be subject to adjustment from time to time upon the occurrence of certain events described in this Section 4. Upon each adjustment of the Stock Purchase Price, Holder shall thereafter be entitled to purchase, at the Stock Purchase Price resulting from such adjustment, the number of shares obtained by multiplying the Stock Purchase Price in effect immediately prior to such adjustment by the number of shares purchasable pursuant hereto immediately prior to such adjustment, and dividing the product thereof by the Stock Purchase Price resulting from such adjustment.

4.1 Subdivision or Combination of Stock. In case the Company shall at any time or from time to time subdivide its outstanding shares of Warrant Stock into a greater number of shares, the Stock Purchase Price in effect immediately prior to such subdivision shall be proportionately reduced, and conversely, in case the outstanding shares of Warrant Stock shall be combined into a smaller number of shares, the Stock Purchase Price in effect immediately prior to such combination shall be proportionately increased.

4.2 Dividends; Reclassification. If at any time or from time to time the holders of Warrant Stock (or any shares of stock or other securities at the time receivable upon the exercise of this Warrant) shall have received or become entitled to receive, without payment therefor,

(a) Warrant Stock or any shares of stock or other securities, whether or not such securities are at any time directly or indirectly convertible into or exchangeable for Warrant Stock, or any rights or options to subscribe for, purchase or otherwise acquire any of the foregoing, by way of dividend or other distribution,

(b) any cash paid or payable otherwise than as a cash dividend; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend, or

(c) Warrant Stock or other or additional stock or other securities or property (including cash) by way of spin off, split-up, reclassification, combination of shares or similar corporate rearrangement, (other than shares of Warrant Stock issued as a stock split, adjustments in respect of which shall be covered by the terms of Section 4.1 above),

then and in each such case, Holder hereof shall, upon the exercise of this Warrant, be entitled to receive, in addition to the number of shares of Warrant Stock receivable thereupon, and without payment of any additional consideration therefore, the amount of stock and other securities and property (including cash in the cases referred to in clauses (b) and (c) above) which such Holder would hold on the date of such exercise had he been the holder of record of such Warrant Stock as of the date on which holders of Warrant Stock received or became entitled to receive such shares and/or all other additional stock and other securities and property.

4.3 Notice of Adjustment. Upon any adjustment of the Stock Purchase Price, and/or any increase or decrease in the number of shares purchasable upon the exercise of this Warrant, the Company shall give written notice thereof, by first class mail, postage prepaid, addressed to Holder at the address of Holder as shown on the books of the Company. The notice shall be signed by the Company's chief financial officer and shall state the Stock Purchase Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of this Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based.

5. No Voting or Dividend Rights. Nothing contained in this Warrant shall be construed as conferring upon Holder hereof the right to vote or to consent as a shareholder in respect of meetings of shareholders for the election of directors of the Company or any other matters or any rights whatsoever as a shareholder of the Company. No dividends or interest shall be payable or accrued in respect of this Warrant or the interest represented hereby or the shares purchasable hereunder until, and only to the extent that, this Warrant shall have been exercised; provided, however, any extraordinary cash dividend, including without limitation a dividend recapitalization, shall not constitute a cash dividend and shall be subject to adjustment in accordance with Section 4.2 hereof.

6. Amendment and Waiver. Any term of this Warrant may be amended or waived upon written consent of the Company and the holders of a majority-in-interest of the Warrant Stock issuable upon exercise of all outstanding Warrants issued pursuant to the Purchase Agreement, which must include each of the following entities for so long as such entity owns a Warrant: BIOS Fund II, LP, BIOS Fund II NT, LP, and BIOS Fund II QP, LP. By acceptance hereof, Holder acknowledges that in the event the required consent is obtained, any term of this Warrant may be amended or waived with or without the consent of the Holder; provided, however, that any amendment hereof that would materially adversely affect Holder in a manner different from the holders of the remaining Warrants issued pursuant to the Purchase Agreement shall also require the consent of Holder.

7. Notices. All notices, requests, demands, consents, instructions or other communications required or permitted hereunder shall be in writing and faxed, mailed or delivered to each party:

(a) if to Holder, to Holder's address or facsimile number as shown in the Company's records, which shall initially be as set forth on the signature page to the Purchase Agreement and as may be updated in accordance with the provisions hereof;

(b) if to any other holder of this Warrant or shares issuable upon conversion thereof, to such address or facsimile number as shown in the Company's records, or, until any such holder so furnishes an address or facsimile number to the Company, then to the address or facsimile number of the last holder of this Warrant or shares issuable upon conversion thereof for which the Company has contact information in its records; or

(c) if to the Company, to the attention of the Chief Executive Officer of the Company at 1920 McKinney Ave, 7th floor, Dallas TX 75201, or at such other current address as the Company shall have furnished to the Holder, with a copy to the Company's counsel at Investment Law Group, 545 Dutch Valley Road NE, Suite A, Atlanta, Georgia 30324, Attn: Counsel McCullen.

Except as otherwise provided in this Warrant, all such notices and communications shall be effective (i) when sent by Federal Express or other overnight service of recognized standing, on the first business day following the deposit with such service; (ii) when mailed, by registered or certified mail, first class postage prepaid and addressed as aforesaid through the United States Postal Service, upon receipt; (iii) when delivered by hand, upon delivery; and (iv) when faxed, upon confirmation of receipt.

8. Descriptive Headings and Governing Law. The descriptive headings of the sections of this Warrant are inserted for convenience only and do not constitute a part of this Warrant. This Warrant and all acts and transactions pursuant hereto and the rights and obligations of the parties hereto shall be governed, construed and interpreted in accordance with the laws of the State of Texas, without giving effect to principles of conflicts of law.

9. Lost Warrants or Stock Certificates. Upon receipt of evidence reasonably satisfactory to the Company of the loss, theft, destruction, or mutilation of any Warrant or stock certificate and, in the case of any such loss, theft or destruction, upon receipt of an indemnity reasonably satisfactory to the Company, or in the case of any such mutilation upon surrender and cancellation of such Warrant or stock certificate, the Company at its expense will make and deliver a new Warrant or stock certificate, of like tenor, in lieu of the lost, stolen, destroyed or mutilated Warrant or stock certificate provided, however, that, if the Company's stock is publicly traded, the Company may require the posting of a bond in an amount and nature as is customary and reasonable given the circumstances.

10. Reservation of Capital Stock. The Company has reserved, and will at all times prior to the Expiration Date continue to reserve and keep available, solely for issuance, sale and delivery upon the exercise of this Warrant, a number of shares of capital stock of the Company equal to the number of shares of capital stock issuable upon the exercise of this Warrant.

11. Issue Date. The provisions of this Warrant shall be construed and shall be given effect in all respects as if it had been issued and delivered by the Company on the Date of Issuance set forth above.

12. Voting Agreement. Upon exercise of this Warrant, in whole or in part, and prior to receipt of any Warrant Stock in connection therewith, the Holder shall become a party to the Voting Agreement, agreeing to be bound by and subject to the terms of the Voting Agreement as a Stockholder (as defined therein) and shall be deemed a Stockholder (as defined therein) for all purposes under the Voting Agreement.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the Date of Issuance.

LANTERN PHARMA INC.

By: _____

Name: _____

Title: _____

[Signature Page to the Warrant]

EXHIBIT A
Form of Exercise Notice

(To be executed by the Holder to purchase shares of Warrant Stock under the foregoing Warrant)

To: LANTERN PHARMA INC.

The undersigned is the Holder of Warrant No. ___ (the "Warrant") issued by Lantern Pharma Inc., a Texas corporation (the "Company"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant; provided, however, that the term "Purchaser" shall refer to the undersigned and the term "Securities" shall refer to the Warrant Stock and the Common Stock issuable upon conversion of the Warrant Stock.

Pursuant to the provisions set forth in the attached Warrant, the undersigned hereby irrevocably elects to purchase _____ shares of Warrant Stock covered by such Warrant.

The undersigned intends that payment of the Exercise Price shall be made as (check one):

(____) Cash Exercise; or

(____) Cashless Exercise pursuant to Section 1(b) of the Warrant.

If the Holder has elected Cash Exercise, the Holder hereby makes payment of $_____, representing the full Exercise Price for such shares of Warrant Stock at the price per share provided for in such Warrant.

If the Holder has elected Cashless Exercise pursuant to Section 1(b) of the Warrant, the Holder wishes to exercise such Warrant for _____ shares of Warrant Stock purchasable under the Warrant pursuant to the provisions of Section 1(b) of such Warrant.

The undersigned acknowledges that it has reviewed the representations and warranties contained in the Purchase Agreement (as defined in the Warrant) and by its signature below the undersigned hereby makes such representations and warranties to the Company. The undersigned further acknowledges that it has reviewed the lock-up provisions set forth in the Right of First Refusal and Co-Sale Agreement and agrees to be bound by such provisions.

Holder: _____

By: _____

Name: _____

Title: _____

Date: _____

Address: _____

AMENDED AND RESTATED LANTERN PHARMA INC.
2018 EQUITY INCENTIVE PLAN

I. GENERAL PROVISIONS

1.1 Establishment. On August 29, 2018, the Board of Directors ("Board") of Lantern Pharma Inc., a Texas corporation ("Corporation") adopted the Lantern Pharma Inc. 2018 Equity Incentive Plan. The Lantern Pharma Inc. 2018 Equity Incentive Plan was approved by the Corporation's shareholders on August 29, 2018. On December 17, 2018, the Board approved the amendments to the Lantern Pharma Inc. 2018 Equity Incentive Plan that are contained in this this Amended and Restated Plan.

1.2 Purpose. The purpose of the Plan is to (a) promote the best interests of the Corporation and its shareholders by encouraging Employees, non-Employee Directors and Consultants of the Corporation and its Subsidiaries to acquire an ownership interest in the Corporation by granting stock-based Awards, thus aligning their interests with those of shareholders, and (b) enhance the ability of the Corporation and its Subsidiaries to attract, motivate and retain qualified Employees, non-Employee Directors and Consultants.

1.3 Plan Duration. The Plan became effective on August 29, 2018 and shall continue in effect until its termination by the Board; provided, however, that no new Awards may be granted on or after August 28, 2028.

1.4 Definitions. As used in this Plan, the following terms have the meaning described below:

(a) "Administrator" means the Board, unless the Board has appointed a committee to administer the Plan.

(b) "Agreement" means the written document that sets forth the terms of a Participant's Award.

(c) "Award" means any form of Option, Restricted Stock, Restricted Stock Unit, Performance Award or Stock Bonus Award granted under the Plan.

(d) "Board" means the Board of Directors of the Corporation.

(e) "California Participant" means a Participant with one or more Awards issued in reliance on Section 25102(o) of the California Corporations Code.

(f) "Cause" means (i) if the Employee is a party to a written employment agreement with the Corporation or a Subsidiary, "Cause" as defined in such agreement, as in effect from time to time, and (ii) in all other cases, (A) Employee's continued failure substantially to perform Employee's duties to the Corporation or its affiliates (other than as a result of total or partial incapacity due to physical or mental illness) for a period of 10 days following written notice by the Corporation to Employee of such failure, (B) dishonesty in the performance of Employee's duties hereunder, (C) Employee's conviction of, or plea of nolo contendere to a crime constituting (x) a felony under the laws of the United States or any state thereof, or (y) a misdemeanor involving moral turpitude, (D) Employee's willful malfeasance or willful misconduct in connection with Employee's duties hereunder or any act or omission which is injurious to the financial condition or business reputation of the Corporation or its affiliates, or (E) Employee's breach of any non-compete or confidentiality obligations to the Corporation or its affiliates.

(g) "Change in Control" means the occurrence of any of the following events:

(i) If any one person, or more than one person acting as a group (as defined in Code Section 409A and regulations thereunder), acquires ownership of voting stock of the Corporation that, together with other voting stock held by such person or group, constitutes more than fifty percent (50%) of the total fair market value or total voting power of the capital stock of the Corporation (measured on an as converted basis giving pro forma effect to the conversion of any outstanding convertible preferred stock into common stock, but not assuming the exercise of any warrant or option to purchase such shares, and giving effect to the voting rights of any outstanding shares of capital stock on matters submitted to the shareholders generally). However, if any one person or more than one person acting as a group, is considered to own more than fifty percent (50%) of the total fair market value or total voting power of the capital stock of the Corporation, the acquisition of additional stock by the same person or persons is not considered to cause a Change in Control, or to cause a change in the effective control of the Corporation (within the meaning of Code Section 409A and regulations thereunder). An increase in the percentage of capital stock owned by any one person, or persons acting as a group, as a result of a transaction in which the Corporation acquires its stock in exchange for property shall be treated as an acquisition of stock for purposes of this Section. This paragraph applies only when there is a transfer of stock of the Corporation (or issuance of stock of the Corporation) and stock in such Corporation remains outstanding after the transaction;

(ii) If a majority of members on the Corporation's Board is replaced during any 12-month period by Directors whose appointment or election is not endorsed by a majority of the members of the Corporation's Board prior to the date of the appointment or election (provided that for purposes of this paragraph, the term Corporation refers solely to the "relevant corporation," as defined in Code Section 409A and regulations thereunder, for which no other corporation is a majority shareholder); or

(iii) If there is a change in the ownership of a substantial portion of the Corporation's assets, which shall occur on the date that any one person, or more than one person acting as a group (within the meaning of Code Section 409A and regulations thereunder) acquires (or has acquired during the 12-month period ending on the date of the most recent acquisition by such person or persons) assets from the Corporation that have a total gross fair market value equal to or more than forty percent (40%) of the total gross fair market value of all of the assets of the Corporation immediately prior to such acquisition or acquisitions. For this purpose, gross fair market value means the value of the assets of the Corporation, or the value of the assets being disposed of, determined without regard to any liabilities associated with such assets.

(h) "Common Stock" means shares of the Corporation's authorized common stock.

(i) "Consultant" means a consultant or advisor (other than as an Employee or member of the Board) to the Corporation or a Subsidiary; provided that such person (i) renders bona fide services that are not in connection with the offer and sale of the Corporation's securities in a capital-raising transaction, and (ii) does not promote or maintain a market for the Corporation's securities.

(j) "Corporation" means Lantern Pharma Inc., a Texas corporation.

(k) "Director" means an individual, other than an Employee, who has been elected or appointed to serve as a member of the Board. For purposes of clarity, a Director may include a representative of an entity with a financial interest in the Corporation, in which case settlement of an Award to a Director in such capacity may be issued or payable directly to the represented entity (or an affiliate entity of such represented entity), if approved by the Administrator and in compliance with applicable federal and state securities laws and regulations in effect at such time.

(l) "Disability" means total and permanent disability, as defined in the Corporation's long-term disability benefits program, if any, as in effect from time to time or in the event no such program is in place means that the Participant is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment, as determined under procedures established from time to time by the Administrator; provided, however, that for purposes of a Code Section 409A distribution event, "disability" shall be defined under Code Section 409A and regulations thereunder. See Addendum A for special disability provisions related to California Particpants.

(m) "Dividend Equivalent" means a credit, made at the discretion of the Board or as otherwise provided by the Plan, to the account of a Participant in an amount equal to the cash dividend paid on one share of Common Stock for each share of Common Stock represented by an Award held by such Participant. Dividend Equivalents shall not be paid on Option Awards.

(n) "Employee" means an individual who has an "employment relationship" with the Corporation or a Subsidiary, as defined in Treasury Regulation 1.421-1(h), and the term "employment" means employment with the Corporation or a Subsidiary, as applicable.

(o) "Exchange Act" means the Securities Exchange Act of 1934, as amended.

(p) "Fair Market Value" means as of any date, the per share fair market value of the Common Stock (or other applicable security, payment or consideration as the case may be), in accordance with Code Section 409A and Regulations thereunder, which shall be determined by the Administrator in good faith on such basis as it deems appropriate and applied consistently with respect to Participants. If shares of the Corporation are Listed Securities, the determination of Fair Market Value shall be based on the per share closing price as reported in the Wall Street Journal for the applicable date.

(q) "Grant Date" means the date on which the Administrator authorizes an Award, or such later date as shall be designated by the Administrator.

(r) "Incentive Stock Option" means an Option granted pursuant to Article II that is intended to meet the requirements of Code Section 422.

(s) "Listed Security" means any security of the Corporation that is listed or approved for listing on a Stock Exchange, or designated or approved for designation as a national market system security or an independent quotation system by the National Association of Securities Dealers, Inc.

(t) "Nonqualified Stock Option" means an Option granted pursuant to Article II that is not an Incentive Stock Option.

(u) "Option" means either an Incentive Stock Option or a Nonqualified Stock Option.

(v) "Participant" means an Employee, Director or Consultant, who is designated by the Administrator to participate in the Plan.

(w) "Permitted Assignee" means a person described in Section 8.3(a).

(x) "Performance Award" means any Award of Performance Shares granted pursuant to Article IV.

(y) "Plan" means the Amended and Restated Lantern Pharma Inc. 2018 Equity Incentive Plan, the terms of which are set forth herein, and any amendments thereto.

(z) "Restriction Period" means the period of time during which a Participant's Restricted Stock or Restricted Stock Unit is subject to restrictions and is nontransferable.

(aa) "Restricted Stock" means Common Stock granted pursuant to Article III that is subject to a Restriction Period.

(bb) "Restricted Stock Unit" means a right granted pursuant to Article III to receive Restricted Stock, Common Stock or an equivalent value in cash.

(cc) "Performance Award" means any Award of Performance Shares granted pursuant to Article IV.

(dd) "Stock Bonus Award" means any Award of Common Stock Shares granted pursuant to Article V.

(ee) "Stock Exchange" means the principal national securities exchange on which the Common Stock is listed for trading, or, if the Common Stock is not listed for trading on a national securities exchange, such other recognized trading market, if any, upon which the largest number of shares of Common Stock has been traded in the aggregate during the last 20 days before the applicable date.

(ff) "Subsidiary" means a corporation or other entity defined in Code Section 424(f).

(gg) "Substitute Awards" shall mean Awards granted or shares issued by the Corporation in assumption of, or in substitution or exchange for, awards previously granted, or the right or obligation to make future awards, by a company acquired by the Corporation or any Subsidiary or with which the Corporation or any Subsidiary combines.

(hh) "Vested" or **"Vesting"** means the extent to which an Award granted or issued hereunder has become exercisable, any applicable Restriction Period has terminated or lapsed in accordance with the Plan and the terms of any respective Agreement pursuant to which such Award was granted or issued, or has become payable in whole or in part due to the satisfaction of performance goal(s) set forth in the respective Agreement pursuant to which such Award was granted or issued.

1.5 Administration.

(a) The Plan shall be administered by the Board, unless the Board appoints a committee with the power and authority to administer the Plan (either, the "Administrator", as applicable). The Administrator shall interpret the Plan, prescribe, amend, and rescind rules and regulations relating to the Plan, and make all other determinations necessary or advisable for its administration. The decision of the Administrator on any question concerning the interpretation of the Plan or its administration with respect to any Award granted under the Plan shall be final and binding upon all Participants. No member of the Board or any committee appointed by the Board to serve as Administrator shall be liable for any action or determination made in good faith with respect to the Plan or any Award hereunder.

(b) In addition to any other powers set forth in the Plan and subject to Code Section 409A and the provisions of the Plan, the Administrator shall have the full and final power and authority, in its discretion to:

(i) amend, modify, or cancel any Award, or to waive any restrictions or conditions applicable to any Award or any shares acquired pursuant thereto;

(ii) accelerate, continue, or defer the exercisability or Vesting of any Award or any shares acquired pursuant thereto;

(iii) authorize, in conjunction with any applicable deferred compensation plan of the Corporation, that the receipt of cash or Common Stock subject to any Award under this Plan may be deferred under the terms and conditions of such deferred compensation plan;

(iv) determine the terms and conditions of Awards granted to Participants and whether such terms and conditions have been satisfied; and

(v) establish such other Awards, besides those specifically enumerated in the Plan, which the Administrator determines are consistent with the Plan's purposes.

1.6 Participants. Participants in the Plan shall be such Employees, Directors and Consultants of the Corporation and its Subsidiaries as the Administrator in its sole discretion may select from time to time. The Administrator may grant Awards to an individual upon the condition that the individual become an Employee, Director or Consultant of the Corporation or of a Subsidiary, provided that the Award shall be deemed to be granted only on the date that the individual becomes an Employee, Director or Consultant, as applicable.

1.7 Stock.

(a) The Corporation has reserved 756,138 shares of Common Stock for issuance pursuant to stock-based Awards under the Plan, all of which shares may be granted pursuant to Incentive Stock Options under the Plan. All provisions in this Section 1.7 shall be adjusted, as applicable, in accordance with Article VII.

(b) Each share of Common Stock subject to any Award shall be counted against the aggregate reserved share limit in paragraph (a) above as one share.

(c) The shares subject to any portion of an Award that is forfeited, cancelled, or expires or otherwise terminates without issuance of such shares, or is settled for cash or otherwise does not result in the issuance of all or a portion of the shares subject to such Award, shall, to the extent of such forfeiture, cancellation, expiration, termination, cash settlement or non-issuance, again be available for issuance pursuant to Awards under the Plan and shall not be counted against the limitations in Section 1.7(a).

(d) For the avoidance of doubt, the following shares of Common Stock, however, may not again be made available for issuance as Awards under the Plan: (i) the full number of shares not issued or delivered as a result of the net settlement of an outstanding Option, regardless of the number of shares actually used to make such settlement; (ii) shares used to pay the exercise price or for settlement of any Award; (iii) shares used to satisfy withholding taxes related to the exercise or settlement of any Award; and (iv) shares subject to a Restricted Stock Award that have been forfeited.

(e) Substitute Awards shall not reduce the shares reserved for issuance under the Plan or authorized for grant to a Participant in any fiscal year. Additionally, in the event that a company acquired by the Corporation or any Subsidiary or with which the Corporation or any Subsidiary combines has shares available under a pre-existing plan approved by shareholders and not adopted in contemplation of such acquisition or combination, the shares available for grant pursuant to the terms of such pre-existing plan (as adjusted, to the extent appropriate, using the exchange ratio or other adjustment or valuation ratio or formula used in such acquisition or combination to determine the consideration payable to the holders of common stock of the entities party to such acquisition or combination) may be used for Awards under the Plan and shall not reduce the shares authorized for issuance under the Plan; provided that Awards using such available shares shall not be made after the date awards or grants could have been made under the terms of the pre-existing plan, absent the acquisition or combination, and shall only be made to individuals who were not Employees or Directors or an affiliate of the Corporation or its Subsidiaries prior to such acquisition or combination.

1.8 Repricing. Except as provided in Section 7.1, the Administrator shall not approve a program providing for (a) the cancellation of outstanding Options and the grant in substitution therefor of any new Options under the Plan having a lower exercise price than the Fair Market Value of the underlying Common Stock on the original Grant Date; (b) the amendment of outstanding Options to reduce the exercise price thereof below the Fair Market Value of the underlying Common Stock on the original Grant Date; or (c) the exchange of outstanding Options for cash or other Awards if the exercise price per share of such Options is greater than the Fair Market Value per share as of the date of exchange. This Section shall not be construed to apply to "issuing or assuming a stock option in a transaction to which section 424(a) applies," within the meaning of Code Section 424.

II. STOCK OPTIONS

2.1 Grant of Options. The Administrator, at any time and from time to time, subject to the terms and conditions of the Plan, may grant Options to such Participants and for such number of shares of Common Stock as it shall designate, and shall determine the general terms and conditions of exercise, which shall be set forth in a Participant's Agreement. Any Participant may hold more than one Option under the Plan and any other plan of the Corporation or Subsidiary. No Option granted hereunder may be exercised after the tenth anniversary of the Grant Date. The Administrator may designate any Option granted as either an Incentive Stock Option or a Nonqualified Stock Option, or the Administrator may designate a portion of an Option as an Incentive Stock Option or a Nonqualified Stock Option.

2.2 Incentive Stock Options. Any Option intended to constitute an Incentive Stock Option shall comply with the requirements of this Section 2.2. An Incentive Stock Option may only be granted to an Employee. No Incentive Stock Option shall be granted with an exercise price below the Fair Market Value of Common Stock on the Grant Date nor with an exercise term that extends beyond ten (10) years from the Grant Date. An Incentive Stock Option shall not be granted to any Participant who owns (within the meaning of Code Section 424(d)) stock of the Corporation or any Subsidiary possessing more than 10% of the total combined voting power of all classes of stock of the Corporation or a Subsidiary unless, at the Grant Date, the exercise price for the Option is at least 110% of the Fair Market Value of the shares subject to the Option and the Option, by its terms, is not exercisable more than five (5) years after the Grant Date. The aggregate Fair Market Value of the underlying Common Stock (determined at the Grant Date) as to which Incentive Stock Options granted under the Plan (including a plan of a Subsidiary) may first be exercised by a Participant in any one calendar year shall not exceed $100,000. To the extent that an Option intended to constitute an Incentive Stock Option shall violate the foregoing $100,000 limitation (or any other limitation set forth in Code Section 422), the portion of the Option that exceeds the $100,000 limitation (or violates any other Code Section 422 limitation) shall be deemed to constitute a Nonqualified Stock Option.

2.3 Exercise Price. The Administrator shall determine the per share exercise price for each Option granted under the Plan. No Option may be granted with an exercise price below 100% of the Fair Market Value of Common Stock on the Grant Date.

2.4 Payment for Option Shares.

(a) The purchase price for shares of Common Stock to be acquired upon exercise of an Option granted hereunder shall be paid in full in cash or by personal check, bank draft or money order at the time of exercise; provided, however, that in lieu of such form of payment, unless otherwise provided in a Participant's Agreement, payment may be made by (i) tendering shares of Common Stock to the Corporation having a Fair Market Value equal to the total purchase price on the exercise date, which shares are withheld from the Option being exercised, or are freely owned and held by the Participant independent of any restrictions or hypothecations; (ii) delivery of other consideration approved by the Administrator having a Fair Market Value on the exercise date equal to the total purchase price; or (iii) any combination of the foregoing.

(b) Notwithstanding the foregoing, an Option may not be exercised by delivery to or withholding by the Corporation of shares of Common Stock to the extent that such delivery or withholding (i) would constitute a violation of the provisions of any law or regulation, or (ii) if there is a substantial likelihood that the use of such form of payment would result in adverse accounting treatment to the Corporation under generally accepted accounting principles. Until a Participant has been issued a certificate or certificates for the shares of Common Stock so purchased (or the book entry representing such shares has been made), he or she shall possess no rights as a record holder with respect to any such shares.

III. RESTRICTED STOCK AND RESTRICTED STOCK UNITS

3.1 Grant of Restricted Stock and Restricted Stock Units. Subject to the terms and conditions of the Plan, the Administrator, at any time and from time to time, may grant Awards of Restricted Stock and Restricted Stock Units under the Plan to such Participants and in such amounts as it shall determine.

3.2 Terms of Awards . Each Award of Restricted Stock or Restricted Stock Units shall be evidenced by an Agreement that shall specify the terms of the restrictions, including the Restriction Period, or Restriction Periods, the number of Common Stock shares or units subject to the Award, the purchase price for the shares of Restricted Stock, if any, the form of consideration that may be used to pay the purchase price of the Restricted Stock, including those specified in Section 2.4, and such other general terms and conditions, including performance goal(s), as the Administrator shall determine.

3.3 Transferability. Except as provided in this Article III and Section 8.3 of the Plan, the shares of Common Stock subject to an Award of Restricted Stock or Restricted Stock Units granted hereunder may not be transferred, pledged, assigned, or otherwise alienated or hypothecated until the termination of the applicable Restriction Period or for such period of time as shall be established by the Administrator and specified in the applicable Agreement, or upon the earlier satisfaction of other conditions as specified by the Administrator in its sole discretion and as set forth in the applicable Agreement.

3.4 Other Restrictions. The Administrator shall impose such other restrictions on any shares of Common Stock subject to an Award of Restricted Stock or Restricted Stock Units under the Plan as it may deem advisable including, without limitation, restrictions under applicable federal or state securities laws, and the issuance of a legended certificate of Common Stock representing such shares to give appropriate notice of such restrictions (or, if issued in book entry form, a notation with similar restrictive effect with respect to the book entry representing such shares). Subject to Code Section 409A, the Administrator shall have the discretion to waive the applicable Restriction Period with respect to all or any part of the Common Stock subject to an Award of Restricted Stock or Restricted Stock Units.

3.5 Voting Rights. During the Restriction Period, Participants holding issued and outstanding shares of Common Stock subject to an Award of Restricted Stock may exercise full voting rights with respect to the Restricted Stock, while such Award remains outstanding.

3.6 Dividends and Dividend Equivalents.

(a) Except as set forth below or in a Participant's Agreement, a Participant shall be entitled to receive all dividends and other distributions paid with respect to issued and outstanding shares of Common Stock subject to an Award of Restricted Stock, while such Award remains outstanding. If any dividends or distributions are paid in shares of Common Stock during the Restriction Period applicable to an Award of Restricted Stock, the dividend or other distribution shares shall be subject to the same restrictions on transferability as the shares of Common Stock with respect to which they were paid.

(b) The Administrator, in its discretion, may provide in the Agreement evidencing any Restricted Stock Unit Award that the Participant shall be entitled to receive Dividend Equivalents with respect to the payment of cash dividends on Common Stock having a record date prior to the date on which Restricted Stock Units held by such Participant are settled. Such Dividend Equivalents, if any, shall be paid by crediting the Participant with additional whole Restricted Stock Units as of the date of payment of such cash dividends on Common Stock. The number of additional Restricted Stock Units (rounded to the nearest whole number) to be so credited shall be determined by dividing (i) the amount of cash dividends paid on such date with respect to the number of shares of Common Stock represented by the Restricted Stock Units previously credited to the Participant as of the record date of such dividend, by (ii) the Fair Market Value per share of Common Stock on such date. Such additional Restricted Stock Units shall be subject to the same terms and conditions and shall be settled in the same manner and at the same time or times (or as soon thereafter as practicable) as the corresponding Restricted Stock Units on which the Dividend Equivalent was paid. In the event of a dividend or distribution paid in shares of Common Stock or any other adjustment made upon a change in the capital structure of the Corporation as described in Article VII, appropriate adjustments shall be made in the Participant's Restricted Stock Unit so that it represents the right to receive upon settlement any and all new, substituted or additional securities or other property (other than normal cash dividends) to which the Participant would be entitled by reason of the shares of Common Stock issuable upon settlement of the Restricted Stock Unit, and all such new, substituted or additional securities or other property shall be immediately subject to the same restrictions as are applicable to the Restricted Stock Unit.

3.7 Settlement of Restricted Stock Units. If a Restricted Stock Unit is payable in Common Stock, the Corporation shall issue to a Participant on the date on which Restricted Stock Units subject to the Participant's Award Vest or on such other date determined by the Administrator, in its discretion, and set forth in the Agreement, one share of Common Stock and/or any other new, substituted or additional securities or other property pursuant to an adjustment described in Section 7.1 for each Restricted Stock Unit then becoming Vested or otherwise to be settled on such date, subject to the withholding of applicable taxes. Notwithstanding any other provision in this Plan to the contrary, any Restricted Stock Unit, whether settled in Common Stock, cash or other property, shall be paid no later than two and a half (2½) months after the later of the end of the fiscal or calendar year in which the Restricted Stock Unit Vests.

IV. PERFORMANCE AWARDS

4.1 Grant of Performance Awards. The Administrator, in its discretion, may grant Performance Awards to Participants and may determine, on an individual or group basis, the performance goal(s) to be attained pursuant to each Performance Award.

4.2 Terms of Awards.

(a) Performance Awards shall consist of rights to receive cash, Common Stock, other property or a combination thereof, if designated performance goal(s) are achieved. The terms of a Participant's Performance Award shall be set forth in a Participant's Agreement. Each Agreement shall specify the performance goal(s), which may include the Performance Measures, applicable to a particular Participant or group of Participants, the period over which the targeted goal(s) are to be attained, the payment schedule if the goal(s) are attained, and any other general terms as the Administrator shall determine and conditions applicable to an individual Performance Award. Subject to Code Section 409A, the Administrator, in its discretion, may waive all or part of the conditions, goals and restrictions applicable to the receipt of full or partial payment of a Performance Award.

(b) Performance Awards may be granted as Performance Shares or Performance Units, at the discretion of the Administrator. Performance Awards shall be paid no later than two and a half (2½) months after the later of the end of the fiscal or calendar year in which the Performance Award is no longer subject to a substantial risk of forfeiture.

(i) In the case of Performance Shares, the Participant shall receive a legended certificate of Common Stock, restricted from transfer prior to the satisfaction of the designated performance goal(s) and restrictions (or shares may be issued in book entry form with a notation having similar restrictive effect with respect to the book entry representing such shares), as determined by the Administrator and specified in the Participant's Agreement. Prior to satisfaction of the performance goal(s) and restrictions, the Participant shall be entitled to vote the Performance Shares to the extent such shares are issued and outstanding. Further, any dividends paid on such shares during the performance period automatically shall, as provided in the Participant's Agreement: (A) be reinvested on behalf of the Participant in additional Performance Shares under the Plan, and such additional shares shall be subject to the same performance goal(s) and restrictions as the other shares under the Performance Share Award; (B) be payable in cash upon satisfaction of, and subject to the same performance goal(s) and restrictions as the underlying shares for the Performance Share Award; or (C) be provided in a combination thereof.

(ii) In the case of Performance Units, the Participant shall receive an Agreement from the Administrator that specifies the performance goal(s) and restrictions that must be satisfied before the Corporation shall issue the payment, which may be cash, a designated number of shares of Common Stock, other property or a combination thereof.

V. STOCK BONUS AWARDS

5.1 Grant of Stock Bonus Awards. Subject to the terms and conditions of the Plan, the Administrator, at any time and from time to time, may grant Stock Bonus Awards under the Plan to such Participants and in such amount as it shall determine.

5.2 Terms of Awards.

(a) Stock Bonus Awards are intended to serve as a form of discretionary bonus to be paid in shares of Common Stock to Employees selected by the Administrator. The number of shares in a Stock Bonus Award and any terms and restrictions applicable to the Stock Bonus Award shall be designated by the Administrator at the time of grant and set forth in the Participant's Award Agreement. Stock Bonus Awards may be, but are not required to be, subject to Vesting requirements and/or other restrictions. The Administrator shall have the authority to waive any Vesting or other restrictions applicable to a Stock Bonus Award. Stock Bonus Awards shall be paid as soon as reasonably practical but not later than two and one half (2-1/2) months after the Grant Date.

(b) In the case of Stock Bonus Awards that are subject to Vesting or other restrictions, the Participant shall receive a legended certificate of Common Stock, restricted from transfer prior to the satisfaction of the designated restrictions (or shares may be issued in book entry form with a notation having similar restrictive effect with respect to the book entry representing such shares), as determined by the Administrator and specified in the Participant's Agreement. Prior to satisfaction of the restrictions, the Participant shall be entitled to vote the shares issued under a Stock Bonus Award to the extent such shares are issued and outstanding. Further, any dividends paid on such shares while subject to restrictions shall, as provided in the Participant's Agreement, be reinvested on behalf of the Participant in additional Stock Bonus shares under the Plan, and such additional shares shall be subject to the same restrictions as the other shares under the Stock Bonus Award.

VI. TERMINATION OF EMPLOYMENT OR SERVICES

6.1 Options. Unless otherwise provided in a Participant's Agreement:

(a) If, prior to the date when an Option first becomes Vested, a Participant's employment or services are terminated for any reason, the Participant's right to exercise the Option shall terminate and all rights thereunder shall cease.

(b) If, on or after the date when an Option first becomes Vested, a Participant's employment or services are terminated for any reason other than the Participant's death or Disability, the Participant shall have the right, within the earlier of (i) the expiration of the Option and (ii) three (3) months after termination of employment or services, as applicable, to exercise the Option to the extent that it was exercisable and unexercised on the date of the Participant's termination of employment or services, subject to any other limitation on the exercise of the Option in effect on the date of exercise.

(c) If, on or after the date when an Option first becomes Vested, a Participant's employment or services are terminated due to the Participant's death while the Option is still exercisable, the person or persons to whom the Option shall have been transferred by will or the laws of descent and distribution, shall have the right within the exercise period specified in the Participant's Agreement to exercise the Option to the extent that it was exercisable and unexercised on the Participant's date of death, subject to any other limitation on exercise in effect on the date of exercise. The beneficial tax treatment of an Incentive Stock Option may be forfeited if the Option is exercised more than one year after a Participant's date of death.

(d) If, on or after the date when an Option first becomes Vested, a Participant's employment or services are terminated due to the Participant's Disability, the Participant shall have the right, within the exercise period specified in the Participant's Agreement, to exercise the Option to the extent that it was exercisable and unexercised on the date of the Participant's termination of employment or services due to Disability, subject to any other limitation on the exercise of the Option in effect on the date of exercise. If the Participant dies after termination of employment or services, as applicable, while the Option is still exercisable, the Option shall be exercisable in accordance with the terms of paragraph (c) above.

(e) For the avoidance of doubt, the Administrator, at the time of a Participant's termination of employment or services, may accelerate a Participant's right to exercise an Option, or, subject to Code Section 409A, and Section 2.1, may extend the term of the Option.

(f) Shares subject to Options that are not exercised in accordance with the provisions of (a) through (e) above shall expire and be forfeited by the Participant as of their expiration date.

6.2 Restricted Stock Awards, Restricted Stock Unit Awards, Performance Awards and Stock Bonus Awards . With respect to any Restricted Stock Award, Restricted Stock Unit Award, Performance Award or Stock Bonus Award, unless otherwise provided in a Participant's Agreement:

(a) If a Participant's employment or services are terminated for any reason, any portion of such an Award that is not yet Vested automatically shall terminate and be forfeited by the Participant.

(b) If, with respect to a Restricted Stock Award or Restricted Stock Unit Award, the terminated Participant was required to pay a purchase price for the Restricted Stock subject to such Award, other than for the performance of services, the Corporation shall have the option to repurchase any shares acquired by the Participant which are still subject to any Restriction Period for the purchase price paid by the Participant.

(c) For the avoidance of doubt, the Administrator, in its discretion, may provide in a Participant's Agreement for the continuation of any such Award after a Participant's employment or services are terminated or, subject to Code Section 409A, may waive or change the remaining conditions, goals or restrictions, or add additional conditions, goals or restrictions, with respect to such Award, as it deems appropriate.

6.3 Other Provisions. The transfer of an Employee from one corporation to another among the Corporation and any of its Subsidiaries, or a leave of absence under the leave policy of the Corporation or any of its Subsidiaries shall not be a termination of employment for purposes of the Plan, unless a provision to the contrary is expressly stated by the Administrator in a Participant's Agreement issued under the Plan.

VII. ADJUSTMENTS AND CHANGE IN CONTROL

7.1 Adjustments. In the event of a merger, reorganization, statutory share exchange, consolidation, recapitalization, dividend or distribution (whether in cash, shares or other property), stock split, reverse stock split, spin-off or similar transaction or other change in corporate structure affecting the Common Stock or the value thereof, such adjustments and other substitutions shall be made to the Plan and Awards as the Administrator, in its sole discretion, deems equitable or appropriate, including adjustments in the aggregate number, class and kind of securities that may be delivered under the Plan and, in the aggregate or to any one Participant, in the number, class, kind and option or exercise price of securities subject to outstanding Awards granted under the Plan (including, if the Administrator deems appropriate, the substitution of cash, similar options to purchase the shares of, or other awards denominated in the shares of, another company, or other property, as the Administrator may determine to be appropriate in its sole discretion). Any of the foregoing adjustments may provide for the elimination of any fractional share which might otherwise become subject to any Award.

7.2 Change in Control.

(a) Notwithstanding anything contained herein to the contrary, unless otherwise provided in a Participant's Agreement to the contrary, upon a Change in Control, the Administrator may make any of the following determinations: (i) any outstanding Option granted hereunder immediately shall become fully Vested and exercisable, regardless of any installment provision applicable to such Option; (ii) the remaining Restriction Period on any shares of Common Stock subject to a Restricted Stock or Restricted Stock Unit Award granted hereunder immediately shall lapse and the shares shall become fully transferable, subject to any applicable federal or state securities laws; (iii) all performance goals and conditions shall be deemed to have been satisfied and all restrictions shall lapse on any outstanding Performance Awards, which immediately shall become payable (either in full or pro-rata based on the portion of the applicable performance period completed as of the Change in Control); and (iv) all Vesting and/.or other restrictions shall lapse on any outstanding Stock Bonus Award shares that are subject to Vesting and/or other restrictions.

(b) The Administrator may, in its sole discretion and without the consent of any Participant, determine that, upon the occurrence of a Change in Control, each or any Option outstanding immediately prior to the Change in Control shall be cancelled in exchange for a payment with respect to each Vested share of Common Stock subject to such cancelled Option in (i) cash, (ii) stock of the Corporation or of a corporation or other business entity that is a party to the Change in Control, or (iii) other property which, in any such case, shall be in an amount having a Fair Market Value equal to the excess of the Fair Market Value of the consideration to be paid per share of Common Stock in the Change in Control transaction over the exercise price per share under such Option (the "Spread"). In the event such determination is made by the Administrator, the Spread (reduced by applicable withholding taxes, if any, to the extent determined by the Administrator) shall be paid to a Participant in respect of the Participant's cancelled Options on or as soon as practicable following the date of the Change in Control.

(c) The Administrator, in its sole discretion and without the consent of any Participant, may cancel at the time of a Change in Control any outstanding Option that has an exercise price that exceeds the Fair Market Value of the consideration to be paid per share of Common Stock in the Change in Control transaction.

VIII. MISCELLANEOUS

8.1 Partial Exercise/Fractional Shares. The Administrator may permit, and shall establish procedures for, the partial exercise of Options granted under the Plan. No fractional shares shall be issued in connection with the exercise of an Option or payment of a Performance Award, Restricted Stock Award, or Restricted Stock Unit Award. Instead, the Fair Market Value of the fractional shares shall be paid in cash, or at the discretion of the Administrator, the number of shares shall be rounded down to the nearest whole number of shares and any fractional shares shall be disregarded.

8.2 Rights Prior to Issuance of Shares. No Participant shall have any rights as a shareholder with respect to shares covered by an Award until the issuance of a stock certificate for such shares or electronic transfer of such shares (or book entry representing such shares) to the Participant has been made. No adjustment shall be made for dividends or other rights with respect to such shares for which the record date is prior to the date the certificate is issued (or electronic transfer or book entry is made), except as otherwise provided in the Plan or a Participant's Agreement or by the Administrator.

8.3 Non-Assignability; Certificate Legend; Removal.

(a) Except as described below or as otherwise determined by the Administrator in a Participant's Agreement, no Award shall be transferable by a Participant except by will or the laws of descent and distribution, and an Option shall be exercised only by a Participant during the lifetime of the Participant. Notwithstanding the foregoing, with the consent of the Administrator, a Participant may assign or transfer an Award that is not an Incentive Stock Option to (i) one or more members of the Participant's immediate family; (ii) a trust established by the Participant for the benefit of the Participant and/or one or more members of the Participant's immediate family; or (iii) an entity represented by a Director (or to an affiliate entity of such represented entity), provided that there are available federal and state securities law exemptions for such assignment or transfer ("Permitted Assignee"), provided further that any Permitted Assignee agrees in writing on a form prescribed by the Corporation to be bound by all provisions of the Plan and applicable Award Agreement(s) and subject to all of the terms and conditions of the Plan and any Agreement relating to the transferred Award and shall execute an agreement satisfactory to the Corporation evidencing such obligations.

(b) Each certificate representing shares of Common Stock subject to an Award, to the extent a certificate is issued, shall bear the following legend:

> The sale or other transfer of the shares of stock represented by this certificate, whether voluntary, involuntary or by operation of law, is subject to certain restrictions on transfer set forth in the Lantern Pharma Inc. 2018 Equity Incentive Plan, as amended and restated ("Plan"), rules and administrative guidelines adopted pursuant to such Plan [and an Agreement dated _____ __, ____]. A copy of the Plan, such rules and such Agreement may be obtained from the Secretary of Lantern Pharma Inc.

If shares are issued in book entry form, a notation to the same restrictive effect as the legend above shall be placed on the transfer agent's books in connection with such shares.

(c) Subject to applicable federal and state securities laws, issued shares of Common Stock subject to an Award shall become freely transferable by the Participant after all applicable restrictions, limitations, performance requirements or other conditions have terminated, expired, lapsed or been satisfied. Once such issued shares of Common Stock are released from such restrictions, limitations, performance requirements or other conditions, the Participant shall be entitled to have the legend required by this Section 8.3 removed from the applicable Common Stock certificate (or notation removed from such book entry).

8.4 Securities Laws.

(a) Anything to the contrary herein notwithstanding, the Corporation's obligation to sell and deliver Common Stock pursuant to the exercise of an Option or deliver Common Stock pursuant to a Restricted Stock Award, Restricted Stock Unit Award, Performance Award or Stock Bonus Award is subject to such compliance with federal and state laws, rules and regulations applying to the authorization, issuance or sale of securities as the Corporation deems necessary or advisable. The Corporation shall not be required to sell and deliver or issue Common Stock unless and until it receives satisfactory assurance that the issuance or transfer of such shares shall not violate any of the provisions of the Securities Act or the Exchange Act, or the rules and regulations of the Securities and Exchange Commission promulgated thereunder or those of the Stock Exchange or any stock exchange on which the Common Stock may be listed, the provisions of any other applicable laws governing the sale of securities, or that there has been compliance with the provisions of such acts, rules, regulations and laws.

(b) The Administrator may impose such restrictions on any shares of Common Stock acquired pursuant to the exercise of an Option or the grant of Restricted Stock or Restricted Stock Units or the payment of a Performance Award or Stock Bonus Award under the Plan as it may deem advisable, including, without limitation, restrictions under applicable federal and state securities laws.

8.5 Withholding Taxes.

(a) The Corporation shall have the right to withhold from a Participant's compensation or require a Participant to remit sufficient funds to satisfy applicable withholding for income and employment taxes upon the exercise of an Option or the lapse of the Restriction Period on a Restricted Stock Award or Restricted Stock Unit Award, or the payment of a Performance Award or Stock Bonus Award. If shares of the Corporation are Listed Securities, a Participant may in order to fulfill the withholding obligation tender previously-acquired shares of Common Stock or have shares of stock withheld from the exercise, provided that the shares have an aggregate Fair Market Value sufficient to satisfy in whole or in part the applicable withholding taxes. Other payment methods as set forth in Section 2.4(a)(ii) may also be utilized to satisfy any applicable withholding requirements. At no point shall the Corporation withhold from the exercise of an Option more shares than are necessary to meet the established tax withholding requirements of federal, state and local obligations.

(b) Notwithstanding the foregoing, a Participant may not use shares of Common Stock to satisfy the withholding requirements to the extent that (i) such withholding would constitute a violation of the provisions of any law or regulation, or (iii) there is a substantial likelihood that the use of such form of payment would result in adverse accounting treatment to the Corporation under generally accepted accounting principles.

8.6 Termination and Amendment.

(a) The Administrator may terminate the Plan, or the granting of Awards under the Plan, at any time.

(b) The Administrator may amend or modify the Plan at any time and from time to time, and the Administrator may amend or modify the terms of an outstanding Agreement at any time and from time to time, but no amendment or modification, without the approval of the shareholders of the Corporation, shall (i) materially increase the benefits accruing to Participants under the Plan; (ii) increase the amount of Common Stock for which Awards may be made under the Plan, except as permitted under Sections 1.7 and Article VII; or (iii) change the provisions relating to the eligibility of individuals to whom Awards may be made under the Plan.

(c) No amendment, modification, or termination of the Plan or an outstanding Agreement shall in any manner materially and adversely affect any then outstanding Award under the Plan without the consent of the Participant holding such Award, except as set forth in any Agreement relating to the Award, or as set forth in Sections 7.2(c) and 8.10, or to bring the Plan and/or an Award into compliance with the requirements of Code Section 409A or to qualify for an exemption under Code Section 409A.

8.7 Code Section 409A. It is intended that Awards granted under the Plan shall be exempt from or in compliance with Code Section 409A, and the provisions of the Plan are to be construed accordingly. The Board reserves the right to amend the terms of the Plan and any outstanding Agreement if necessary either to exempt such Award from Code Section 409A or comply with the requirements of Code Section 409A, as applicable. However, unless otherwise specified herein or in a Participant's Agreement, in no event shall the Corporation or a Subsidiary be responsible for any tax or penalty owed by a Participant or beneficiary with regard to an Award payment. For purposes of the Plan and any Agreement, the terms "separation from service" or "termination of employment" (or variations thereof) shall be synonymous with the meaning given to the term "separation from service" as defined in Code Section 409A and regulations thereunder. Any installment payments under the Plan shall be deemed to constitute separate payments for Code Section 409A purposes.

8.8 Effect on Employment or Services. Neither the adoption of the Plan nor the granting of any Award pursuant to the Plan shall be deemed to create any right in any individual to be retained or continued in the employment or services of the Corporation or a Subsidiary.

8.9 Use of Proceeds. The proceeds received from the sale of Common Stock pursuant to the Plan shall be used for general corporate purposes of the Corporation.

8.10 Severability. If any one or more of the provisions (or any part thereof) of this Plan or of any Agreement issued hereunder, shall be held to be invalid, illegal or unenforceable in any respect, such provision shall be modified so as to make it valid, legal and enforceable, and the validity, legality and enforceability of the remaining provisions (or any part thereof) of the Plan or of any Agreement shall not in any way be affected or impaired thereby. The Board may, without the consent of any Participant, and in a manner determined necessary solely in the discretion of the Board, amend the Plan and any outstanding Agreement as the Corporation deems necessary to ensure the Plan and all Awards remain valid, legal or enforceable in all respects.

8.11 Beneficiary Designation. Except as otherwise designated in a Participant's Agreement, and subject to local laws and procedures, each Participant may file a written beneficiary designation with the Corporation stating who is to receive any benefit under the Plan to which the Participant is entitled in the event of such Participant's death before receipt of any or all of a Plan benefit. Each designation shall revoke all prior designations by the same Participant, be in a form prescribed by the Corporation, and become effective only when filed by the Participant in writing with the Corporation during the Participant's lifetime. If a Participant dies without an effective beneficiary designation for a beneficiary who is living at the time of the Participant's death, the Corporation shall pay any remaining unpaid benefits to the Participant's legal representative.

8.12 Unfunded Obligation. A Participant shall have the status of a general unsecured creditor of the Corporation. Any amounts payable to a Participant pursuant to the Plan shall be unfunded and unsecured obligations for all purposes. The Corporation shall not be required to segregate any monies from its general funds, or to create any trusts, or establish any special accounts with respect to such obligations. The Corporation shall retain at all times beneficial ownership of any investments, including trust investments, which the Corporation may make to fulfill its payment obligations hereunder. Any investments or the creation or maintenance of any trust or any Participant account shall not create or constitute a trust or fiduciary relationship between the Board or the Corporation and a Participant, or otherwise create any vested or beneficial interest in any Participant or the Participant's creditors in any assets of the Corporation. A Participant shall have no claim against the Corporation for any changes in the value of any assets which may be invested or reinvested by the Corporation with respect to the Plan.

8.13 Approval of Plan. The Lantern Pharma Inc. 2018 Equity Incentive Plan was approved by the holders of at least a majority of the votes cast on a proposal to approve the Plan at a duly held meeting of shareholders of the Corporation held on August 29, 2018.

8.14 Governing Law. Except to the extent governed by applicable federal law, the validity, interpretation, construction and performance of the Plan and Agreements under the Plan, shall be governed by the laws of the State of Texas, without regard to its conflict of law rules.

IN WITNESS WHEREOF, this Amended and Restated Lantern Pharma Inc. 2018 Equity Incentive Plan has been executed on behalf of the Corporation effective as of December 17, 2018.

LANTERN PHARMA INC.

By: /s/ Panna Sharma
Its: Chief Executive Officer

DATE OF INITIAL SHAREHOLDER APPROVAL: August 29, 2018

DATE OF SHAREHOLDER APPROVAL
OF AMENDED AND RESTATED PLAN: August 7, 2019

ADDENDUM A
LANTERN PHARMA INC.

AMENDED AND RESTATED 2018 EQUITY INCENTIVE PLAN

(*California Participants*)

Prior to the date, if ever, on which the Common Stock becomes a Listed Security and/or the Corporation is subject to the reporting requirements of the Exchange Act, the terms set forth herein shall apply to Awards issued to California Participants. All capitalized terms used herein but not otherwise defined shall have the respective meanings set forth in the Plan.

1. The following rules shall apply to any Option in the event of a Participant's separation from service with the Corporation:

(a) If such termination was for reasons other than death, "disability" (as defined below), or Cause, the Participant shall have at least thirty (30) days after the date of such termination to exercise his or her Option to the extent the Participant is entitled to exercise such Option on his or her termination date, provided that in no event shall the Option be exercisable after the expiration of the Option term as set forth in the Option Agreement.

(b) If such termination was due to death or disability, the Participant shall have at least six (6) months after the date of such termination to exercise his or her Option to the extent the Participant is entitled to exercise on his or her termination date, provided that in no event shall the Option be exercisable after the expiration of the Option term as set forth in the Option Agreement.

"Disability" for purposes of this Addendum shall mean the inability of the Participant, in the opinion of a qualified physician acceptable to the Corporation, to perform the major duties of the Participant's position with the Corporation or any Subsidiary because of the sickness of injury of the Participant.

2. Notwithstanding anything stated herein to the contrary, no Option shall be exercisable on or after the tenth anniversary of the date of grant and any Award Agreement shall terminate on or before the tenth anniversary of the date of grant.

3. The Corporation shall furnish summary financial information (audited or unaudited) of the Corporation's financial condition and results of operations, consistent with the requirements of Applicable Laws, at least annually to each California Participant during the period such Participant has one or more Awards outstanding, and in the case of an individual who acquired Shares pursuant to the Plan, during the period such Participant owns such Shares. The Corporation shall not be required to provide such information if (i) the issuance is limited to key employees whose duties in connection with the Corporation assure their access to equivalent information or (ii) the Plan or any agreement complies with all conditions of Rule 701 of the Securities Act of 1933, as amended; provided that for purposes of determining such compliance, any registered domestic partner shall be considered a "family member" as that term is defined in Rule 701.

Exhibit 10.2

CONFIDENTIAL

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT (this "***Agreement***"), is made and entered into to be effective as of the 23rd day of July, 2018 (the "***Effective Date***"), between Lantern Pharma Inc. (the "***Company***"), and Panna Sharma ("***Executive***"). The Company and Executive may be referred to herein individually as a "***Party***" or collectively as the "***Parties***."

A. The Company believes that the future growth, profitability, and success of the Company will be significantly enhanced by the employment of Executive.

B. The Company desires to employ Executive, and Executive wishes to be employed by the Company, on the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, for and in consideration of the mutual promises and covenants and the considerations as set forth herein and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Parties hereto do hereby agree as follows:

1. Position; Duties; Term.

1.1. Position. Executive shall have the title of Chief Executive Officer and President of the Company.

1.2 Ancillary Positions. In addition to Executive's position with the Company, the Company shall use reasonable commercial efforts to assure that (i) Executive shall serve as Chief Executive Officer, Managing Member, Managing Partner, or in a similar leadership capacity with respect to any and all subsidiaries that are controlled by the Company, including entities established overseas, including Northern Ireland, India or other locations current or anticipated. If a board of directors or board of members exists with respect to any such subsidiaries, Company shall use reasonable commercial efforts to assure that Executive shall have a position on the board of those entities.

1.3 Duties. Executive shall have such authority and duties as are usual and customary for the positions described inSection 1.1. Executive shall perform such other services and duties as the Company may from time to time designate, provided that such services and duties are consistent with Executive's present duties. Executive shall devote Executive's full time and reasonable best efforts to the operations, business, and affairs of the Company.

1.4 Term. The term of Executive's employment under this Agreement shall begin on the Effective Date and, unless sooner terminated in accordance with Section 3, shall conclude on July 30th, 2020 (the "***Term***"). The Parties agree that the Term may be extended only by mutual, written agreement between the Parties. Should the Parties continue the employment relationship beyond the Term without a written agreement extending (or otherwise modifying) the Agreement, such employment shall be on an at-will basis, and the provisions only applicable during the Term, such as the termination and termination payment provisions set forth in Section 3, shall not be applicable.

2. Base Salary; Bonus; Incentive Equity; Benefits; Expenses; Vacation. During the Term, the Company shall provide the following:

2.1. Salary. The Company shall pay Executive a base annual salary ("Base Salary") as detailed in the attachedExhibit A.

2.2. Bonus. Executive shall be eligible for certain bonus-based compensation as detailed in the attached Exhibit A.

2.3 Incentive Equity. Executive shall receive incentive equity in the Company as detailed in the attached Exhibit A.

2.4 Benefits. Executive shall be eligible to participate in the health insurance, vacation, and other employee benefit plans and programs generally provided by the Company to its executive employees in accordance with the terms thereof as in effect from time to time.

2.5 Expenses. The Company will reimburse and/or pay Executive's reasonable documented, out-of-pocket expenses as detailed in the attached Exhibit A.

3. Termination of Employment. The following provisions apply during the Term.

3.1 By Notice to Either Party. Either Executive or the Company may terminate Executive's employment effective upon 30 days' prior written notice to the other Party. The Company may require Executive to cease performing services for the Company immediately after receiving or providing notice of termination; provided, however, in such event, the Company shall remain obligated to pay an amount equal to Executive's Base Salary (at the same monthly rate as paid immediately prior to such notice) during the 30 days' notice period, and Executive shall remain bound by the same obligations he owed to the Company immediately prior to such notice.

3.2 By the Company for Cause. Executive's employment may be terminated by the Company for Cause (as defined below), during the Term, effective immediately upon written notice to Executive. Such notice shall set forth generally the facts and circumstances alleged to constitute Cause. As used herein, the term "Cause" means:

(a) Executive's material breach of his duties as an employee of the Company or material failure to perform Executive's obligations under this Agreement other than those set forth in Section 4, provided, however, that such failure is not cured (to the extent curable) within ten (10) days after Executive receives notice from the Company of such material breach or failure;

(b) Executive's breach or threatened breach of one or more of the provisions of Section 4 of this Agreement;

(c) Executive's refusal or failure to follow the reasonable instructions of the Company or the Company's Board of Directors (the "Board") concerning duties or actions consistent with Executive's position;

(d) Failure to achieve any specified material operational or strategic milestones that are agreed upon by the Board and Executive from time to time.

(e) Executive's breach of any Company rule or policy that is reasonably likely to have a material adverse effect on the Company, provided, however, that such breach is not cured (to the extent curable) within ten (10) after Executive receives notice from the Company that of such breach;

(f) Executive's material failure, other than by reason of disability, to perform satisfactorily to the Board on a regular basis any duties under Section 1.3, provided, however, that such failure is not cured (to the extent curable) within ten (10) days after Executive receives notice from the Company that he is not performing his duties satisfactorily;

(g) Any intentional or grossly negligent act or failure to act by Executive that causes or threatens to cause a material loss to the Company or any business of the Company;

(h) Executive's commission of, indictment for, conviction for, or plea of guilty or nolo contendere to a crime of moral turpitude or fraud, embezzlement, or other similar act of dishonesty or moral turpitude, or, separately, any violation of local, state or federal laws, rules or regulations that materially impairs or injures the reputation of, or materially harms, the Company; or

(i) Executive's appropriation of any business opportunity of the Company for Executive's personal benefit, the personal benefit of a member of Executive's immediate family, or the benefit of any entity in which Executive or a member of Executive's immediate family, directly or indirectly, owns an equity interest possessing at least five percent (5%) of total combined voting power of all equity interests entitled to vote, or at least five percent (5%) of the total value of all classes of equity.

3.3 Payments Upon Termination.

(a) In the event of Executive's termination of employment, during the Term, for any reason and at any time other than as set forth in Section 3.3(b), the Company shall have no obligation to pay to Executive anything beyond (i) earned but unpaid salary through the end of Executive's employment, and (ii) reimbursement for all funds advanced in connection with Executive's employment for reasonable expenses incurred by Executive and approved by the Company through the end of Executive's employment (collectively referred to as the "***Accrued Benefits***").

(b) In the event the Company terminates the employment relationship without Cause (as defined in Section 3.2) during the Term, the Company shall pay to Executive the Accrued Benefits, plus severance pay in an amount equal to the greater of (i) Executive's applicable Base Salary for the remainder of the Term following the date of termination of employment, or (ii) three months of additional compensation, calculated based on Executive's applicable Base Salary at the time of such termination (the "***Severance Pay***"). The Severance Pay will be paid by the Company in monthly installments, less all applicable withholdings, in accordance with the Company's standard payroll practices. In addition, in the event the Company terminates the employment relationship without Cause (as defined in Section 3.2) during the Term, Executive shall be paid a prorated annual bonus amount (the "***Prorated Bonus***"), if applicable. The Prorated Bonus will be subject to compliance with the performance requirements for such bonus as described in Section III of Exhibit A hereto for the calendar year in which Executive's employment is terminated, with such Prorated Bonus amount to be calculated based upon compliance with the performance requirements for such bonus as described in Section III of Exhibit A hereto for such months during the calendar year of termination that Executive was employed by the Company, pro-rated based upon Executive's months of employment for the calendar year of termination. Payment of any Prorated Bonus amounts due to Executive shall be made within 30 days after the end of Executive's employment. Notwithstanding the foregoing, Severance Pay and Prorated Bonus amounts shall only be paid in the event Executive executes (and does not revoke) a full and complete release of claims in a form to be provided by the Company. In addition, in the event the Company terminates the employment relationship without Cause (as defined in Section 3.2) during the Term, and circumstances are later discovered to indicate that Cause existed at the time of such termination, then the Company shall have no obligation to pay the Severance Pay and Prorated Bonus, and Executive shall, following notice from Company to Executive of the circumstances constituting Cause, reimburse Company for any portions of such Severance Pay and Prorated Bonus that have previously been paid to Executive. In the event Executive fails to deliver (or revokes) the release agreement referenced above, Executive shall not be entitled to the Severance Pay and Prorated Bonus.

(c) Except as specifically provided herein, Executive shall not be entitled to any compensation, severance or other benefits from the Company or any of its affiliates upon the termination of employment for any reason whatsoever.

3.4 Upon a termination of the employment relationship, Executive shall be deemed to have resigned all officer, board of directors, board of members, and similar management positions held with the Company or any of the Company's subsidiaries or affiliates.

4. Restrictive Covenants.

4.1. Definitions.

(a) "***Customers or Alliance Partners***" means (a) during Executive's employment, any individual, business, partnership, corporation, association, or other entity to whom (i) products or product candidates have been sold, assigned or licensed by the Company within the eighteen (18) months immediately prior to the Relevant Time (as defined in Section 4.1(g)), or (ii) services have been provided by the Company within the eighteen (18) months immediately prior to the Relevant Time (as defined in Section 4.1(f)), and (b) after the "***Termination Date***" (defined below), any individual, business, partnership, corporation, association, or other entity to whom (1) products or product candidates have been sold, assigned or licensed by the Company within the two (2) years immediately prior to the Termination Date, or (2) services have been provided by the Company within the two (2) years immediately prior to the Termination Date.

(b) "***Company Property****"* means all cell phones, computers, cars, keys, card-keys, electronics, and equipment and all records, files, notes, reports or other documents or materials, including Confidential Information, whether in written or electronic form, and all copies thereof (including electronic copies), relating to the Company or its operations, business or affairs that belongs to the Company or that Executive shall prepare, obtain from the Company, or that Executive has been provided with in connection with Executive's employment with the Company.

(c) "***Competitive Activities***" means activities that directly compete with products, product candidates that are being actively pursued, product treatment indications, biomarker-driven treatment approaches, services, or technologies, that the Company is actively developing, selling, distributing, licensing and/or manufacturing. Biomarker-driven treatment approaches that the Company is actively pursuing shall include, without limitation, the approach of using specific genetic signatures and artificial intelligence and machine learning technology to assist with identifying patient populations with greater likelihood to respond to treatment.

(d) "***Confidential Information***" means the following information regarding the Company: (i) information regarding the Company's business, operations, assets, liabilities or financial condition; (ii) information regarding the Company's pricing, sales, merchandising, marketing, capital expenditures, costs, joint ventures, business alliances, purchasing or manufacturing; (iii) information regarding the Company's employees or representatives, including their identities, responsibilities, competence and compensation; (iv) information regarding the Company's current Customers or Alliance Partners (or prospective Customers or Alliance Partners identified within the twelve (12) month period prior to Executive's termination), including information regarding their purchasing patterns; (v) information regarding the Company's current and material vendors, suppliers, or distributors; (vi) forecasts, projections, budgets and business plans regarding the Company; (vii) information regarding the Company's planned or pending acquisitions, divestitures or other business combinations; (viii) any and all Trade Secrets (defined below); and (ix) material technical information, patent applications that have not been published by the United States Patent and Trademark Office, sketches, drawings, blueprints, models, know-how, discoveries, inventions, improvements, techniques, processes, business methods, equipment, algorithms, proprietary software programs, proprietary software source documents and formulae, in each case regarding the Company's current products, product candidates, services, or future or proposed products, product candidates or services (including information concerning the Company's research, experimental work, development, design details and specifications, and engineering), but only relating to such items that were in effect or development, or with respect to which Executive was otherwise aware, during Executive's employment; provided, however, that Confidential Information does not include any of the foregoing that becomes generally known to and available for use by the public other than as a result of Executive's acts or omissions.

(e) ***"Trade Secrets"*** means information (including, but not limited to, technical or nontechnical data, formulas, practices, processes, algorithms, designs, patterns, compilations, programs, devices, methods (including, without limitation, commercial methods and evaluation and selection methods), artificial intelligence and machine learning technology and approaches, computer software and programs (including object code and source code), database technologies, systems, structures, architectures, processes, improvements, techniques, drawings, financial data, financial plans, product plans or lists of actual or potential customers, collaborators or suppliers) with respect to which the Company (1) derives economic value, actual or potential, from such information not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use; and (2) has conducted efforts that are reasonable under the circumstances to maintain the secrecy of such information.

(f) "***Prospective Customers or Alliance Partners***" means (a) during Executive's employment, any individual, business, partnership, corporation, association, or other entity that the Company has attempted or intended to provide services to, or sell, assign or license products or product candidates within the one (1) year immediately prior to the Relevant Time and (b) after the Termination Date, any individual, business, partnership, corporation, association, or other entity that the Company has attempted or intended to provide services to, or sell, assign or license products or product candidates within the one (1) year immediately prior to the Termination Date.

(g) "***Relevant Time***" means the time at which Executive violates, attempts to violate, or is alleged to have violated or attempted to violate Section 4.5 and/or Section 4.6 and/or Section 4.2(b) of this Agreement.

(h) "***Restricted Period***" means the period of Executive's employment and one year immediately following the Termination Date.

(i) "***Restrictive Covenants***" refers to the matters discussed in this Section 4.

(j) "***Termination Date***" means the last date of Executive's employment with the Company.

(k) "***Territory***" means (a) any state of the United States of America in which the Company or any of its subsidiaries have engaged in the Business of the Company (or are actively pursuing, or actively considering plans to engage in, the Business of the Company) during the twelve (12) month period prior to Executive's termination, and (b) any country other than the United States of America in which the Company or any of its subsidiaries are actively conducting substantial business at the time. For purposes of this Agreement, the term "Business of the Company" shall mean (i) the business of developing oncology pharmaceutical products and biologic products, (ii) the business of seeking to license, assign or enter into strategic alliances with respect to oncology pharmaceutical products and biologic products, and (iii) the business of using specific genetic signatures and artificial intelligence and machine learning technology and approaches to assist with identifying patient populations with greater likelihood to respond to treatment. In addition, the Business of the Company shall include, without limitation, the design, development, manufacture, distribution, and/or sale or license of products, product candidates or product categories or services or service categories that the Company is actively designing, developing, researching, selling, licensing, distributing and/or manufacturing within the eighteen (18) months immediately prior to the Termination Date.

(l) "***Work***" means any and all works of authorship and associated copyrights created by Executive in the scope of Executive's employment hereunder and prior to the termination of Executive's employment.

4.2. Protection of Confidential Information.

(a) Access. The Company and Executive acknowledge that to assist Executive in the performance of Executive's duties hereunder, Executive will, from time to time, receive or have access to Confidential Information owned by the Company, its affiliates and/or third persons (including Customers or Alliance Partners and Prospective Customers or Alliance Partners who have furnished such information and materials to the Company under obligations of confidentiality).

(b) Non-Disclosure. Executive shall hold in strict confidence and shall not directly or indirectly disclose, disseminate, publicize, copy or make lists of any, or use any Confidential Information, except to the extent required for Executive to perform his duties hereunder or as authorized in writing by the Company or required by any court or administrative agency of competent jurisdiction, other than: (i) on a confidential basis to an authorized employee or authorized independent contractor or authorized agent of the Company, (ii) to a person to whom disclosure is, or use of which is, reasonably necessary or appropriate in connection with the performance by Executive of his duties to the Company as set forth in this Agreement, or (iii) to the extent such portions of Confidential Information are compelled by law, subpoena, or other lawful process to be disclosed. If Executive is compelled by law, subpoena, or other lawful process to disclose any Confidential Information, then Executive shall give prompt written notice of such fact to the Company so that the Company may, if it so desires, seek a protective order or other governmental or judicial relief, at the Company's expense, to prevent or limit disclosure of the Confidential Information. Notwithstanding anything in this Agreement to the contrary, nothing in this Agreement will or is intended to require prior notice to the Company of or prohibit any communication by Executive with the United States Securities and Exchange Commission or any other applicable regulatory authority with respect to any possible violation of applicable laws or the rules and regulations promulgated thereunder.

4.3. Return of Company Property. All Company Property shall be and shall remain the sole and exclusive property of the Company throughout Executive's employment and after the termination thereof for any reason. Upon the termination of Executive's employment with the Company or such earlier time or times as the Company may request, Executive shall promptly return to the Company all Company Property, and, to the extent such property is records, files, notes, or other documents, return all copies thereof in Executive's possession or under Executive's custody or control. Executive is prohibited from retaining any copies of Company Property after the termination of employment for any reason.

4.4. Inventions and Works Made For Hire.

(a) Executive agrees that any and all inventions (including, without limitation, any and all algorithms, software programs, software source documents and formulae, hardware, molecular compositions and other inventions), improvements, discoveries, designs, enhancements, innovations, modifications, works of authorship, intellectual property, concepts or ideas, or expressions thereof, whether or not subject to patent, copyright, trademark or service mark protections, and whether or not reduced to practice, that are made, conceived, generated, authored or developed by Executive while employed with the Company or through Executive's use of Confidential Information and which relate to or result from the actual or anticipated business, work, products, product candidates, research or investigation of the Company (collectively, "Inventions"), shall be the sole and exclusive property of the Company or a subsidiary designated by the Company. Executive hereby irrevocably assigns and transfers to the Company all of Executive's right, title and interest in and to any and all such Inventions. In addition, Executive shall promptly do all things reasonably requested by the Company to assign to and vest in the Company or the applicable subsidiary the entire right, title and interest to any such Inventions and to obtain full protection therefor. Executive shall promptly disclose all Inventions to the Company in writing on a confidential basis. In addition, during the three (3) years following the Termination Date, Executive will provide the Company with a complete copy of each patent application filed by Executive or that names Executive as an inventor or co-inventor.

(b) Executive agrees that any and all Work shall be deemed a "work made for hire" within the meaning of the United States Copyright Act, Title 17, United States Code, which vests all copyright interest in and to the Work in the Company. To the extent that any such Work is not, by operation of law, a "work made for hire", Executive hereby assigns and transfers to the Company all of his right, title and interest therein, including, without limitation, any copyrights and renewals or extensions thereto.

(c) Executive shall promptly execute all applications, assignments or other instruments as may be requested by Company, from time to time, to further establish Company's ownership of Inventions, including patent, copyright and other intellectual property rights in any and all countries on such Inventions as the Company, in its sole discretion, shall determine. In the event Company is unable for any reason, after good faith reasonable effort, to secure Executive's signature on any document which the Executive is required to execute in accordance with the terms of this **Section 4.4**, Executive hereby irrevocably designates and appoints the Company to act for and on behalf of the Executive, and hereby authorizes and provides the Company with a power of attorney, to execute, verify and file any such documents with the same legal force and effect as if executed by Executive.

(d) Executive's obligation to assign Inventions to the Company does not apply to an invention that is developed entirely on Executive's own time, using entirely his own equipment, supplies, facilities and resources, *unless* such invention: (1) relates at the time of conception or reduction to practice of the invention to the Company's business, or actual or demonstrably anticipated research or development of the Company; (2) results from any Work or other services or duties performed by Executive for the Company; or (3) is based on Confidential Information or is developed using Confidential Information. To avoid any potential confusion as to ownership over any such invention, Executive agrees to immediately disclose such invention to the Company. If Executive fails to do so, any undisclosed invention will be presumed to be a Company Invention, and Executive will have the burden of establishing that it is otherwise.

4.5. Non-Solicitation of Customers, Alliance Partners and Personnel. During the Restricted Period, Executive (individually, or through or on behalf of any individual, business, partnership, corporation, association or other entity) shall not, in any capacity or for anyone other than the Company, directly or indirectly, without the prior written consent of the Board:

(a) induce, recruit, solicit, entice, or attempt to induce, recruit, solicit, or entice any Customers or Alliance Partners to terminate, alter, or limit its, his, or her relationship with the Company;

(b) induce, recruit, solicit, entice, or attempt to induce, recruit, solicit, or entice any Prospective Customers or Alliance Partners to not work with, engage, or otherwise, contract with the Company;

(c) perform Competitive Activities for any Customers or Alliance Partners or Prospective Customers or Alliance Partners;

(d) interfere with the Company's relations with its Customers or Alliance Partners or otherwise divert business from the Company; or

(e) induce, recruit, solicit, entice, hire, or attempt to induce, recruit, solicit, entice, or hire or assist others in inducing, recruiting, soliciting, enticing or hiring any person or entity who (i) is an employee or contractor of the Company or was an employee or contractor of the Company within the twelve (12) months prior to the Relevant Time or the Termination Date, as applicable, or (ii) Executive comes into contact with directly as a result of Executive's employment with the Company, or encourage such person or entity to terminate his, her or its employment or contractor relationship with the Company, other than pursuant to general advertisements.

4.6. Non-Competition.

(a) Acknowledgement. Executive acknowledges and agrees that (i) the Company is engaged in a highly competitive business; (ii) the Company has made substantial investments to develop its business interests and goodwill and to provide special training and access to Confidential Information to Executive for the performance of Executive's duties hereunder; (iii) the success of the Company's business in the marketplace depends upon its goodwill and reputation for quality and dependability; (iv) the limitations as to time, geographical area, and scope of activity to be restrained in these Restrictive Covenants are reasonable and are not greater than necessary to protect the goodwill and other business interests of the Company; and (v) the investments made by the Company are worthy of protection and the Company's need for protection afforded by the Restrictive Covenants is greater than any hardship Executive might experience by complying with the terms thereof.

(b) Competitive Activities. During the Restricted Period, Executive shall not, directly or indirectly, whether individually or as a principal, agent, employee, employer, consultant, investor or partner, (i) engage in or participate in Competitive Activities on behalf of any person or entity other than the Company and its subsidiaries and affiliated entities, or (ii) make any financial investment in, become employed by or render services to or for any person or other business enterprise, including all affiliates thereof (other than the Company and its subsidiaries and affiliated entities), that engages in Competitive Activities. During the portion of the Restricted Period that follows the Termination Date, such Competitive Activities are prohibited anywhere in the Territory. Notwithstanding the foregoing, Competitive Activities shall not be construed to preclude Executive from making any investment in the securities of any entity, whether or not engaged in competition with the Company, to the extent that such securities are actively traded on a national securities exchange or in the over-the-counter market in the United States or any foreign securities exchange and such investment does not exceed two percent (2%) of the issued and outstanding shares or other ownership interests in such entity or give Executive the right or power to control or participate directly in the making of policy decisions of such entity. By way of further clarification, Executive's employment with the Company is on a full time basis and, accordingly, during the term of his employment with the Company Executive is prohibited from competing with the Company, whether directly or indirectly and regardless of location, provided that Executive shall not be prohibited from conducting activities solely for the benefit of the Company and its subsidiaries in Executive's capacity as an employee of the Company.

4.7. Enforcement. Executive agrees that a breach, or a threatened or reasonably anticipated breach on his part of the Restrictive Covenants will cause such damage to the Company as will be irreparable and for that reason Executive further agrees that the Company shall be entitled to seek injunctive or other equitable relief as determined by any court of competent jurisdiction, restraining any such breach or threatened or reasonably anticipated breach of the Restrictive Covenants by Executive, or by Executive's employer, employees, partners, or agents, or by any entity by or through which Executive directly or indirectly is engaging in or attempting the actions which violate the Restrictive Covenants without proof of any actual damages that have been or may result to the Company by such breach or threatened or reasonably anticipated breach and without the necessity of posting a bond or other security. This right to pursue injunctive relief shall be cumulative and in addition to any and all other remedies the Company may have, including, specifically, recovery of damages.

4.8. Extension of Restricted Period for Injunctive Relief. If Executive violates the Restrictive Covenants and the Company brings legal action for injunctive or other relief under Section 4.7, the Company shall not be deprived of the benefit of the full period of the Restrictive Covenants as a result of the time spent by the Company in obtaining such relief. Accordingly, the Restricted Period shall be tolled for the duration of any period during which the Company seeks and obtains such relief from a court of competent jurisdiction or for a time period equal to the period during which Executive was in violation of the Restrictive Covenants, whichever is longer.

4.9. Reasonableness of Restrictions. Executive expressly acknowledges and agrees that the Restrictive Covenants are reasonable as to scope, geography, and time. Executive further agrees that the Restrictive Covenants shall be construed in such a manner as to be enforceable under applicable laws if a court of competent jurisdiction determines that a more limited scope, geography, or time period is required. Without limitation on the generality of this Section 4, in the event the tribunal conducting such proceeding determines that the Restrictive Covenants do not meet the requirements of applicable law, then the Company and Executive agree that the Company is deemed to have requested that this Agreement be modified, amended, or reformed by the tribunal for purposes of best effectuating the purposes of this Agreement and as needed to be reasonable and enforceable under applicable law.

4.10. Notice to Third Parties. Executive expressly agrees to notify any prospective employer or affiliate in a business competitive with the Company of the Restrictive Covenants, and authorizes the Company to make contact with, and discuss the nature and obligations of the Restrictive Covenants with, any person or affiliate reasonably believed by the Company to be engaged or about to be engaged in an act that would constitute a violation of the Restrictive Covenants. Notwithstanding anything to the contrary in this Agreement, including but not limited to the terms of this Section 4, the Company authorizes Executive to provide any prospective employer or affiliate in a business competitive with the Company with a copy of the Restrictive Covenants during the Restricted Period.

4.11 Additional Notices. Executive represents that he has notified the Board of (i) any and all engagements, assignments, or other obligations existing as of the Effective Date that relate to Executive providing services to or for the benefit of any person or entity other than the Company or would prohibit or interfere with Executive's ability to provide services to the Company as contemplated by this Agreement, and (ii) any and all advisory or board positions relating to Executive. Executive has also provided the Board with a schedule of when any such engagements and assignments will be completed and closed. In addition, Executive has released himself of any competitive assignments, engagements and obligations, and of any advisory contracts with other oncology biotechnology or pharmaceutical companies, as of the Effective Date.

4.12 Application of Section 4. This Section 4 shall survive the end of Executive's employment with the Company and any termination of this Agreement, and it shall apply regardless of the reasons for Executive's termination of employment, whether during or after the Term, and Executive agrees to abide by this Section 4 irrespective of whether Executive contends that the Company breached this Agreement. In the event that, prior to the end of the Restricted Period, Executive breaches any of his obligations under Section 4, the Company's obligations to provide the Severance Pay or any other payments under this Agreement shall thereupon immediately cease.

5. Arbitration.

5.1. Arbitration of Claims. Executive and the Company agree that all claims, demands, causes of action, disputes, controversies, or other matters in question ("***Claims***"), whether arising out of this Agreement or the Executive's service (or termination from service) with the Company, whether arising in contract, tort, or otherwise and whether provided by statute, equity, or common law, shall be resolved exclusively by binding arbitration. The arbitration will be held under the auspices of the American Arbitration Association ("***AAA***"). The Company and the Executive agree that, except as provided in this Agreement, any arbitration shall be in accordance with the Federal Arbitration Act ("***FAA***") and, to the extent an issue is not addressed by the FAA, with the then-current rules of the AAA. Any arbitration commenced pursuant to this Agreement shall be conducted by a single neutral arbitrator, who shall have a minimum of three years of employment arbitration experience (the "***Arbitrator***"). The Arbitrator shall apply the substantive law of Texas (excluding choice-of-law principles that might call for the application of some other jurisdiction's law) or federal law, or both as applicable to the claims asserted. The results of arbitration will be binding and conclusive on the Parties hereto. The Parties agree that the costs of arbitration, Arbitrator's fees, and all attorneys' fees will be borne by the Party who or which does not substantially prevail in the arbitration, as determined by the Arbitrator. The Parties agree that venue for arbitration will be: (i) at such location in the State of New Jersey as the Parties may mutually agree upon; (ii) the city where the Company's headquarters are then located; or (iii) at such other location as may be mutually agreed upon by the Parties. Any and all of the Arbitrator's orders, decisions, and awards may be enforceable in, and judgment upon any award rendered by the Arbitrator may be confirmed and entered by, any federal or state court having jurisdiction.

5.2. Administrative Actions. Except as otherwise provided in this Agreement or as otherwise required under applicable law, the Parties agree not to initiate or prosecute any lawsuit or administrative action (other than an administrative charge of discrimination to the Equal Employment Opportunity Commission, or a similar fair employment practices agency, or an administrative charge within the jurisdiction of the National Labor Relations Board) in any way related to any Claim covered by this Agreement. Responding to any administrative charge of discrimination, or similar fair employment practices agency, or an administrative charge within the jurisdiction of the National Labor Relations Board shall not constitute a waiver of the right to arbitration under this Agreement.

5.3. Exclusions. Claims for unemployment compensation benefits are not covered by this Section 5. Also not covered by this Section 5 are claims by the Company for Executive's breach of any of the Restrictive Covenants. Executive acknowledges that the Company will be irreparably harmed if Executive's obligations in respect of the Restrictive Covenants are not specifically enforced and that the Company would not have an adequate remedy at law in the event of a violation by Executive of his obligations. Therefore, notwithstanding Section 5.1 above, Executive agrees and consents that the Company shall not be required to arbitrate disputes regarding the obligations in respect of the Restrictive Covenants, and in addition to any other remedies at law or in equity that the Company may have, including attorneys' fees and related costs, the Company will be entitled to seek injunctive relief or any appropriate decree of specific performance for Executive's obligations in respect of the Restrictive Covenants. Initiation of or participation in such judicial or administrative proceedings shall not constitute a waiver of the right to arbitrate any other Claims within the scope of this Section 5.

5.4. **EXECUTIVE ACKNOWLEDGES THAT, BY SIGNING THIS AGREEMENT, EXECUTIVE IS WAIVING ANY OF EXECUTIVE'S RIGHT TO HAVE ANY CLAIM ALLEGED BY EXECUTIVE LITIGATED IN A COURT OR DECIDED BY A JURY. BY SIGNING THIS AGREEMENT, EXECUTIVE FURTHER ACKNOWLEDGES THAT EXECUTIVE IS WAIVING ALL JUDICIAL RIGHTS TO APPEAL, AND THAT EXECUTIVE MAY BE COMPELLED TO ARBITRATE UNDER APPLICABLE LAW.**

6. Additional Provisions.

6.1. Governing Law. This Agreement shall be construed, administered and enforced according to the laws of the State of Texas without regard to its principles of conflict of laws.

6.2. Venue. Subject to Section 5 above, the Parties hereto hereby irrevocably consent and agree that the exclusive venue for any action brought with respect to this Agreement shall be in the state courts of Texas. The Parties further agree to submit to the exclusive jurisdiction of the State of Texas with respect to any dispute, controversy or claim arising out of or in connection with this Agreement.

6.3. Binding Effect; Assignment. Subject to the restrictions contained herein, this Agreement shall be binding on and inure to the benefit of the Parties, and their respective heirs, personal representatives, successors and assigns, and the Parties agree for themselves and their heirs, personal representatives, successors and assigns, to execute any instruments in writing which may be necessary or proper in carrying out the purposes of this Agreement. The Company may assign this Agreement to any entity that acquires all or substantially all of the business or assets of the Company, provided that the Company will require any successor or assignee to expressly assume and agree to perform this Agreement. This Agreement is not otherwise assignable without the prior written consent of both Executive and the Company.

6.4. Severability. In the event that any one or more of the provisions or portion thereof contained in this Agreement shall for any reason be held to be invalid, illegal, or unenforceable in any respect, the same shall not invalidate or otherwise affect any other provisions of this Agreement, and this Agreement shall be modified, amended, or reformed by the tribunal conducting such proceeding for the purposes of best effectuating the purposes of this Agreement and as needed to be reasonable and enforceable under applicable law.

6.5. Waivers. No waiver of any of the terms of this Agreement shall be valid unless signed by the party against whom such waiver is asserted.

6.6. Notices. All notices, requests, consents, claims, demands, waivers and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) on the next business day if sent by a nationally recognized overnight courier; or (c) on the third day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the respective Parties at the following addresses (or at such other address for a party as shall be specified in a notice given in accordance with this Section 6.6):

If to Company:

Lantern Pharma Inc.
1920 McKinney Ave, 7th floor
Dallas TX 75201
Attention: Board of Directors

If to Executive:

Panna Sharma
1164 Dawn View Lane
Atlanta, GA 30327

6.7. Counterparts. A fax signature, email scanned signature, or electronic signature of this Agreement shall be as effective as an original ink signature. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, and will become effective and binding upon the Parties at such time as all of the signatories have signed a counterpart of this Agreement. All counterparts so executed shall constitute one Agreement binding on the Parties.

6.8. Review by Counsel. Each Party represents and warrants that this Agreement is the result of full and otherwise fair bargaining over its terms following a full and otherwise fair opportunity to have this Agreement reviewed by such Party's own separate legal counsel.

6.9. Further Assurances. Each Party agrees to execute all additional papers and documents and to take all additional actions reasonably requested by the other Party in order to further evidence or reflect the agreements contained in this Agreement.

6.10. Headings and Pronouns. The subject headings of the sections contained herein are inserted for convenience only and shall not be considered in interpreting any term or provision hereof. All pronouns and any variations thereof shall be deemed to refer to the masculine, feminine, neuter, singular or plural as the identity of the entities or persons referred to any require.

6.11. Entire Agreement. This Agreement constitutes the entire agreement between the Parties concerning the subject matter contained herein and supersedes all prior and contemporaneous agreements and understandings, both written and oral, between the Parties with respect to such subject matter. No modification, amendment, change, or discharge of any term or provision of this Agreement shall be valid or binding unless the same is in writing and signed by the Parties hereto.

6.12. Attorneys' Fees. In the event that a court of competent jurisdiction, or an arbitrator in accordance with the terms above, determines that a Party breached the terms of this Agreement, the prevailing Party shall be entitled to recover its reasonable attorney's fees and expenses in connection with having to enforce the terms of this Agreement.

6.13. Survivability. The terms and provisions set forth inSections 4, Section 5 and Section 6 shall survive and remain in full force and effect following the termination of Executive's employment for any reason.

6.14. Exhibits and Annexes. Any additional provisions are set forth inExhibit A, which is incorporated by reference.

Remainder of Page Intentionally Left Blank.
Signature Page(s) To Follow.

IN WITNESS WHEREOF, the Parties have executed this Agreement to be effective as of the Effective Date.

COMPANY:

Lantern Pharma Inc.

By: /s/ John Fucci
Director and
Compensation Committee Member

By: /s/ Donald J. Keyser
Director and
Compensation Committee Member

EXECUTIVE:

/s/ Panna Sharma
Panna Sharma

EXHIBIT A

I. Initial Base Salary. The Company shall pay Executive an initial pre-tax base salary ("***Initial Base Salary***") of $260,000 (Two Hundred Sixty Thousand U.S. Dollars) per annum, less all applicable withholdings, with such Initial Base Salary to be paid in accordance with the Company's standard payroll practices.

II. Future Base Salary. Following completion of a Series B Preferred Stock financing on terms that are approved by the Company's Board of Directors, and excluding any amounts raised pursuant to any prior bridge financing or similar funding, the Company shall thereafter pay Executive a pre-tax base salary ("***Future Base Salary***") of $432,000 (Four Hundred Thirty-Two Thousand U.S. Dollars) per annum, less all applicable withholdings. Payment of such Future Base Salary shall otherwise be paid in accordance with the Company's standard payroll practices.

III. Bonus.

(a) Executive will be eligible for a cash bonus in the amount of $100,000, with such bonus to be paid within the first three months of calendar 2019 and with Executive's eligibility to receive the bonus to be subject to achievement of operational and strategic milestones regarding the Company's performance during calendar 2018 to be mutually agreed upon by the Company's Board of Directors and the Executive.

(b) In addition, Executive will be eligible for an annual cash bonus of 25% (Twenty-Five Percent) of Executive's applicable base salary during the annual period with respect to which such bonus is being paid. Executive's eligibility to receive the bonus will be subject to achievement of operational and strategic milestones to be mutually agreed upon by the Company's Board of Directors and the Executive with respect to the applicable annual period to which the bonus relates. The milestones will be reviewed at Board meetings and may be adjusted from time to time based on market conditions, competitive environment and Company progress.

IV. Incentive Equity.

(a) Within 15 business days following the signing date of the Agreement, the Company will grant Executive an immediately vested option to purchase 45,875 shares of the Company's common stock pursuant to, and in accordance with, the Lantern Pharma Inc. 2018 Equity Incentive Plan (the "Plan").

(b) In addition, within 15 business days following the signing date of the Agreement, the Company will grant Executive an option to purchase 68,813 shares of the Company's common stock pursuant to, and in accordance with, the Plan. Such option shall vest over a 36 month period, with one third of such option to vest on the first anniversary of the Effective Date and the remaining two thirds of such option to vest proportionately on a monthly basis during the second and third years following the Effective Date.

(c) In addition, within 30 business days following the Effective Date, the Company will grant Executive an option to purchase 34,406 shares of the Company's common stock pursuant to, and in accordance with, the Plan. Such option shall vest based upon achievement of performance milestones to be mutually agreed upon by the Company's Board of Directors and the Executive prior to the time such option is granted.

(d) In addition, within 30 business days following the Effective Date, the Company will grant Executive an option to purchase 34,406 shares of the Company's common stock pursuant to, and in accordance with, the Plan. Such option shall vest upon the consummation of a material out-licensing, strategic alliance or partnering transaction with respect to the Company's product candidates known as *LP-184 (Irufulven2)* or *LP-200 (Tavocept)*.

(e) Executive and the Board shall meet to discuss future milestones and key value drivers for the Company that, if accomplished over a time period to be specified by the Board, will allow the Company to provide an additional grant of vested options that amount to 2% of the Company based on fully diluted capitalization at the time of the grant(s). Such future milestones and key value drivers for the Company will be based on a plan to be prepared by Executive by November 30, 2018 following input from the Compensation Committee, and subject to approval by the Board.

(f) The Company shall also designate 100,000 shares of the Company's common stock to be available and set aside in accordance with the Plan for potential future option grants or incentive equity awards to Executive based on milestones and other performance factors to be determined by the Board in its discretion from time to time.

(g) Executive recognizes that the exercise price of the options to be granted to Executive as described above shall be determined in accordance with the terms of the Plan at the time such applicable options are granted pursuant to the Plan. Executive further recognizes that shares issued to Executive upon exercise of any and all such options, shall be subject to the terms and provisions of the Company's organizational documents, to the terms and provisions of the Plan and the related option grant documents, and to the terms and provisions of any existing voting agreements, investors' rights agreements, right of first refusal and co-sale agreements and agreements of similar nature that may be in existence at the time any such options are exercised. Executive agrees to take all other actions and execute such further agreements or documents as may be requested by the Company in order to further evidence or reflect Executive's agreement to be bound by such voting agreements, investors' rights agreements, right of first refusal and co-sale agreements, and agreements of similar nature.

(h) The Company and Executive further recognize that the equity incentive option grants and awards described in this Section IV are subject to obtaining all necessary shareholder approvals, and also subject to potential amendment of the Company's Certificate of Formation to allow sufficient available shares with respect to such grants.

V. Expenses. Executive will be reimbursed by the Company for his reasonable, documented, out-of-pocket business expenses. These expenses will be reimbursed consistent with the Company's policy on expense reimbursement in effect from time to time. Executive will be responsible for the expense of his meals, unless such meal is a business-related event, in which case such meal will be subject to the Company's general expense reimbursement policy.

Exhibit 10.3

INDEMNIFICATION AGREEMENT

This Indemnification Agreement ("Agreement"), dated as of [DATE], is by and between Lantern Pharma Inc., a Delaware corporation (the "Company") and [NAME OF DIRECTOR/OFFICER] (the "Indemnitee").

WHEREAS, Indemnitee is [a director/an officer] of the Company;

WHEREAS, both the Company and Indemnitee recognize the increased risk of litigation and other claims being asserted against directors and officers of public companies;

WHEREAS, the board of directors of the Company (the "Board") has determined that enhancing the ability of the Company to retain and attract as directors and officers the most capable persons is in the best interests of the Company and that the Company therefore should seek to assure such persons that indemnification and insurance coverage is available; and

WHEREAS, in recognition of the need to provide Indemnitee with substantial protection against personal liability, in order to procure Indemnitee's continued service as a [director/officer] of the Company and to enhance Indemnitee's ability to serve the Company in an effective manner, and in order to provide such protection pursuant to express contract rights (intended to be enforceable irrespective of, among other things, any amendment to the Company's certificate of incorporation or bylaws (collectively, the "Constituent Documents"), any change in the composition of the Board or any change in control or business combination transaction relating to the Company), the Company wishes to provide in this Agreement for the indemnification of, and the advancement of Expenses (as defined in Section 1(f) below) to, Indemnitee as set forth in this Agreement and, to the extent insurance is maintained for the coverage of Indemnitee under the Company's directors' and officers' liability insurance policies.

NOW, THEREFORE, in consideration of the foregoing and the Indemnitee's agreement to [continue to] provide services to the Company, the parties agree as follows:

1. Definitions. For purposes of this Agreement, the following terms shall have the following meanings:

(a) "Beneficial Owner" has the meaning given to the term "beneficial owner" in Rule 13d-3 under the Securities Exchange Act of 1934, as amended (the "Exchange Act").

(b) "Change in Control" means the occurrence after the date of this Agreement of any of the following events:

(i) any Person is or becomes the Beneficial Owner, directly or indirectly, of securities of the Company representing fifty percent (50%) or more of the Company's then outstanding Voting Securities, unless the change in relative Beneficial Ownership of the Company's securities by any Person results solely from a reduction in the aggregate number of outstanding shares of securities entitled to vote generally in the election of directors;

(ii) the consummation of a reorganization, merger or consolidation, unless immediately following such reorganization, merger or consolidation, all of the Beneficial Owners of the Voting Securities of the Company immediately prior to such transaction beneficially own, directly or indirectly, more than fifty percent (50%) of the combined voting power of the outstanding Voting Securities of the entity resulting from such transaction;

(iii) during any period of two consecutive years, not including any period prior to the execution of this Agreement, individuals who at the beginning of such period constituted the Board (including for this purpose any new directors whose election by the Board or nomination for election by the Company's stockholders was approved by a vote of at least two-thirds (2/3) of the directors then still in office who either were directors at the beginning of the period or whose election or nomination for election was previously so approved) cease for any reason to constitute at least a majority of the Board; or

(iv) the stockholders of the Company approve a plan of complete liquidation or dissolution of the Company or an agreement for the sale or disposition by the Company of all or substantially all of the Company's assets.

(c) "Claim" means:

(i) any threatened, pending or completed action, suit, proceeding or alternative dispute resolution mechanism, whether civil, criminal, administrative, arbitrative, investigative or other, and whether made pursuant to federal, state or other law; or

(ii) any inquiry, hearing or investigation that the Indemnitee determines might lead to the institution of any such action, suit, proceeding or alternative dispute resolution mechanism.

(d) "Delaware Court" shall have the meaning ascribed to it in Section 9(e) below.

(e) "Disinterested Director" means a director of the Company who is not and was not a party to the Claim in respect of which indemnification is sought by Indemnitee.

(f) "Expenses" means any and all expenses, including attorneys' and experts' fees, court costs, transcript costs, travel expenses, duplicating, printing and binding costs, telephone charges, and all other costs and expenses incurred in connection with investigating, defending, being a witness in or participating in (including on appeal), or preparing to defend, be a witness or participate in, any Claim. Expenses also shall include (i) Expenses incurred in connection with any appeal resulting from any Claim, including without limitation the premium, security for, and other costs relating to any cost bond, supersedes bond, or other appeal bond or its equivalent, and (ii) for purposes of Section 5 only, Expenses incurred by Indemnitee in connection with the interpretation, enforcement or defense of Indemnitee's rights under this Agreement, by litigation or otherwise. Expenses, however, shall not include amounts paid in settlement by Indemnitee or the amount of judgments or fines against Indemnitee.

(g) "Expense Advance" means any payment of Expenses advanced to Indemnitee by the Company pursuant to Section 4 or Section 5 hereof.

(h) "Indemnifiable Event" means any event or occurrence, whether occurring [before,] on or after the date of this Agreement, related to the fact that Indemnitee is or was a director, officer, employee or agent of the Company or any subsidiary of the Company, or is or was serving at the request of the Company as a director, officer, employee, member, manager, trustee or agent of any other corporation, limited liability company, partnership, joint venture, trust or other entity or enterprise (collectively with the Company, "Enterprise") or by reason of an action or inaction by Indemnitee in any such capacity (whether or not serving in such capacity at the time any Loss is incurred for which indemnification can be provided under this Agreement).

(i) “Independent Counsel” means a law firm, or a member of a law firm, that is experienced in matters of corporation law and neither presently performs, nor in the past three (3) years has performed, services for either: (i) the Company or Indemnitee (other than in connection with matters concerning Indemnitee under this Agreement or of other indemnitees under similar agreements) or (ii) any other party to the Claim giving rise to a claim for indemnification hereunder. Notwithstanding the foregoing, the term “Independent Counsel” shall not include any person who, under the applicable standards of professional conduct then prevailing, would have a conflict of interest in representing either the Company or Indemnitee in an action to determine Indemnitee’s rights under this Agreement.

(j) “Losses” means any and all Expenses, damages, losses, liabilities, judgments, fines, penalties (whether civil, criminal or other), ERISA excise taxes, amounts paid or payable in settlement, including any interest, assessments, any federal, state, local or foreign taxes imposed as a result of the actual or deemed receipt of any payments under this Agreement and all other charges paid or payable in connection with investigating, defending, being a witness in or participating in (including on appeal), or preparing to defend, be a witness or participate in, any Claim.

(k) “Person” means any individual, corporation, firm, partnership, joint venture, limited liability company, estate, trust, business association, organization, governmental entity or other entity and includes the meaning set forth in Sections 13(d) and 14(d) of the Exchange Act.

(l) “Standard of Conduct Determination” shall have the meaning ascribed to it in Section 9(b) below.

(m) “Voting Securities” means any securities of the Company that vote generally in the election of directors.

2. Services to the Company. Indemnitee agrees to continue to serve as a director or officer of the Company for so long as Indemnitee is duly elected or appointed or until Indemnitee tenders his or her resignation or is no longer serving in such capacity. This Agreement shall not be deemed an employment agreement between the Company (or any of its subsidiaries or Enterprise) and Indemnitee. Indemnitee specifically acknowledges that his or her employment with, or service to, the Company or any of its subsidiaries or Enterprise is at will and the Indemnitee may be discharged at any time for any reason, with or without cause, except as may be otherwise provided in any written employment agreement between Indemnitee and the Company (or any of its subsidiaries or Enterprise), other applicable formal severance policies duly adopted by the Board or, with respect to service as a director or officer of the Company, by the Company’s Constituent Documents or Delaware law. This Agreement shall continue in force after Indemnitee has ceased to serve as a director or officer of the Company or, at the request of the Company, of any of its subsidiaries or Enterprise, as provided in Section 12 hereof.

3. Indemnification. Subject to Section 9 and Section 10 of this Agreement, the Company shall indemnify Indemnitee, to the fullest extent permitted by the laws of the State of Delaware in effect on the date hereof, or as such laws may from time to time hereafter be amended to increase the scope of such permitted indemnification, against any and all Losses if Indemnitee was or is or becomes a party to or participant in, or is threatened to be made a party to or participant in, any Claim by reason of or arising in part out of an Indemnifiable Event, including, without limitation, Claims brought by or in the right of the Company, Claims brought by third parties, and Claims in which the Indemnitee is solely a witness.

4. Advancement of Expenses. Indemnitee shall have the right to advancement by the Company, prior to the final disposition of any Claim by final adjudication to which there are no further rights of appeal, of any and all Expenses actually and reasonably paid or incurred by Indemnitee in connection with any Claim arising out of an Indemnifiable Event. Indemnitee's right to such advancement is not subject to the satisfaction of any standard of conduct. Without limiting the generality or effect of the foregoing, within ninety (90) days after any request by Indemnitee, the Company shall, in accordance with such request, (a) pay such Expenses on behalf of Indemnitee, (b) advance to Indemnitee funds in an amount sufficient to pay such Expenses, or (c) reimburse Indemnitee for such Expenses. In connection with any request for Expense Advances, Indemnitee shall not be required to provide any documentation or information to the extent that the provision thereof would undermine or otherwise jeopardize attorney-client privilege. In connection with any request for Expense Advances, Indemnitee shall execute and deliver to the Company an undertaking (which shall be accepted without reference to Indemnitee's ability to repay the Expense Advances)[, in the form attached hereto as Exhibit A, to repay any amounts paid, advanced, or reimbursed by the Company for such Expenses to the extent that it is ultimately determined, following the final disposition of such Claim, that Indemnitee is not entitled to indemnification hereunder. Indemnitee's obligation to reimburse the Company for Expense Advances shall be unsecured and no interest shall be charged thereon.

5. Indemnification for Expenses in Enforcing Rights. To the fullest extent allowable under applicable law, the Company shall also indemnify against, and, if requested by Indemnitee, shall advance to Indemnitee subject to and in accordance with Section 4, any Expenses actually and reasonably paid or incurred by Indemnitee in connection with any action or proceeding by Indemnitee for (a) indemnification or reimbursement or advance payment of Expenses by the Company under any provision of this Agreement, or under any other agreement or provision of the Constituent Documents now or hereafter in effect relating to Claims relating to Indemnifiable Events, and/or (b) recovery under any directors' and officers' liability insurance policies maintained by the Company. However, in the event that Indemnitee is ultimately determined not to be entitled to such indemnification or insurance recovery, as the case may be, then all amounts advanced under this Section 5 shall be repaid. Indemnitee shall be required to reimburse the Company in the event that a final judicial determination is made that such action brought by Indemnitee was frivolous or not made in good faith.

6. Partial Indemnity. If Indemnitee is entitled under any provision of this Agreement to indemnification by the Company for a portion of any Losses in respect of a Claim related to an Indemnifiable Event but not for the total amount thereof, the Company shall nevertheless indemnify Indemnitee for the portion thereof to which Indemnitee is entitled.

7. Notification and Defense of Claims.

(a) Notification of Claims. Indemnitee shall notify the Company in writing as soon as practicable of any Claim which could relate to an Indemnifiable Event or for which Indemnitee could seek Expense Advances, including a brief description (based upon information then available to Indemnitee) of the nature of, and the facts underlying, such Claim. The failure by Indemnitee to timely notify the Company hereunder shall not relieve the Company from any liability hereunder unless the Company's ability to participate in the defense of such claim was materially and adversely affected by such failure/except that the Company shall not be liable to indemnify Indemnitee under this Agreement with respect to any judicial award in a Claim related to an Indemnifiable Event if the Company was not given a reasonable and timely opportunity to participate at its expense in the defense of such action. If at the time of the receipt of such notice, the Company has directors' and officers' liability insurance in effect under which coverage for Claims related to Indemnifiable Events is potentially available, the Company shall give prompt written notice to the applicable insurers in accordance with the procedures set forth in the applicable policies. The Company shall provide to Indemnitee a copy of such notice delivered to the applicable insurers, and copies of all subsequent correspondence between the Company and such insurers regarding the Claim, in each case substantially concurrently with the delivery or receipt thereof by the Company.

(b) Defense of Claims. The Company shall be entitled to participate in the defense of any Claim relating to an Indemnifiable Event at its own expense and, except as otherwise provided below, to the extent the Company so wishes, it may assume the defense thereof with counsel reasonably satisfactory to Indemnitee. After notice from the Company to Indemnitee of its election to assume the defense of any such Claim, the Company shall not be liable to Indemnitee under this Agreement or otherwise for any Expenses subsequently directly incurred by Indemnitee in connection with Indemnitee's defense of such Claim other than reasonable costs of investigation or as otherwise provided below. Indemnitee shall have the right to employ its own legal counsel in such Claim, but all Expenses related to such counsel incurred after notice from the Company of its assumption of the defense shall be at Indemnitee's own expense; provided, however, that if (i) Indemnitee's employment of its own legal counsel has been authorized by the Company, (ii) Indemnitee has reasonably determined that there may be a conflict of interest between Indemnitee and the Company in the defense of such Claim, (iii) after a Change in Control, Indemnitee's employment of its own counsel has been approved by the Independent Counsel or (iv) the Company shall not in fact have employed counsel to assume the defense of such Claim, then Indemnitee shall be entitled to retain its own separate counsel (but not more than one law firm plus, if applicable, local counsel in respect of any such Claim) and all Expenses related to such separate counsel shall be borne by the Company.

8. Procedure upon Application for Indemnification. In order to obtain indemnification pursuant to this Agreement, Indemnitee shall submit to the Company a written request therefor, including in such request such documentation and information as is reasonably available to Indemnitee and is reasonably necessary to determine whether and to what extent Indemnitee is entitled to indemnification following the final disposition of the Claim[, provided that documentation and information need not be so provided to the extent that the provision thereof would undermine or otherwise jeopardize attorney-client privilege]. Indemnification shall be made insofar as the Company determines Indemnitee is entitled to indemnification in accordance with Section 9 below.

9. Determination of Right to Indemnification.

(a) Mandatory Indemnification; Indemnification as a Witness.

(i) To the extent that Indemnitee shall have been successful on the merits or otherwise in defense of any Claim relating to an Indemnifiable Event or any portion thereof or in defense of any issue or matter therein, including without limitation dismissal without prejudice, Indemnitee shall be indemnified against all Losses relating to such Claim in accordance with Section 3 to the fullest extent allowable by law, and no Standard of Conduct Determination (as defined in Section 9(b)) shall be required.

(ii) To the extent that Indemnitee's involvement in a Claim relating to an Indemnifiable Event is to prepare to serve and serve as a witness, and not as a party, the Indemnitee shall be indemnified against all Losses incurred in connection therewith to the fullest extent allowable by law and no Standard of Conduct Determination (as defined in Section 9(b)) shall be required.

(b) Standard of Conduct. To the extent that the provisions of Section 9(a) are inapplicable to a Claim related to an Indemnifiable Event that shall have been finally disposed of, any determination of whether Indemnitee has satisfied any applicable standard of conduct under Delaware law that is a legally required condition to indemnification of Indemnitee hereunder against Losses relating to such Claim and any determination that Expense Advances must be repaid to the Company (a "Standard of Conduct Determination") shall be made as follows:

(i) if no Change in Control has occurred, (A) by a majority vote of the Disinterested Directors, even if less than a quorum of the Board, (B) by a committee of Disinterested Directors designated by a majority vote of the Disinterested Directors, even though less than a quorum or (C) if there are no such Disinterested Directors, by Independent Counsel in a written opinion addressed to the Board, a copy of which shall be delivered to Indemnitee; and

(ii) if a Change in Control shall have occurred, (A) if the Indemnitee so requests in writing, by a majority vote of the Disinterested Directors, even if less than a quorum of the Board or (B) otherwise, by Independent Counsel in a written opinion addressed to the Board, a copy of which shall be delivered to Indemnitee.

The Company shall indemnify and hold harmless Indemnitee against and, if requested by Indemnitee, shall reimburse Indemnitee for, or advance to Indemnitee, within ninety (90) of such request, any and all Expenses incurred by Indemnitee in cooperating with the person or persons making such Standard of Conduct Determination.

(c) Making the Standard of Conduct Determination. The Company shall use its reasonable best efforts to cause any Standard of Conduct Determination required under Section 9(b) to be made as promptly as practicable. If the person or persons designated to make the Standard of Conduct Determination under Section 9(b) shall not have made a determination within thirty (30) days after the later of (A) receipt by the Company of a written request from Indemnitee for indemnification pursuant to Section 8 (the date of such receipt being the "Notification Date") and (B) the selection of an Independent Counsel, if such determination is to be made by Independent Counsel, then Indemnitee shall be deemed to have satisfied the applicable standard of conduct; provided that such thirty (30) day period may be extended for a reasonable time, not to exceed an additional forty five (45) days, if the person or persons making such determination in good faith requires such additional time to obtain or evaluate information relating thereto. Notwithstanding anything in this Agreement to the contrary, no determination as to entitlement of Indemnitee to indemnification under this Agreement shall be required to be made prior to the final disposition of any Claim.

(d) Payment of Indemnification. If, in regard to any Losses:

(i) Indemnitee shall be entitled to indemnification pursuant to Section 9(a);

(ii) no Standard Conduct Determination is legally required as a condition to indemnification of Indemnitee hereunder; or

(iii) Indemnitee has been determined or deemed pursuant to Section 9(b) or Section 9(c) to have satisfied the Standard of Conduct Determination,

then the Company shall pay to Indemnitee, within fifteen (15) days after the later of (A) the Notification Date or (B) the earliest date on which the applicable criterion specified in clause (i), (ii) or (iii) is satisfied, an amount equal to such Losses.

(e) Selection of Independent Counsel for Standard of Conduct Determination. If a Standard of Conduct Determination is to be made by Independent Counsel pursuant to Section 9.1(b)(i), the Independent Counsel shall be selected by the Board of Directors, and the Company shall give written notice to Indemnitee advising [him/her] of the identity of the Independent Counsel so selected. If a Standard of Conduct Determination is to be made by Independent Counsel pursuant to Section 9.1(b)(ii), the Independent Counsel shall be selected by Indemnitee, and Indemnitee shall give written notice to the Company advising it of the identity of the Independent Counsel so selected. In either case, Indemnitee or the Company, as applicable, may, within five (5) days after receiving written notice of selection from the other, deliver to the other a written objection to such selection; provided, however, that such objection may be asserted only on the ground that the Independent Counsel so selected does not satisfy the criteria set forth in the definition of "Independent Counsel" in Section 1(i), and the objection shall set forth with particularity the factual basis of such assertion. Absent a proper and timely objection, the person or firm so selected shall act as Independent Counsel. If such written objection is properly and timely made and substantiated, (i) the Independent Counsel so selected may not serve as Independent Counsel unless and until such objection is withdrawn or a court has determined that such objection is without merit; and (ii) the non-objecting party may, at its option, select an alternative Independent Counsel and give written notice to the other party advising such other party of the identity of the alternative Independent Counsel so selected, in which case the provisions of the two immediately preceding sentences, the introductory clause of this sentence and numbered clause (i) of this sentence shall apply to such subsequent selection and notice. If applicable, the provisions of clause (ii) of the immediately preceding sentence shall apply to successive alternative selections. If no Independent Counsel that is permitted under the foregoing provisions of this Section 9(e) to make the Standard of Conduct Determination shall have been selected within twenty (20) days after the Company gives its initial notice pursuant to the first sentence of this Section 9(e) or Indemnitee gives its initial notice pursuant to the second sentence of this Section 9(e), as the case may be, either the Company or Indemnitee may petition the Court of Chancery of the State of Delaware ("Delaware Court") to resolve any objection which shall have been made by the Company or Indemnitee to the other's selection of Independent Counsel and/or to appoint as Independent Counsel a person to be selected by the Court or such other person as the Court shall designate, and the person or firm with respect to whom all objections are so resolved or the person or firm so appointed will act as Independent Counsel. In all events, the Company shall pay all of the reasonable fees and expenses of the Independent Counsel incurred in connection with the Independent Counsel's determination pursuant to Section 9(b).

(f) Presumptions and Defenses.

(i) Indemnitee's Entitlement to Indemnification. In making any Standard of Conduct Determination, the person or persons making such determination shall presume that Indemnitee has satisfied the applicable standard of conduct and is entitled to indemnification, and the Company shall have the burden of proof to overcome that presumption and establish that Indemnitee is not so entitled. Any Standard of Conduct Determination that is adverse to Indemnitee may be challenged by the Indemnitee in the Delaware Court. No determination by the Company (including by its directors or any Independent Counsel) that Indemnitee has not satisfied any applicable standard of conduct may be used as a defense to any legal proceedings brought by Indemnitee to secure indemnification or reimbursement or advance payment of Expenses by the Company hereunder or create a presumption that Indemnitee has not met any applicable standard of conduct.

(ii) Reliance as a Safe Harbor. For purposes of this Agreement, and without creating any presumption as to a lack of good faith if the following circumstances do not exist, Indemnitee shall be deemed to have acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Company if Indemnitee's actions or omissions to act are taken in good faith reliance upon the records of the Company, including its financial statements, or upon information, opinions, reports or statements furnished to Indemnitee by the officers or employees of the Company or any of its subsidiaries in the course of their duties, or by committees of the Board or by any other Person (including legal counsel, accountants and financial advisors) as to matters Indemnitee reasonably believes are within such other Person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Company. In addition, the knowledge and/or actions, or failures to act, of any director, officer, agent or employee of the Company shall not be imputed to Indemnitee for purposes of determining the right to indemnity hereunder.

(iii) No Other Presumptions. For purposes of this Agreement, the termination of any Claim by judgment, order, settlement (whether with or without court approval) or conviction, or upon a plea of nolo contendere or its equivalent, will not create a presumption that Indemnitee did not meet any applicable standard of conduct or have any particular belief, or that indemnification hereunder is otherwise not permitted.

(iv) Defense to Indemnification and Burden of Proof. It shall be a defense to any action brought by Indemnitee against the Company to enforce this Agreement (other than an action brought to enforce a claim for Losses incurred in defending against a Claim related to an Indemnifiable Event in advance of its final disposition) that it is not permissible under applicable law for the Company to indemnify Indemnitee for the amount claimed. In connection with any such action or any related Standard of Conduct Determination, the burden of proving such a defense or that the Indemnitee did not satisfy the applicable standard of conduct shall be on the Company.

(v) Resolution of Claims. The Company acknowledges that a settlement or other disposition short of final judgment may be successful on the merits or otherwise for purposes of Section 9.1(a)(i) if it permits a party to avoid expense, delay, distraction, disruption and uncertainty. In the event that any Claim relating to an Indemnifiable Event to which Indemnitee is a party is resolved in any manner other than by adverse judgment against Indemnitee (including, without limitation, settlement of such action, claim or proceeding with our without payment of money or other consideration) it shall be presumed that Indemnitee has been successful on the merits or otherwise for purposes of Section 9.1(a)(i). The Company shall have the burden of proof to overcome this presumption.

10. Exclusions from Indemnification. Notwithstanding anything in this Agreement to the contrary, the Company shall not be obligated to:

(a) indemnify or advance funds to Indemnitee for Expenses or Losses with respect to proceedings initiated by Indemnitee, including any proceedings against the Company or its directors, officers, employees or other indemnitees and not by way of defense, except:

(i) proceedings referenced in Section 5 above (unless a court of competent jurisdiction determines that each of the material assertions made by Indemnitee in such proceeding was not made in good faith or was frivolous); or

(ii) where the Company has joined in or the Board has consented to the initiation of such proceedings.

(b) indemnify Indemnitee if a final decision by a court of competent jurisdiction determines that such indemnification is prohibited by applicable law.

(c) indemnify Indemnitee for the disgorgement of profits arising from the purchase or sale by Indemnitee of securities of the Company in violation of Section 16(b) of the Exchange Act, or any similar successor statute.

(d) indemnify or advance funds to Indemnitee for Indemnitee's reimbursement to the Company of any bonus or other incentive-based or equity-based compensation previously received by Indemnitee or payment of any profits realized by Indemnitee from the sale of securities of the Company, as required in each case under the Exchange Act (including any such reimbursements under Section 304 of the Sarbanes-Oxley Act of 2002 in connection with an accounting restatement of the Company or the payment to the Company of profits arising from the purchase or sale by Indemnitee of securities in violation of Section 306 of

11. Settlement of Claims. The Company shall not be liable to Indemnitee under this Agreement for any amounts paid in settlement of any threatened or pending Claim related to an Indemnifiable Event effected without the Company's prior written consent, which shall not be unreasonably withheld; provided, however, that if a Change in Control has occurred, the Company shall be liable for indemnification of the Indemnitee for amounts paid in settlement if an Independent Counsel has approved the settlement. The Company shall not settle any Claim related to an Indemnifiable Event in any manner that would impose any Losses on the Indemnitee without the Indemnitee's prior written consent.

12. Duration. All agreements and obligations of the Company contained herein shall continue during the period that Indemnitee is a director or officer of the Company (or is serving at the request of the Company as a director, officer, employee, member, trustee or agent of another Enterprise) and shall continue thereafter (i) so long as Indemnitee may be subject to any possible Claim relating to an Indemnifiable Event (including any rights of appeal thereto) and (ii) throughout the pendency of any proceeding (including any rights of appeal thereto) commenced by Indemnitee to enforce or interpret his or her rights under this Agreement, even if, in either case, he or she may have ceased to serve in such capacity at the time of any such Claim or proceeding.

13. Non-Exclusivity. The rights of Indemnitee hereunder will be in addition to any other rights Indemnitee may have under the Constituent Documents, the General Corporation Law of the State of Delaware, any other contract or otherwise (collectively, "Other Indemnity Provisions"); provided, however, that (a) to the extent that Indemnitee otherwise would have any greater right to indemnification under any Other Indemnity Provision, Indemnitee will be deemed to have such greater right hereunder and (b) to the extent that any change is made to any Other Indemnity Provision which permits any greater right to indemnification than that provided under this Agreement as of the date hereof, Indemnitee will be deemed to have such greater right hereunder. The Company will not adopt any amendment to any of the Constituent Documents the effect of which would be to deny, diminish or encumber Indemnitee's right to indemnification under this Agreement or any Other Indemnity Provision.

14. Liability Insurance. For the duration of Indemnitee's service as a [director/officer] of the Company, and thereafter for so long as Indemnitee shall be subject to any pending Claim relating to an Indemnifiable Event, the Company shall use commercially reasonable efforts (taking into account the scope and amount of coverage available relative to the cost thereof) to continue to maintain in effect policies of directors' and officers' liability insurance providing coverage that is at least substantially comparable in scope and amount to that provided by the Company's current policies of directors' and officers' liability insurance. In all policies of directors' and officers' liability insurance maintained by the Company, Indemnitee shall be named as an insured in such a manner as to provide Indemnitee the same rights and benefits as are provided to the most favorably insured of the Company's directors, if Indemnitee is a director, or of the Company's officers, if Indemnitee is an officer (and not a director) by such policy. Upon request, the Company will provide to Indemnitee copies of all directors' and officers' liability insurance applications, binders, policies, declarations, endorsements and other related materials.

15. No Duplication of Payments. The Company shall not be liable under this Agreement to make any payment to Indemnitee in respect of any Losses to the extent Indemnitee has otherwise received payment under any insurance policy, the Constituent Documents, Other Indemnity Provisions or otherwise of the amounts otherwise indemnifiable by the Company hereunder.

16. Subrogation. In the event of payment to Indemnitee under this Agreement, the Company shall be subrogated to the extent of such payment to all of the rights of recovery of Indemnitee. Indemnitee shall execute all papers required and shall do everything that may be necessary to secure such rights, including the execution of such documents necessary to enable the Company effectively to bring suit to enforce such rights.

17. Amendments. No supplement, modification or amendment of this Agreement shall be binding unless executed in writing by both of the parties hereto. No waiver of any of the provisions of this Agreement shall be binding unless in the form of a writing signed by the party against whom enforcement of the waiver is sought, and no such waiver shall operate as a waiver of any other provisions hereof (whether or not similar), nor shall such waiver constitute a continuing waiver. Except as specifically provided herein, no failure to exercise or any delay in exercising any right or remedy hereunder shall constitute a waiver thereof.

18. Binding Effect. This Agreement shall be binding upon and inure to the benefit of and be enforceable by the parties hereto and their respective successors (including any direct or indirect successor by purchase, merger, consolidation or otherwise to all or substantially all of the business and/or assets of the Company), assigns, spouses, heirs and personal and legal representatives. The Company shall require and cause any successor (whether direct or indirect by purchase, merger, consolidation or otherwise) to all, substantially all or a substantial part of the business and/or assets of the Company, by written agreement in form and substances satisfactory to Indemnitee, expressly to assume and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform if no such succession had taken place.

19. Severability. The provisions of this Agreement shall be severable in the event that any of the provisions hereof (including any portion thereof) are held by a court of competent jurisdiction to be invalid, illegal, void or otherwise unenforceable, and the remaining provisions shall remain enforceable to the fullest extent permitted by law. [Upon such determination that any term or other provision is invalid, illegal or unenforceable, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.]

20. Notices. All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed to have been duly given if delivered by hand, against receipt, or mailed, by postage prepaid, certified or registered mail:

(a) if to Indemnitee, to the address set forth on the signature page hereto.

(b) If to the Company, to:

Lantern Pharma Inc.
Attn: Corporate Secretary
78 John Miller Way, Suite 416
Kearny, New Jersey 07032

With a copy to:

Lewis Brisbois Bisgaard & Smith LLP
333 Bush Street, Suite 1100
San Francisco, CA 94104
Attn: Scott E. Bartel, Partner

Notice of change of address shall be effective only when given in accordance with this Section. All notices complying with this Section shall be deemed to have been received on the date of hand delivery or on the third business day after mailing.

21. Governing Law and Forum. This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Delaware applicable to contracts made and to be performed in such state without giving effect to its principles of conflicts of laws. The Company and Indemnitee hereby irrevocably and unconditionally: (a) agree that any action or proceeding arising out of or in connection with this Agreement shall be brought only in the Delaware Court and not in any other state or federal court in the United States, (b) consent to submit to the exclusive jurisdiction of the Delaware Court for purposes of any action or proceeding arising out of or in connection with this Agreement, and (c) waive, and agree not to plead or make, any claim that the Delaware Court lacks venue or that any such action or proceeding brought in the Delaware Court has been brought in an improper or inconvenient forum.

22. Headings. The headings of the sections and paragraphs of this Agreement are inserted for convenience only and shall not be deemed to constitute part of this Agreement or to affect the construction or interpretation thereof.

23. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall for all purposes be deemed to be an original, but all of which together shall constitute one and the same Agreement.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

LANTERN PHARMA INC.
a Delaware corporation

By: _____
Name:
Title:

INDEMNITEE

_____
Name:
Address: _____

EXHIBIT A

FORM OF UNDERTAKING TO REPAY ADVANCEMENT OF EXPENSES

Date

Lantern Pharma Inc.
Attn: Corporate Secretary
78 John Miller Way, Suite 416
Kearny, New Jersey 07032

Re: Undertaking to Repay Advancement of Expenses.

Ladies and Gentlemen:

This undertaking is being provided pursuant to that certain Indemnification Agreement, dated [DATE], by and between Lantern Pharma Inc., a Delaware corporation (the "**Company**"), and the undersigned as Indemnitee (the "**Indemnification Agreement**"). Terms used herein and not otherwise defined shall have the meanings ascribed to them in the Indemnification Agreement. Pursuant to the Indemnification Agreement, among other things, I am entitled to the advancement of Expenses paid or incurred in connection with Claims relating to Indemnifiable Events.

I have become subject to [DESCRIPTION OF PROCEEDING] (the Proceeding) based on [my status as [an officer/[TITLE OF OFFICER]/a director] of the Company/alleged actions or failures to act in my capacity as [an officer/[TITLE OF OFFICER]/a director] of the Company. This undertaking also constitutes notice to the Company of the Proceeding pursuant to Section 7 of the Indemnification Agreement. The following is a brief description of the [current status of the] Proceeding:

[DESCRIPTION OF PROCEEDING]

Pursuant to Section 4 of the Indemnification Agreement, the Company can (a) pay such Expenses on my behalf, (b) advance funds in an amount sufficient to pay such Expenses, or (c) reimburse me for such Expenses. Pursuant to Section 4] of the Indemnification Agreement, I hereby request an Expense Advance in connection with the Proceeding. The Expenses for which advances are requested are as follows:]

[DESCRIPTION OF EXPENSES]

In connection with the request for Expense Advances set out above/delivered to the Company separately on [DATE], I hereby undertake to repay any amounts paid, advanced or reimbursed by the Company for such Expense Advances to the extent that it is ultimately determined that I am not entitled to indemnification under the Indemnification Agreement.

This undertaking shall be governed by and construed in accordance with the laws of the State of Delaware without regard to the principles of conflicts of laws thereof.

Very truly yours,

Name:
[Title:]

Exhibit 10.4

Execution Version

AMENDED AND RESTATED

INVESTORS' RIGHTS AGREEMENT

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(continued)

AMENDED AND RESTATED
INVESTORS' RIGHTS AGREEMENT

THIS AMENDED AND RESTATED INVESTORS' RIGHTS AGREEMENT (this " **Agreement**"), is made as March 17, 2017, by and among Lantern Pharma Inc., a Texas corporation (the "**Company**"), each of the investors listed on Schedule A hereto, each of which is referred to in this Agreement as an "**Investor**", and each of the stockholders listed on Schedule B hereto, each of whom is referred to herein as a "**Key Holder**" and any Additional Purchaser (as defined in the Purchase Agreement) that becomes a party to this Agreement in accordance with Section 6.8 hereof.

RECITALS

WHEREAS, the Company and the Investors are parties to the Series A Preferred Stock Purchase Agreement of even date herewith (the "**Purchase Agreement**");

WHEREAS, the Company and the existing Investors and Key Holders (collectively, the "***Existing Parties***") are parties to that certain Investors' Rights Agreement dated as of December 31, 2014 (the "***Prior Agreement***");

WHEREAS, the Existing Parties desire that the Company sell shares of Series A Preferred Stock, that the Company grant the purchaser of the Series A Preferred Stock the rights contemplated herein, and that the Prior Agreement be amended and restated in its entirety as set forth herein;

WHEREAS, pursuant to Section 6.6 of the Prior Agreement, any amendment or modification of the Prior Agreement shall be effective if evidenced by a written instrument executed by (i) the Company and (ii) the holders of a majority of the Registrable Securities then outstanding; and

WHEREAS, the Existing Parties, in each case, holding not less than the minimum number of shares required to amend the Prior Agreement, hereby consent in writing to this amendment and restatement in its entirety of the Prior Agreement and the adoption of this Agreement as the sole agreement concerning the rights set forth in the Prior Agreement.

NOW, THEREFORE, the Existing Parties hereby agree that the Prior Agreement shall be amended and restated in its entirety by this Agreement, and the parties to this Agreement further agree as follows:

1. Definitions. For purposes of this Agreement:

1.1 "**Affiliate**" means, with respect to any specified Person, any other Person who, directly or indirectly, controls, is controlled by, or is under common control with such Person, including without limitation any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

1.2 "**Common Stock**" means shares of the Company's common stock, par value $0.01 per share.

1.3 "**Competitor**" means a Person engaged, directly or indirectly (including through any partnership, limited liability company, corporation, joint venture or similar arrangement (whether now existing or formed hereafter)), in pharmaceutical development of oncology prevention or treatment drugs, but shall not include any financial investment firm or collective investment vehicle that, together with its Affiliates, holds less than twenty percent (20%) of the outstanding equity of any Competitor and does not, nor do any of its Affiliates, have a right to designate any members of the Board of Directors of any Competitor.

1.4 "**Damages**" means any loss, damage, claim or liability (joint or several) to which a party hereto may become subject under the Securities Act, the Exchange Act, or other federal or state law, insofar as such loss, damage, claim or liability (or any action in respect thereof) arises out of or is based upon: (i) any untrue statement or alleged untrue statement of a material fact contained in any registration statement of the Company, including any preliminary prospectus or final prospectus contained therein or any amendments or supplements thereto; (ii) an omission or alleged omission to state therein a material fact required to be stated therein, or necessary to make the statements therein not misleading; or (iii) any violation or alleged violation by the indemnifying party (or any of its agents or Affiliates) of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act, or any state securities law.

1.5 "**Derivative Securities**" means any securities or rights convertible into, or exercisable or exchangeable for (in each case, directly or indirectly), Common Stock, including options and warrants.

1.6 "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

1.7 "**Excluded Registration**" means (i) a registration relating to the sale of securities to employees of the Company or a subsidiary pursuant to a stock option, stock purchase, or similar plan; (ii) a registration relating to an SEC Rule 145 transaction; (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of the Registrable Securities; or (iv) a registration in which the only Common Stock being registered is Common Stock issuable upon conversion of debt securities that are also being registered.

1.8 "**FOIA Party**" means a Person that, in the reasonable determination of the Board of Directors, may be subject to, and thereby required to disclose non-public information furnished by or relating to the Company under, the Freedom of Information Act, 5 U.S.C. 552 ("**FOIA**"), any state public records access law, any state or other jurisdiction's laws similar in intent or effect to FOIA, or any other similar statutory or regulatory requirement.

1.9 "**Form S-1**" means such form under the Securities Act as in effect on the date hereof or any successor registration form under the Securities Act subsequently adopted by the SEC.

1.10 "**Form S-3**" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that permits incorporation of substantial information by reference to other documents filed by the Company with the SEC.

1.11 "**GAAP**" means generally accepted accounting principles in the United States.

1.12 "**Holder**" means any holder of Registrable Securities who is a party to this Agreement.

1.13 "**Immediate Family Member**" means a child, stepchild, grandchild, parent, stepparent, grandparent, spouse, sibling, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including, adoptive relationships, of a natural person referred to herein.

1.14 "**Initiating Holders**" means, collectively, Holders who properly initiate a registration request under this Agreement.

1.15 "**IPO**" means the Company's first underwritten public offering of its Common Stock under the Securities Act.

1.16 "**Key Employee**" means any executive-level employee (including, division director and vice president-level positions) as well as any employee who, either alone or in concert with others, develops, invents, programs, or designs any Company Intellectual Property (as defined in the Purchase Agreement).

1.17 "**Key Holder Registrable Securities**" means (i) the 1,097,561 shares of Common Stock held by the Key Holders, and (ii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of such shares.

1.18 "**Major Investor**" means any Investor that, individually or together with such Investor's Affiliates, holds at least 93,000 shares of Registrable Securities (as adjusted for any stock split, stock dividend, combination, or other recapitalization or reclassification effected after the date hereof).

1.19 "**New Securities**" means, collectively, equity securities of the Company, whether or not currently authorized, as well as rights, options, or warrants to purchase such equity securities, or securities of any type whatsoever that are, or may become, convertible or exchangeable into or exercisable for such equity securities.

1.20 "**Person**" means any individual, corporation, partnership, trust, limited liability company, association or other entity.

1.21 "**Registrable Securities**" means (i) the Common Stock issuable or issued upon conversion of the Series A Preferred Stock; (ii) any Common Stock, or any Common Stock issued or issuable (directly or indirectly) upon conversion and/or exercise of any other securities of the Company, acquired by the Investors after the date hereof; and (iii) any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right, or other security that is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the shares referenced in clauses (i) and (ii) above; excluding in all cases, however, any Registrable Securities sold by a Person in a transaction in which the applicable rights under this Agreement are not assigned pursuant to Section 6.1, and excluding for purposes of Section 2 any shares for which registration rights have terminated pursuant to Section 2.13 of this Agreement.

1.22 "**Registrable Securities then outstanding**" means the number of shares determined by adding the number of shares of outstanding Common Stock that are Registrable Securities and the number of shares of Common Stock issuable (directly or indirectly) pursuant to then exercisable and/or convertible securities that are Registrable Securities.

1.23 "**Restricted Securities**" means the securities of the Company required to be notated with the legend set forth in Section 2.12(b) hereof.

1.24 "**SEC**" means the Securities and Exchange Commission.

1.25 "**SEC Rule 144**" means Rule 144 promulgated by the SEC under the Securities Act.

1.26 "**SEC Rule 145**" means Rule 145 promulgated by the SEC under the Securities Act.

1.27 "**Securities Act**" means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

1.28 "**Selling Expenses**" means all underwriting discounts, selling commissions, and stock transfer taxes applicable to the sale of Registrable Securities, and fees and disbursements of counsel for any Holder, except for the fees and disbursements of the Selling Holder Counsel borne and paid by the Company as provided in Section 2.6.

1.29 "**Series A Preferred Stock**" means shares of the Company's Series A Preferred Stock, par value $0.01 per share.

2. Registration Rights. The Company covenants and agrees as follows:

2.1 Demand Registration.

(a) Form S-1 Demand. If at any time after one hundred eighty (180) days after the effective date of the registration statement for the IPO, the Company receives a request from Holders of at least a majority of the Registrable Securities then outstanding that the Company file a Form S-1 registration statement with respect to Registrable Securities then outstanding of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least $25 million (or an offering price of at least $21.80 per share), then the Company shall (x) within ten (10) days after the date such request is given, give notice thereof (the "**Demand Notice**") to all Holders other than the Initiating Holders; and (y) as soon as practicable, and in any event within ninety (90) days after the date such request is given by the Initiating Holders, file a Form S-1 registration statement under the Securities Act covering all Registrable Securities that the Initiating Holders requested to be registered and any additional Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Sections 2.1(c) and 2.3.

(b) Form S-3 Demand. If at any time when it is eligible to use a Form S-3 registration statement, the Company receives a request from Holders of at least thirty percent (30%) of the Registrable Securities then outstanding that the Company file a Form S-3 registration statement with respect to outstanding Registrable Securities of such Holders having an anticipated aggregate offering price, net of Selling Expenses, of at least $25 million (or an offering price of at least $21.80 per share), then the Company shall (i) within ten (10) days after the date such request is given, give a Demand Notice to all Holders other than the Initiating Holders; and (ii) as soon as practicable, and in any event within forty-five (45) days after the date such request is given by the Initiating Holders, file a Form S-3 registration statement under the Securities Act covering all Registrable Securities requested to be included in such registration by any other Holders, as specified by notice given by each such Holder to the Company within twenty (20) days of the date the Demand Notice is given, and in each case, subject to the limitations of Sections 2.1(c) and 2.3.

(c) Notwithstanding the foregoing obligations, if the Company furnishes to Holders requesting a registration pursuant to this Section 2.1 a certificate signed by the Company's chief executive officer stating that in the good faith judgment of the Company's Board of Directors it would be materially detrimental to the Company and its stockholders for such registration statement to either become effective or remain effective for as long as such registration statement otherwise would be required to remain effective, because such action would (i) materially interfere with a significant acquisition, corporate reorganization, or other similar transaction involving the Company; (ii) require premature disclosure of material information that the Company has a bona fide business purpose for preserving as confidential; or (iii) render the Company unable to comply with requirements under the Securities Act or Exchange Act, then the Company shall have the right to defer taking action with respect to such filing for a period of not more than ninety (90) days after the request of the Initiating Holders is given; provided, however, that the Company may not invoke this right more than once in any twelve (12) month period; and provided further that the Company shall not register any securities for its own account or that of any other stockholder during such ninety (90) day period other than an Excluded Registration.

(d) The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(a) (i) during the period that is sixty (60) days before the Company's good faith estimate of the date of filing of, and ending on a date that is one hundred eighty (180) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; (ii) after the Company has effected two registrations pursuant to Section 2.1(a); or (iii) if the Initiating Holders propose to dispose of shares of Registrable Securities that may be immediately registered on Form S-3 pursuant to a request made pursuant to Section 2.1(b). The Company shall not be obligated to effect, or to take any action to effect, any registration pursuant to Section 2.1(b) (i) during the period that is thirty (30) days before the Company's good faith estimate of the date of filing of, and ending on a date that is ninety (90) days after the effective date of, a Company-initiated registration, provided that the Company is actively employing in good faith commercially reasonable efforts to cause such registration statement to become effective; or (ii) if the Company has effected two registrations pursuant to Section 2.1(b) within the twelve (12) month period immediately preceding the date of such request. A registration shall not be counted as "effected" for purposes of this Section 2.1(d) until such time as the applicable registration statement has been declared effective by the SEC, unless the Initiating Holders withdraw their request for such registration, elect not to pay the registration expenses therefor, and forfeit their right to one demand registration statement pursuant to Section 2.6, in which case such withdrawn registration statement shall be counted as "effected" for purposes of this Section 2.1(d).

2.2 Company Registration. If the Company proposes to register (including, for this purpose, a registration effected by the Company for stockholders other than the Holders) any of its securities under the Securities Act in connection with the public offering of such securities solely for cash (other than in an Excluded Registration), the Company shall, at such time, promptly give each Holder notice of such registration. Upon the request of each Holder given within twenty (20) days after such notice is given by the Company, the Company shall, subject to the provisions of Section 2.3, cause to be registered all of the Registrable Securities that each such Holder has requested to be included in such registration. The Company shall have the right to terminate or withdraw any registration initiated by it under this Section 2.2 before the effective date of such registration, whether or not any Holder has elected to include Registrable Securities in such registration. The expenses (other than Selling Expenses) of such withdrawn registration shall be borne by the Company in accordance with Section 2.6.

2.3 Underwriting Requirements.

(a) If, pursuant to Section 2.1, the Initiating Holders intend to distribute the Registrable Securities covered by their request by means of an underwriting, they shall so advise the Company as a part of their request made pursuant to Section 2.1, and the Company shall include such information in the Demand Notice. The underwriter(s) will be selected by the Company and shall be reasonably acceptable to a majority in interest of the Initiating Holders. In such event, the right of any Holder to include such Holder's Registrable Securities in such registration shall be conditioned upon such Holder's participation in such underwriting and the inclusion of such Holder's Registrable Securities in the underwriting to the extent provided herein. All Holders proposing to distribute their securities through such underwriting shall (together with the Company as provided in Section 2.4(e)) enter into an underwriting agreement in customary form with the underwriter(s) selected for such underwriting. Notwithstanding any other provision of this Section 2.3, if the managing underwriter(s) advise(s) the Initiating Holders in writing that marketing factors require a limitation on the number of shares to be underwritten, then the Initiating Holders shall so advise all Holders of Registrable Securities that otherwise would be underwritten pursuant hereto, and the number of Registrable Securities that may be included in the underwriting shall be allocated among such Holders of Registrable Securities, including the Initiating Holders, in proportion (as nearly as practicable) to the number of Registrable Securities owned by each Holder or in such other proportion as shall mutually be agreed to by all such selling Holders; provided, however, that the number of Registrable Securities held by the Holders to be included in such underwriting shall not be reduced unless all other securities are first entirely excluded from the underwriting. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares.

(b) In connection with any offering involving an underwriting of shares of the Company's capital stock pursuant to Section 2.2, the Company shall not be required to include any of the Holders' Registrable Securities in such underwriting unless the Holders accept the terms of the underwriting as agreed upon between the Company and its underwriters, and then only in such quantity as the underwriters in their sole discretion determine will not jeopardize the success of the offering by the Company. If the total number of securities, including Registrable Securities, requested by stockholders to be included in such offering exceeds the number of securities to be sold (other than by the Company) that the underwriters in their reasonable discretion determine is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities, which the underwriters and the Company in their sole discretion determine will not jeopardize the success of the offering. If the underwriters determine that less than all of the Registrable Securities requested to be registered can be included in such offering, then the Registrable Securities that are included in such offering shall be allocated among the selling Holders in proportion (as nearly as practicable to) the number of Registrable Securities owned by each selling Holder or in such other proportions as shall mutually be agreed to by all such selling Holders. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round the number of shares allocated to any Holder to the nearest one hundred (100) shares. Notwithstanding the foregoing, in no event shall (i) the number of Registrable Securities included in the offering be reduced unless all other securities (other than securities to be sold by the Company) are first entirely excluded from the offering, or (ii) the number of Registrable Securities included in the offering be reduced below thirty percent (30%) of the total number of securities included in such offering, unless such offering is the IPO, in which case the selling Holders may be excluded further if the underwriters make the determination described above and no other stockholder's securities are included in such offering or (iii) notwithstanding (ii) above, any Registrable Securities which are not Key Holder Registrable Securities be excluded from such underwriting unless all Key Holder Registrable Securities are first excluded from such offering. For purposes of the provision in this Section 2.3(b) concerning apportionment, for any selling Holder that is a partnership, limited liability company, or corporation, the partners, members, retired partners, retired members, stockholders, and Affiliates of such Holder, or the estates and Immediate Family Members of any such partners, retired partners, members, and retired members and any trusts for the benefit of any of the foregoing Persons, shall be deemed to be a single "selling Holder," and any pro rata reduction with respect to such "selling Holder" shall be based upon the aggregate number of Registrable Securities owned by all Persons included in such "selling Holder," as defined in this sentence.

(c) For purposes of Section 2.1, a registration shall not be counted as "effected" if, as a result of an exercise of the underwriter's cutback provisions in Section 2.3(a), fewer than fifty percent (50%) of the total number of Registrable Securities that Holders have requested to be included in such registration statement are actually included.

2.4 Obligations of the Company. Whenever required under this Section 2 to effect the registration of any Registrable Securities, the Company shall, as expeditiously as reasonably possible:

(a) prepare and file with the SEC a registration statement with respect to such Registrable Securities and use its commercially reasonable efforts to cause such registration statement to become effective and, upon the request of the Holders of a majority of the Registrable Securities registered thereunder, keep such registration statement effective for a period of up to one hundred twenty (120) days or, if earlier, until the distribution contemplated in the registration statement has been completed; provided, however, that such one hundred twenty (120) day period shall be extended for a period of time equal to the period the Holder refrains, at the request of an underwriter of Common Stock (or other securities) of the Company, from selling any securities included in such registration;

(b) prepare and file with the SEC such amendments and supplements to such registration statement, and the prospectus used in connection with such registration statement, as may be necessary to comply with the Securities Act in order to enable the disposition of all securities covered by such registration statement;

(c) furnish to the selling Holders such numbers of copies of a prospectus, including a preliminary prospectus, as required by the Securities Act, and such other documents as the Holders may reasonably request in order to facilitate their disposition of their Registrable Securities;

(d) use its commercially reasonable efforts to register and qualify the securities covered by such registration statement under such other securities or blue-sky laws of such jurisdictions as shall be reasonably requested by the selling Holders; provided that the Company shall not be required to qualify to do business or to file a general consent to service of process in any such states or jurisdictions, unless the Company is already subject to service in such jurisdiction and except as may be required by the Securities Act;

(e) in the event of any underwritten public offering, enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the underwriter(s) of such offering;

(f) use its commercially reasonable efforts to cause all such Registrable Securities covered by such registration statement to be listed on a national securities exchange or trading system and each securities exchange and trading system (if any) on which similar securities issued by the Company are then listed;

(g) provide a transfer agent and registrar for all Registrable Securities registered pursuant to this Agreement and provide a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(h) promptly make available for inspection by the selling Holders, any underwriter(s) participating in any disposition pursuant to such registration statement, and any attorney or accountant or other agent retained by any such underwriter or selected by the selling Holders, all financial and other records, pertinent corporate documents, and properties of the Company, and cause the Company's officers, directors, employees, and independent accountants to supply all information reasonably requested by any such seller, underwriter, attorney, accountant, or agent, in each case, as necessary or advisable to verify the accuracy of the information in such registration statement and to conduct appropriate due diligence in connection therewith;

(i) notify each selling Holder, promptly after the Company receives notice thereof, of the time when such registration statement has been declared effective or a supplement to any prospectus forming a part of such registration statement has been filed; and

(j) after such registration statement becomes effective, notify each selling Holder of any request by the SEC that the Company amend or supplement such registration statement or prospectus. In addition, the Company shall ensure that, at all times after any registration statement covering a public offering of securities of the Company under the Securities Act shall have become effective, its insider trading policy shall provide that the Company's directors may implement a trading program under Rule 10b5-1 of the Exchange Act.

2.5 Furnish Information. It shall be a condition precedent to the obligations of the Company to take any action pursuant to this Section 2 with respect to the Registrable Securities of any selling Holder that such Holder shall furnish to the Company such information regarding itself, the Registrable Securities held by it, and the intended method of disposition of such securities as is reasonably required to effect the registration of such Holder's Registrable Securities.

2.6 Expenses of Registration. All expenses (other than Selling Expenses) incurred in connection with registrations, filings, or qualifications pursuant to Section 2, including all registration, filing, and qualification fees; printers' and accounting fees; fees and disbursements of counsel for the Company; and the reasonable fees and disbursements of one counsel for the selling Holders ("**Selling Holder Counsel**"), shall be borne and paid by the Company; provided, however, that the Company shall not be required to pay for any expenses of any registration proceeding begun pursuant to Section 2.1 if the registration request is subsequently withdrawn at the request of the Holders of a majority of the Registrable Securities to be registered (in which case all selling Holders shall bear such expenses pro rata based upon the number of Registrable Securities that were to be included in the withdrawn registration), unless the Holders of a majority of the Registrable Securities agree to forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b), as the case may be; provided further that if, at the time of such withdrawal, the Holders shall have learned of a material adverse change in the condition, business, or prospects of the Company from that known to the Holders at the time of their request and have withdrawn the request with reasonable promptness after learning of such information, then the Holders shall not be required to pay any of such expenses and shall not forfeit their right to one registration pursuant to Sections 2.1(a) or 2.1(b). All Selling Expenses relating to Registrable Securities registered pursuant to this Section 2 shall be borne and paid by the Holders pro rata on the basis of the number of Registrable Securities registered on their behalf.

2.7 Delay of Registration. No Holder shall have any right to obtain or seek an injunction restraining or otherwise delaying any registration pursuant to this Agreement as the result of any controversy that might arise with respect to the interpretation or implementation of this Section 2.

2.8 Indemnification. If any Registrable Securities are included in a registration statement under this Section 2:

(a) To the extent permitted by law, the Company will indemnify and hold harmless each selling Holder, and the partners, members, officers, directors, and stockholders of each such Holder; legal counsel and accountants for each such Holder; any underwriter (as defined in the Securities Act) for each such Holder; and each Person, if any, who controls such Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any Damages, and the Company will pay to each such Holder, underwriter, controlling Person, or other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(a) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Company, which consent shall not be unreasonably withheld, nor shall the Company be liable for any Damages to the extent that they arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of any such Holder, underwriter, controlling Person, or other aforementioned Person expressly for use in connection with such registration.

(b) To the extent permitted by law, each selling Holder, severally and not jointly, will indemnify and hold harmless the Company, and each of its directors, each of its officers who has signed the registration statement, each Person (if any), who controls the Company within the meaning of the Securities Act, legal counsel and accountants for the Company, any underwriter (as defined in the Securities Act), any other Holder selling securities in such registration statement, and any controlling Person of any such underwriter or other Holder, against any Damages, in each case only to the extent that such Damages arise out of or are based upon actions or omissions made in reliance upon and in conformity with written information furnished by or on behalf of such selling Holder expressly for use in connection with such registration; and each such selling Holder will pay to the Company and each other aforementioned Person any legal or other expenses reasonably incurred thereby in connection with investigating or defending any claim or proceeding from which Damages may result, as such expenses are incurred; provided, however, that the indemnity agreement contained in this Section 2.8(b) shall not apply to amounts paid in settlement of any such claim or proceeding if such settlement is effected without the consent of the Holder, which consent shall not be unreasonably withheld; and provided further that in no event shall the aggregate amounts payable by any Holder by way of indemnity or contribution under Sections 2.8(b) and 2.8(d) exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of fraud or willful misconduct by such Holder.

(c) Promptly after receipt by an indemnified party under this Section 2.8 of notice of the commencement of any action (including any governmental action) for which a party may be entitled to indemnification hereunder, such indemnified party will, if a claim in respect thereof is to be made against any indemnifying party under this Section 2.8, give the indemnifying party notice of the commencement thereof. The indemnifying party shall have the right to participate in such action and, to the extent the indemnifying party so desires, participate jointly with any other indemnifying party to which notice has been given, and to assume the defense thereof with counsel mutually satisfactory to the parties; provided, however, that an indemnified party (together with all other indemnified parties that may be represented without conflict by one counsel) shall have the right to retain one separate counsel, with the fees and expenses to be paid by the indemnifying party, if representation of such indemnified party by the counsel retained by the indemnifying party would be inappropriate due to actual or potential differing interests between such indemnified party and any other party represented by such counsel in such action. The failure to give notice to the indemnifying party will not relieve it of any liability that it may have to any indemnified party otherwise than under this Section 2.8.

(d) To provide for just and equitable contribution to joint liability under the Securities Act in any case in which either: (i) any party otherwise entitled to indemnification hereunder makes a claim for indemnification pursuant to this Section 2.8 but it is judicially determined (by the entry of a final judgment or decree by a court of competent jurisdiction and the expiration of time to appeal or the denial of the last right of appeal) that such indemnification may not be enforced in such case, notwithstanding the fact that this Section 2.8 provides for indemnification in such case, or (ii) contribution under the Securities Act may be required on the part of any party hereto for which indemnification is provided under this Section 2.8, then, and in each such case, such parties will contribute to the aggregate losses, claims, damages, liabilities, or expenses to which they may be subject (after contribution from others) in such proportion as is appropriate to reflect the relative fault of each of the indemnifying party and the indemnified party in connection with the statements, omissions, or other actions that resulted in such loss, claim, damage, liability, or expense, as well as to reflect any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or allegedly untrue statement of a material fact, or the omission or alleged omission of a material fact, relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission; provided, however, that, in any such case (x) no Holder will be required to contribute any amount in excess of the public offering price of all such Registrable Securities offered and sold by such Holder pursuant to such registration statement, and (y) no Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation; and provided further that in no event shall a Holder's liability pursuant to this Section 2.8(d), when combined with the amounts paid or payable by such Holder pursuant to Section 2.8(b), exceed the proceeds from the offering received by such Holder (net of any Selling Expenses paid by such Holder), except in the case of willful misconduct or fraud by such Holder.

(e) Unless otherwise superseded by an underwriting agreement entered into in connection with the underwritten public offering, the obligations of the Company and Holders under this Section 2.8 shall survive the completion of any offering of Registrable Securities in a registration under this Section 2, and otherwise shall survive the termination of this Agreement.

2.9 Reports Under Exchange Act. With a view to making available to the Holders the benefits of SEC Rule 144 and any other rule or regulation of the SEC that may at any time permit a Holder to sell securities of the Company to the public without registration or pursuant to a registration on Form S-3, the Company shall:

(a) make and keep available adequate current public information, as those terms are understood and defined in SEC Rule 144, at all times after the effective date of the registration statement filed by the Company for the IPO;

(b) use commercially reasonable efforts to file with the SEC in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act (at any time after the Company has become subject to such reporting requirements); and

(c) furnish to any Holder, so long as the Holder owns any Registrable Securities, forthwith upon request (i) to the extent accurate, a written statement by the Company that it has complied with the reporting requirements of SEC Rule 144 (at any time after ninety (90) days after the effective date of the registration statement filed by the Company for the IPO), the Securities Act, and the Exchange Act (at any time after the Company has become subject to such reporting requirements), or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time after the Company so qualifies); and (ii) such other information as may be reasonably requested in availing any Holder of any rule or regulation of the SEC that permits the selling of any such securities without registration (at any time after the Company has become subject to the reporting requirements under the Exchange Act) or pursuant to Form S-3 (at any time after the Company so qualifies to use such form).

2.10 Limitations on Subsequent Registration Rights. From and after the date of this Agreement, the Company shall not, without the prior written consent of the Holders of a majority of the Registrable Securities then outstanding, enter into any agreement with any holder or prospective holder of any securities of the Company that would allow such holder or prospective holder (i) to include such securities in any registration unless, under the terms of such agreement, such holder or prospective holder may include such securities in any such registration only to the extent that the inclusion of such securities will not reduce the number of the Registrable Securities of the Holders that are included; or (ii) allow such holder or prospective holder to initiate a demand for registration of any securities held by such holder or prospective holder; provided that this limitation shall not apply to any additional Investor who becomes a party to this Agreement in accordance with Section 6.9.

2.11 "Market Stand-off" Agreement. Each Holder hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the registration by the Company of shares of its Common Stock or any other equity securities under the Securities Act on a registration statement on Form S-1 or Form S-3, and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (180) days in the case of the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports, and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), or ninety (90) days in the case of any registration other than the IPO, or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), (i) lend; offer; pledge; sell; contract to sell; sell any option or contract to purchase; purchase any option or contract to sell; grant any option, right, or warrant to purchase; or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable (directly or indirectly) for Common Stock held immediately before the effective date of the registration statement for such offering or (ii) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of such securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or other securities, in cash, or otherwise. The foregoing provisions of this Section 2.11 shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, or the transfer of any shares to any trust for the direct or indirect benefit of the Holder or the immediate family of the Holder, provided that the trustee of the trust agrees to be bound in writing by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, and shall be applicable to the Holders only if all officers and directors are subject to the same restrictions and the Company uses commercially reasonable efforts to obtain a similar agreement from all stockholders individually owning more than one percent (1%) of the Company's outstanding Common Stock (after giving effect to conversion into Common Stock of all outstanding Series A Preferred Stock). The underwriters in connection with such registration are intended third-party beneficiaries of this Section 2.11 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each Holder further agrees to execute such agreements as may be reasonably requested by the underwriters in connection with such registration that are consistent with this Section 2.11 or that are necessary to give further effect thereto. Any discretionary waiver or termination of the restrictions of any or all of such agreements by the Company or the underwriters shall apply pro rata to all Holders subject to such agreements, based on the number of shares subject to such agreements.

2.12 Restrictions on Transfer.

(a) The Series A Preferred Stock and the Registrable Securities shall not be sold, pledged, or otherwise transferred, and the Company shall not recognize and shall issue stop-transfer instructions to its transfer agent with respect to any such sale, pledge, or transfer, except upon the conditions specified in this Agreement, which conditions are intended to ensure compliance with the provisions of the Securities Act. A transferring Holder will cause any proposed purchaser, pledgee, or transferee of the Series A Preferred Stock and the Registrable Securities held by such Holder to agree to take and hold such securities subject to the provisions and upon the conditions specified in this Agreement.

(b) Each certificate, instrument, or book entry representing (i) the Series A Preferred Stock, (ii) the Registrable Securities, and (iii) any other securities issued in respect of the securities referenced in clauses (i) and (ii), upon any stock split, stock dividend, recapitalization, merger, consolidation, or similar event, shall (unless otherwise permitted by the provisions of Section 2.12(c)) be notated with a legend substantially in the following form:

> THE SECURITIES REPRESENTED HEREBY HAVE BEEN ACQUIRED FOR INVESTMENT AND HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933. SUCH SHARES MAY NOT BE SOLD, PLEDGED, OR TRANSFERRED IN THE ABSENCE OF SUCH REGISTRATION OR A VALID EXEMPTION FROM THE REGISTRATION AND PROSPECTUS DELIVERY REQUIREMENTS OF SAID ACT.
>
> THE SECURITIES REPRESENTED HEREBY MAY BE TRANSFERRED ONLY IN ACCORDANCE WITH THE TERMS OF AN AGREEMENT BETWEEN THE COMPANY AND THE STOCKHOLDER, A COPY OF WHICH IS ON FILE WITH THE SECRETARY OF THE COMPANY.

The Holders consent to the Company making a notation in its records and giving instructions to any transfer agent of the Restricted Securities in order to implement the restrictions on transfer set forth in this Section 2.12.

(c) The holder of such Restricted Securities, by acceptance of ownership thereof, agrees to comply in all respects with the provisions of this Section 2. Before any proposed sale, pledge, or transfer of any Restricted Securities, unless there is in effect a registration statement under the Securities Act covering the proposed transaction, the Holder thereof shall give notice to the Company of such Holder's intention to effect such sale, pledge, or transfer. Each such notice shall describe the manner and circumstances of the proposed sale, pledge, or transfer in sufficient detail and, if reasonably requested by the Company, shall be accompanied at such Holder's expense by either (i) a written opinion of legal counsel who shall, and whose legal opinion shall, be reasonably satisfactory to the Company, addressed to the Company, to the effect that the proposed transaction may be effected without registration under the Securities Act; (ii) a "no action" letter from the SEC to the effect that the proposed sale, pledge, or transfer of such Restricted Securities without registration will not result in a recommendation by the staff of the SEC that action be taken with respect thereto; or (iii) any other evidence reasonably satisfactory to counsel to the Company to the effect that the proposed sale, pledge, or transfer of the Restricted Securities may be effected without registration under the Securities Act, whereupon the Holder of such Restricted Securities shall be entitled to sell, pledge, or transfer such Restricted Securities in accordance with the terms of the notice given by the Holder to the Company. The Company will not require such a legal opinion or "no action" letter (x) in any transaction in compliance with SEC Rule 144; or (y) in any transaction in which such Holder distributes Restricted Securities to an Affiliate of such Holder for no consideration; provided that each transferee agrees in writing to be subject to the terms of this Section 2.12. Each certificate, instrument, or book entry representing the Restricted Securities transferred as above provided shall be notated with, except if such transfer is made pursuant to SEC Rule 144, the appropriate restrictive legend set forth in Section 2.12(b), except that such certificate instrument, or book entry shall not be notated with such restrictive legend if, in the opinion of counsel for such Holder and the Company, such legend is not required in order to establish compliance with any provisions of the Securities Act.

2.13 Termination of Registration Rights. The right of any Holder to request registration or inclusion of Registrable Securities in any registration pursuant to Sections 2.1 or 2.2 shall terminate upon the earliest to occur of:

(a) the closing of a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, as amended;

(b) the fifth anniversary of the date of this Agreement.

3. Information and Observer Rights.

3.1 Delivery of Financial Statements. The Company shall deliver to each Major Investor, provided that the Board of Directors has not reasonably determined that such Major Investor is a competitor of the Company:

(a) as soon as practicable, but in any event within ninety (90) days after the end of each fiscal year of the Company (i) a balance sheet as of the end of such year, (ii) statements of income and of cash flows for such year, and a comparison between (x) the actual amounts as of and for such fiscal year and (y) the comparable amounts for the prior year and as included in the Budget (as defined in Section 3.1(d)) for such year, with an explanation of any material differences between such amounts and a schedule as to the sources and applications of funds for such year, and (iii) a statement of stockholders' equity as of the end of such year;

(b) as soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, unaudited statements of income and cash flows for such fiscal quarter, and an unaudited balance sheet and a statement of stockholders' equity as of the end of such fiscal quarter, all prepared in accordance with GAAP (except that such financial statements may (i) be subject to normal year-end audit adjustments; and (ii) not contain all notes thereto that may be required in accordance with GAAP);

(c) as soon as practicable, but in any event within forty-five (45) days after the end of each of the first three (3) quarters of each fiscal year of the Company, a statement showing the number of shares of each class and series of capital stock and securities convertible into or exercisable for shares of capital stock outstanding at the end of the period, the Common Stock issuable upon conversion or exercise of any outstanding securities convertible or exercisable for Common Stock and the exchange ratio or exercise price applicable thereto, and the number of shares of issued stock options and stock options not yet issued but reserved for issuance, if any, all in sufficient detail as to permit the Major Investors to calculate their respective percentage equity ownership in the Company, and certified by the chief financial officer or chief executive officer of the Company as being true, complete, and correct;

(d) as soon as practicable, but in any event thirty (30) days before the end of each fiscal year, a budget and business plan for the next fiscal year (collectively, the "**Budget**"), approved by the Board of Directors and prepared on a monthly basis, including balance sheets, income statements, and statements of cash flow for such months and, promptly after prepared, any other budgets or revised budgets prepared by the Company; and

(e) such other information relating to the financial condition, business, prospects, or corporate affairs of the Company as any Major Investor may from time to time reasonably request; provided, however, that the Company shall not be obligated under this Section 3.1 to provide information (i) that the Company reasonably determines in good faith to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in a form acceptable to the Company); or (ii) the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

If, for any period, the Company has any subsidiary whose accounts are consolidated with those of the Company, then in respect of such period the financial statements delivered pursuant to the foregoing sections shall be the consolidated and consolidating financial statements of the Company and all such consolidated subsidiaries.

Notwithstanding anything else in this Section 3.1 to the contrary, the Company may cease providing the information set forth in this Section 3.1 during the period starting with the date thirty (30) days before the Company's good-faith estimate of the date of filing of a registration statement if it reasonably concludes it must do so to comply with the SEC rules applicable to such registration statement and related offering; provided that the Company's covenants under this Section 3.1 shall be reinstated at such time as the Company is no longer actively employing its commercially reasonable efforts to cause such registration statement to become effective.

3.2 Inspection. The Company shall permit each Major Investor (provided that the Board of Directors has not reasonably determined that such Major Investor is a competitor of the Company), at such Major Investor's expense, to visit and inspect the Company's properties; examine its books of account and records; and discuss the Company's affairs, finances, and accounts with its officers, during normal business hours of the Company as may be reasonably requested by the Major Investor; provided, however, that the Company shall not be obligated pursuant to this Section 3.2 to provide access to any information that it reasonably and in good faith considers to be a trade secret or confidential information (unless covered by an enforceable confidentiality agreement, in form acceptable to the Company) or the disclosure of which would adversely affect the attorney-client privilege between the Company and its counsel.

3.3 Observer Rights.

(a) As long as Bios Fund I, LP ("***Bios I***") and Bios Fund I QP, LP (together with Bios I, "***Bios***") own not less than seven percent (7%) of the shares of the Series A Preferred Stock (or an equivalent amount of Common Stock issued upon conversion thereof), the Company shall invite a representative of Bios to attend all meetings of its Board of Directors in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, or if such Investor or its representative is a competitor of the Company.

(b) As long as GPG LPI Investment, LLC ("***GPG***") owns not less than seven percent (7%) of the shares of the Series A Preferred Stock it is purchasing under the Purchase Agreement (or an equivalent amount of Common Stock issued upon conversion thereof) it owns as of the date hereof, the Company shall invite a representative of GPG to attend all meetings of its Board of Directors in a nonvoting observer capacity and, in this respect, shall give such representative copies of all notices, minutes, consents, and other materials that it provides to its directors at the same time and in the same manner as provided to such directors; provided, however, that such representative shall agree to hold in confidence and trust and to act in a fiduciary manner with respect to all information so provided; and provided further, that the Company reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if access to such information or attendance at such meeting could adversely affect the attorney-client privilege between the Company and its counsel or result in disclosure of trade secrets or a conflict of interest, or if such Investor or its representative is a competitor of the Company.

3.4 Termination of Information Rights. The covenants set forth in Section 3.1 and Section 3.2 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, whichever event occurs first.

3.5 Confidentiality. Each Investor agrees that such Investor will keep confidential and will not disclose, divulge, or use for any purpose (other than to monitor its investment in the Company) any confidential information obtained from the Company pursuant to the terms of this Agreement (including notice of the Company's intention to file a registration statement), unless such confidential information (a) is known or becomes known to the public in general (other than as a result of a breach of this Section 3.5 by such Investor), (b) is or has been independently developed or conceived by the Investor without use of the Company's confidential information, or (c) is or has been made known or disclosed to the Investor by a third party without a breach of any obligation of confidentiality such third party may have to the Company; provided, however, that an Investor may disclose confidential information (i) to its attorneys, accountants, consultants, and other professionals to the extent necessary to obtain their services in connection with monitoring its investment in the Company; (ii) to any prospective purchaser of any Registrable Securities from such Investor, if such prospective purchaser agrees to be bound by the provisions of this Section 3.5; (iii) to any existing or prospective Affiliate, partner, member, stockholder, or wholly owned subsidiary of such Investor in the ordinary course of business, provided that such Investor informs such Person that such information is confidential and directs such Person to maintain the confidentiality of such information; or (iv) as may otherwise be required by law, provided that the Investor promptly notifies the Company of such disclosure and takes reasonable steps to minimize the extent of any such required disclosure.

4. Rights to Future Stock Issuances.

4.1 Right of First Offer. Subject to the terms and conditions of this Section 4.1 and applicable securities laws, if the Company proposes to offer or sell any New Securities, the Company shall first offer such New Securities to each Investor. An Investor shall be entitled to apportion the right of first offer hereby granted to it in such proportions as it deems appropriate, among (i) itself, (ii) its Affiliates, and (iii) its beneficial interest holders, such as limited partners, members or any other Person having "beneficial ownership," as such term is defined in Rule 13d-3 promulgated under the Exchange Act, of such Investor.

(a) The Company shall give notice (the "**Offer Notice**") to each Investor, stating (i) its bona fide intention to offer such New Securities, (ii) the number of such New Securities to be offered, and (iii) the price and terms, if any, upon which it proposes to offer such New Securities.

(b) By notification to the Company within twenty (20) days after the Offer Notice is given, each Investor may elect to purchase or otherwise acquire, at the price and on the terms specified in the Offer Notice, up to that portion of such New Securities which equals the proportion that the Common Stock then held by such Investor (including all shares of Common Stock then issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Series A Preferred Stock and any other Derivative Securities then held by such Investor) bears to the total Common Stock of the Company then outstanding (assuming full conversion and/or exercise, as applicable, of all Series A Preferred Stock and other Derivative Securities) (the "**Pro Rata Allotment**"). At the expiration of such twenty (20) day period, the Company shall promptly notify each Investor that elects to purchase or acquire all the shares available to it (each, a "**Fully Exercising Investor**") of any other Investor's failure to do likewise. During the ten (10) day period commencing after the Company has given such notice, each Fully Exercising Investor may, by giving notice to the Company, elect to purchase or acquire, in addition to the number of shares specified above, up to that portion of the New Securities for which Investors were entitled to subscribe but that were not subscribed for by the Investors which is equal to the proportion that the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of Series A Preferred Stock and any other Derivative Securities then held, by such Fully Exercising Investor bears to the Common Stock issued and held, or issuable (directly or indirectly) upon conversion and/or exercise, as applicable, of the Series A Preferred Stock and any other Derivative Securities then held, by all Fully Exercising Investors who wish to purchase such unsubscribed shares. The closing of any sale pursuant to this Section 4.1(b) shall occur within the later of one hundred and twenty (120) days of the date that the Offer Notice is given and the date of initial sale of New Securities pursuant to Section 4.1(c).

(c) If all New Securities referred to in the Offer Notice are not elected to be purchased or acquired as provided in Section 4.1(b), the Company may, during the one hundred and twenty (120) day period following the expiration of the periods provided in Section 4.1(b), offer and sell the remaining unsubscribed portion of such New Securities to any Person or Persons at a price not less than, and upon terms no more favorable to the offeree than, those specified in the Offer Notice. If the Company does not enter into an agreement for the sale of the New Securities within such period, or if such agreement is not consummated within thirty (30) days of the execution thereof, the right provided hereunder shall be deemed to be revived and such New Securities shall not be offered unless first reoffered to the Investors in accordance with this Section 4.1.

(d) The right of first offer in this Section 4.1 shall not be applicable to (i) Exempted Securities (as defined in the Company's Certificate of Incorporation, as amended); (ii) shares of Common Stock issued in the IPO; and (iii) the issuance of shares of Series A Preferred Stock (including Warrants issuable for shares of Series A Preferred Stock) or any Common Stock issued or issuable upon the conversion thereof pursuant to the Purchase Agreement.

(e) Notwithstanding the foregoing, for convenience of administration, the Company may offer and sell to third parties New Securities subject to the purchase rights under this Section 4.1(e) without first offering such New Securities to the Investors, so long as (i) the Company obtains the prior written consent of the Major Investors, and (ii) the Investors are given the opportunity to purchase their Pro Rata Allotment of such shares or other securities within fifteen (15) days after the close of such sale.

4.2 Termination. The covenants set forth in Section 4.1 shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO, or (ii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, as amended, whichever event occurs first.

5. Additional Covenants.

5.1 Employee Agreements. The Company will cause (i) each person now or hereafter employed by it or by any subsidiary (or engaged by the Company or any subsidiary as a consultant/independent contractor) with access to confidential information and/or trade secrets to enter into a nondisclosure and proprietary rights assignment agreement; and (ii) each Key Employee to enter into a one (1) year noncompetition and nonsolicitation agreement, substantially in the form approved by the Board of Directors.

5.2 Employee Stock. Unless otherwise approved by the Board of Directors, all future employees and consultants of the Company who purchase, receive options to purchase, or receive awards of shares of the Company's capital stock after the date hereof shall be required to execute restricted stock or option agreements, as applicable, providing for (i) vesting of shares over a three (3) year period, with the first one-third (1/3) of such shares vesting following twelve (12) months of continued employment or service, and the remaining shares vesting in equal annual installments over the following two (2) years, and (ii) a market stand-off provision substantially similar to that in Section 2.11. In addition, unless otherwise approved by the Board of Directors, the Company shall retain a "right of first refusal" on employee transfers until the Company's IPO and shall have the right to repurchase unvested shares at cost upon termination of employment of a holder of restricted stock.

5.3 Qualified Small Business Stock. The Company shall use commercially reasonable efforts to cause the shares of Series A Preferred Stock issued pursuant to the Purchase Agreement, as well as any shares into which such shares are converted, within the meaning of Section 1202(f) of the Internal Revenue Code (the "**Code**"), to constitute "qualified small business stock" as defined in Section 1202(c) of the Code; provided, however, that such requirement shall not be applicable if the Board of Directors of the Company reasonably determines, in its good-faith business judgment, that such qualification is inconsistent with the best interests of the Company. The Company shall submit to its stockholders (including the Investors) and to the Internal Revenue Service any reports that may be required under Section 1202(d)(1)(C) of the Code and the regulations promulgated thereunder. In addition, within twenty (20) days after any Investor's written request therefor, the Company shall, at its option, either (i) deliver to such Investor a written statement indicating whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code or (ii) deliver to such Investor such factual information in the Company's possession as is reasonably necessary to enable such Investor to determine whether (and what portion of) such Investor's interest in the Company constitutes "qualified small business stock" as defined in Section 1202(c) of the Code.

5.4 Board Matters. Unless otherwise determined by the vote of a majority of the directors then in office, the Board of Directors shall meet at least quarterly in accordance with an agreed-upon schedule. The Company shall reimburse the nonemployee directors for all reasonable out-of-pocket travel expenses incurred (consistent with the Company's travel policy) in connection with attending meetings of the Board of Directors.

5.5 Expenses of Counsel. In the event of a transaction which is a Sale of the Company (as defined in the Voting Agreement of even date herewith among the Investors and the Company), the reasonable fees and disbursements of one counsel for the Investors ("**Investor Counsel**"), in their capacities as stockholders, shall be borne and paid by the Company. At the outset of considering a transaction which, if consummated would constitute a Sale of the Company, the Company shall obtain the ability to share with the Investor Counsel (and such counsel's clients) and shall share the confidential information (including, without limitation, the initial and all subsequent drafts of memoranda of understanding, letters of intent and other transaction documents and related noncompete, employment, consulting and other compensation agreements and plans) pertaining to and memorializing any of the transactions which, individually or when aggregated with others would constitute the Sale of the Company. The Company shall be obligated to share (and cause the Company's counsel and investment bankers to share) such materials when distributed to the Company's executives and/or any one or more of the other parties to such transaction(s). In the event that Investor Counsel deems it appropriate, in its reasonable discretion, to enter into a joint defense agreement or other arrangement to enhance the ability of the parties to protect their communications and other reviewed materials under the attorney client privilege, the Company shall, and shall direct its counsel to, execute and deliver to Investor Counsel and its clients such an agreement in form and substance reasonably acceptable to Investor Counsel. In the event that one or more of the other party or parties to such transactions require the clients of Investor Counsel to enter into a confidentiality agreement and/or joint defense agreement in order to receive such information, then the Company shall share whatever information can be shared without entry into such agreement and shall, at the same time, in good faith work expeditiously to enable Investor Counsel and its clients to negotiate and enter into the appropriate agreement(s) without undue burden to the clients of Investor Counsel.

5.6 Successor Indemnification. If the Company or any of its successors or assignees consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger, then to the extent necessary, proper provision shall be made so that the successors and assignees of the Company assume the obligations of the Company with respect to indemnification of members of the Board of Directors as in effect immediately before such transaction, whether such obligations are contained in the Company's Bylaws, its Certificate of Incorporation, or elsewhere, as the case may be.

5.7 Indemnification Matters. The Company hereby acknowledges that one (1) or more of the directors nominated to serve on the Board of Directors by the Investors (each a "**Fund Director**") may have certain rights to indemnification, advancement of expenses and/or insurance provided by one or more of the Investors and certain of their affiliates (collectively, the "**Fund Indemnitors**"). The Company hereby agrees (a) that it is the indemnitor of first resort (*i.e.*, its obligations to any such Fund Director are primary and any obligation of the Fund Indemnitors to advance expenses or to provide indemnification for the same expenses or liabilities incurred by such Fund Director are secondary), (b) that it shall be required to advance the full amount of expenses incurred by such Fund Director and shall be liable for the full amount of all expenses, judgments, penalties, fines and amounts paid in settlement by or on behalf of any such Fund Director to the extent legally permitted and as required by the Company's Certificate of Incorporation or Bylaws of the Company (or any agreement between the Company and such Fund Director), without regard to any rights such Fund Director may have against the Fund Indemnitors, and, (c) that it irrevocably waives, relinquishes and releases the Fund Indemnitors from any and all claims against the Fund Indemnitors for contribution, subrogation or any other recovery of any kind in respect thereof. The Company further agrees that no advancement or payment by the Fund Indemnitors on behalf of any such Fund Director with respect to any claim for which such Fund Director has sought indemnification from the Company shall affect the foregoing and the Fund Indemnitors shall have a right of contribution and/or be subrogated to the extent of such advancement or payment to all of the rights of recovery of such Fund Director against the Company.

5.8 Right to Conduct Activities. The Company hereby agrees and acknowledges that Green Park & Golf Ventures, LLC and Bios (together with their respective affiliates) are professional investment funds, and as such invest in numerous portfolio companies, some of which may be deemed competitive with the Company's business (as currently conducted or as currently propose to be conducted). The Company hereby agrees that, to the extent permitted under applicable law, (A) Green Park & Golf Ventures, LLC shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by Green Park & Golf Ventures, LLC in any entity competitive with the Company, or (ii) actions taken by any partner, officer or other representative of Green Park & Golf Ventures, LLC to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company and (B) Bios shall not be liable to the Company for any claim arising out of, or based upon, (i) the investment by Bios in any entity competitive with the Company, or (ii) actions taken by any partner, officer or other representative of Bios to assist any such competitive company, whether or not such action was taken as a member of the board of directors of such competitive company or otherwise, and whether or not such action has a detrimental effect on the Company; provided, however, that the foregoing shall not relieve (x) any of the Investors from liability associated with the unauthorized disclosure of the Company's confidential information obtained pursuant to this Agreement, or (y) any director or officer of the Company from any liability associated with his or her fiduciary duties to the Company.

5.9 FCPA. The Company represents that it shall not (and shall not permit any of its subsidiaries or affiliates or any of its or their respective directors, officers, managers, employees, independent contractors, representatives or agents to) promise, authorize or make any payment to, or otherwise contribute any item of value to, directly or indirectly, to any third party, including any Non-U.S. Official (as (as such term is defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "**FCPA**")), in each case, in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) cease all of its or their respective activities, as well as remediate any actions taken by the Company, its subsidiaries or affiliates, or any of their respective directors, officers, managers, employees, independent contractors, representatives or agents in violation of the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. The Company further represents that it shall (and shall cause each of its subsidiaries and affiliates to) maintain systems of internal controls (including, but not limited to, accounting systems, purchasing systems and billing systems) to ensure compliance with the FCPA, the U.K. Bribery Act, or any other applicable anti-bribery or anti-corruption law. Upon request, the Company agrees to provide responsive information and/or certifications concerning its compliance with applicable anti-corruption laws. The Company shall promptly notify each Investor if the Company becomes aware of any Enforcement Action (as defined in the Purchase Agreement). The Company shall, and shall cause any direct or indirect subsidiary or entity controlled by it, whether now in existence or formed in the future, to comply with the FCPA. The Company shall use its best efforts to cause any direct or indirect subsidiary, whether now in existence or formed in the future, to comply in all material respects with all applicable laws.

5.10 Termination of Covenants. The covenants set forth in this Section 5, except for Section 5.5, shall terminate and be of no further force or effect (i) immediately before the consummation of the IPO (ii) when the Company first becomes subject to the periodic reporting requirements of Section 12(g) or 15(d) of the Exchange Act, or (iii) upon a Deemed Liquidation Event, as such term is defined in the Company's Certificate of Incorporation, as amended, whichever event occurs first.

6. Miscellaneous.

6.1 Successors and Assigns. The rights under this Agreement may be assigned (but only with all related obligations) by a Holder to a transferee of Registrable Securities that (i) is an Affiliate of a Holder; (ii) is a Holder's Immediate Family Member or trust for the benefit of an individual Holder or one or more of such Holder's Immediate Family Members; or (iii) after such transfer, holds at least 30,000 shares of Registrable Securities (subject to appropriate adjustment for stock splits, stock dividends, combinations, and other recapitalizations); provided, however, that (x) the Company is, within a reasonable time after such transfer, furnished with written notice of the name and address of such transferee and the Registrable Securities with respect to which such rights are being transferred; and (y) such transferee agrees in a written instrument delivered to the Company to be bound by and subject to the terms and conditions of this Agreement, including the provisions of Section 2.11. For the purposes of determining the number of shares of Registrable Securities held by a transferee, the holdings of a transferee (1) that is an Affiliate or stockholder of a Holder; (2) who is a Holder's Immediate Family Member; or (3) that is a trust for the benefit of an individual Holder or such Holder's Immediate Family Member shall be aggregated together and with those of the transferring Holder; provided further that all transferees who would not qualify individually for assignment of rights shall have a single attorney-in-fact for the purpose of exercising any rights, receiving notices, or taking any action under this Agreement. The terms and conditions of this Agreement inure to the benefit of and are binding upon the respective successors and permitted assignees of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assignees any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided herein.

6.2 Governing Law. This Agreement shall be governed by the internal law of the State of Texas.

6.3 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.4 Titles and Subtitles. The titles and subtitles used in this Agreement are for convenience only and are not to be considered in construing or interpreting this Agreement.

6.5 Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (i) personal delivery to the party to be notified; (ii) when sent, if sent by electronic mail or facsimile during the recipient's normal business hours, and if not sent during normal business hours, then on the recipient's next business day; (iii) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (iv) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next-day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their addresses as set forth on Schedule A or Schedule B (as applicable) hereto, or to the principal office of the Company and to the attention of the Chief Executive Officer, in the case of the Company, or to such email address, facsimile number, or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, a copy shall also be sent to McGuireWoods LLP, Attn: David McLean, Esq., 2000 McKinney Avenue, Suite 1400, Dallas, TX 75201.

6.6 Amendments and Waivers. Any term of this Agreement may be amended and the observance of any term of this Agreement may be waived (either generally or in a particular instance, and either retroactively or prospectively) only with the written consent of the Company and the holders of a majority of the Registrable Securities then outstanding; provided that the Company may in its sole discretion waive compliance with Section 2.12(c) (and the Company's failure to object promptly in writing after notification of a proposed assignment allegedly in violation of Section 2.12(c) shall be deemed to be a waiver); and provided further that any provision hereof may be waived by any waiving party on such party's own behalf, without the consent of any other party. Notwithstanding the foregoing, this Agreement may not be amended or terminated and the observance of any term hereof may not be waived with respect to any Investor without the written consent of such Investor, unless such amendment, termination, or waiver applies to all Investors in the same fashion (it being agreed that a waiver of the provisions of Section 4 with respect to a particular transaction shall be deemed to apply to all Investors in the same fashion if such waiver does so by its terms, notwithstanding the fact that certain Investors may nonetheless, by agreement with the Company, purchase securities in such transaction). Further, this Agreement may not be amended, and no provision hereof may be waived, in each case, in any way which would adversely affect the rights of the Key Holders hereunder in a manner disproportionate to any adverse effect such amendment or waiver would have on the rights of the Investors hereunder, without also the written consent of the holders of at least a majority of the Registrable Securities held by the Key Holders. The Company shall give prompt notice of any amendment or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, termination, or waiver. Any amendment, termination, or waiver effected in accordance with this Section 6.6 shall be binding on all parties hereto, regardless of whether any such party has consented thereto. No waivers of or exceptions to any term, condition, or provision of this Agreement, in any one or more instances, shall be deemed to be or construed as a further or continuing waiver of any such term, condition, or provision.

6.7 Severability. In case any one or more of the provisions contained in this Agreement is for any reason held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision of this Agreement, and such invalid, illegal, or unenforceable provision shall be reformed and construed so that it will be valid, legal, and enforceable to the maximum extent permitted by law.

6.8 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series A Preferred Stock after the date hereof, whether pursuant to the Purchase Agreement or otherwise, any purchaser of such shares of Series A Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement, and thereafter shall be deemed an "**Investor**" for all purposes hereunder. No action or consent by the Investors shall be required for such joinder to this Agreement by such additional Investor, so long as such additional Investor has agreed in writing to be bound by all of the obligations as an "**Investor**" hereunder.

6.9 Entire Agreement. This Agreement (including any Schedules and Exhibits hereto) constitutes the full and entire understanding and agreement among the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled. Upon the effectiveness of this Agreement, the Prior Agreement shall be deemed amended and restated and superseded and replaced in its entirety by this Agreement, and shall be of no further force or effect.

6.10 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of Texas and to the jurisdiction of the United States District Court for the Northern District of Texas for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of Texas or the United States District Court for the Northern District of Texas, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

Each party will bear its own costs in respect of any disputes arising under this Agreement. The prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the Northern District of Texas or any state court of the State of Texas having subject matter jurisdiction.

6.11 Delays or Omissions. No delay or omission to exercise any right, power, or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power, or remedy of such nonbreaching or nondefaulting party, nor shall it be construed to be a waiver of or acquiescence to any such breach or default, or to any similar breach or default thereafter occurring, nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. All remedies, whether under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.12 Acknowledgment. The Company acknowledges that certain of the Investors are in the business of venture capital investing and therefore review the business plans and related proprietary information of many enterprises, including enterprises which may have products or services which compete directly or indirectly with those of the Company. Nothing in this Agreement shall preclude or in any way restrict the Investors from investing or participating in any particular enterprise whether or not such enterprise has products or services which compete with those of the Company.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first written above.

Lantern Pharma Inc., a Texas corporation

By: /s/ Arunkumar Asaithambi
Name: Arunkumar Asaithambi
Title: President

KEY HOLDERS:

Biological Mimetics Inc.

By: /s/ Dr. Peter L. Nara
Name: Dr. Peter L. Nara
Title: President and CEO

Signature Page to Amended and Restated Investors' Rights Agreement

Health Wildcatters Fund II, LLC

By: /s/ Hubert Zajicek
Name: Hubert Zajicek
Title: CEO

Arunkumar Asaithambi

/s/ Arunkumar Asaithambi

Signature Page to Amended and Restated Investors' Rights Agreement

Jeff Thomas

/s/ Jeff Thomas

INVESTORS:

GPG LPI Investment, LLC

By: /s/ Gilbert Garcia
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

Peter Gottlieb

/s/ Peter Gottlieb

Signature Page to Amended and Restated Investors' Rights Agreement

Oncology Venture, A/S

By: /s/ Peter Buhl Jensen
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

J H Starship LLC

By: /s/ John J. Flowers
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

Beefeater Assets LTD

By: /s/ Eric Reinhart
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

Vandna Chavda

/s/ Vandna Chavda

Michael J. McNally

/s/ Michael J. McNally

Chad Hebel

/s/ Chad Hebel

C. H. Kiser & Company, LLC

By: /s/ Charles H. Kiser
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

Meridian Energy Investments, LLC

By: /s/ Dave B. Marshall
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

The Cook Family Living Trust

By: /s/ Rick Cook
Name:
Title:

Signature Page to Amended and Restated Investors' Rights Agreement

Bios Fund I, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.
Name: Leslie Wayne Kreis, Jr.
Title: Managing Partner

Bios Fund I QP, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.
Name: Leslie Wayne Kreis, Jr.
Title: Managing Partner

SCHEDULE A

INVESTORS

Name	Address	Number of Shares Held
GPG LPI Investment, LLC	[_____]	168,164
Peter Gottlieb	[_____]	21,197
J H Starship LLC	[_____]	2,778
Beefeater Assets LTD	[_____]	2,384
Vandna Chavda	[_____]	7,155
Michael J. McNally	[_____]	4,767
C.H. Kiser & Company, LLC	[_____]	4,771
Meridian Energy Investments, LLC	[_____]	9,543
The Cook Family Living Trust	[_____]	2,781
Chad Hebel	[_____]	7,134
Bios Fund I, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	289,429.10
Bios Fund I QP, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	169,286.5

SCHEDULE B

KEY HOLDERS

Name	Address	Number of Shares Held
Biological Mimetics Inc.	[_____]	600,000
Arunkumar Asaithambi	[_____]	400,000
Health Wildcatters Fund II, LLC	[_____]	121,432*
Jeff Thomas	[_____]	4587.2

* Health Wildcatters Fund II, LLC holds 97,561 shares of Common Stock and 23,871 shares of Preferred Stock, for a total of 121,432 shares held.

Exhibit 10.5

Execution Version

AMENDED AND RESTATED

RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT

TABLE OF CONTENTS

AMENDED AND RESTATED
RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT

THIS AMENDED AND RESTATED RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT (this "**Agreement**"), is made as of March 17, 2017, by and among Lantern Pharma Inc., a Texas corporation (the "**Company**"), the Investors listed on Schedule A and the Key Holders listed on Schedule B.

WHEREAS, each Key Holder is the beneficial owner of the number of shares of Capital Stock, or of options to purchase Common Stock, set forth opposite the name of such Key Holder on Schedule B;

WHEREAS, the Company and the Investors are parties to the Series A Preferred Stock Purchase Agreement, of even date herewith (the "**Purchase Agreement**"), pursuant to which the Investors have agreed to purchase shares of the Series A Preferred Stock of the Company, par value $0.01 per share ("**Series A Preferred Stock**");

WHEREAS, the Key Holders and the Company desire to further induce the Investors to purchase the Series A Preferred Stock;

WHEREAS, the Company and the existing Investors and Key Holders (collectively, the "***Existing Parties***") are parties to that certain Right of First Refusal and Co-Sale Agreement dated as of December 31, 2014 (the "***Prior Agreement***");

WHEREAS, the Existing Parties desire that the Company sell shares of Series A Preferred Stock, that the Company grant the purchaser of the Series A Preferred Stock the rights contemplated herein, and that the Prior Agreement be amended and restated in its entirety as set forth herein;

WHEREAS, pursuant to Section 6.8 of the Prior Agreement, any amendment or modification of the Prior Agreement shall be effective if evidenced by a written instrument executed by (i) the Company, (ii) the Key Holders holding as least a majority of the shares of Transfer Stock then held by all of the Key Holders, and (c) the holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of the then outstanding shares of Series A Preferred Stock held by the Investors (voting as a single class and on an as-converted basis); and

WHEREAS, the Existing Parties, in each case, holding not less than the minimum number of shares required to amend the Prior Agreement, hereby consent in writing to this amendment and restatement in its entirety of the Prior Agreement and the adoption of this Agreement as the sole agreement concerning the rights set forth in the Prior Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Existing Parties hereby agree that the Prior Agreement shall be superseded and replaced in its entirety by this Agreement, and the parties hereto, intending to be legally bound, further agree as follows:

1. Definitions.

1.1 "**Affiliate**" means, with respect to any specified person or entity, any other person or entity who directly or indirectly, controls, is controlled by or is under common control with such person or entity, including, without limitation, any general partner, managing member, officer or director of such person or entity, or any venture capital fund now or hereafter existing which is controlled by one or more general partners or managing members of, or shares the same management company with, such person or entity.

1.2 "**Capital Stock**" means (a) shares of Common Stock and Series A Preferred Stock (whether now outstanding or hereafter issued in any context), (b) shares of Common Stock issued or issuable upon conversion of Series A Preferred Stock, and (c) shares of Common Stock issued or issuable upon exercise or conversion, as applicable, of stock options, warrants or other convertible securities of the Company, in each case now owned or subsequently acquired by any Key Holder, any Investor, or their respective successors or permitted transferees or assigns. For purposes of the number of shares of Capital Stock held by an Investor or Key Holder (or any other calculation based thereon), all shares of Series A Preferred Stock shall be deemed to have been converted into Common Stock at the then-applicable conversion ratio.

1.3 "**Change of Control**" means a transaction or series of related transactions in which a person, or a group of related persons, acquires from stockholders of the Company shares representing more than fifty percent (50%) of the outstanding voting power of the Company.

1.4 "**Common Stock**" means shares of Common Stock of the Company, $0.01 par value per share.

1.5 "**Company Notice**" means written notice from the Company notifying the selling stockholder of the Company that the Company intends to exercise its Right of First Refusal as to some or all of the Transfer Stock with respect to any Proposed Transfer.

1.6 "**Investor Notice**" means written notice from an Investor notifying the Company and the selling stockholder of the Company that such Investor intends to exercise its Secondary Refusal Right as to a portion of the Transfer Stock with respect to any Proposed Transfer.

1.7 "**Investors**" means the persons named on Schedule A hereto, each person to whom the rights of an Investor are assigned pursuant to Section 6.9, each person who hereafter becomes a signatory to this Agreement pursuant to Section 6.11 and any one of them, as the context may require.

1.8 "**Key Holders**" means the persons named on Schedule B hereto, each person to whom the rights of a Key Holder are assigned pursuant to Section 3.1, each person who hereafter becomes a signatory to this Agreement pursuant to Section 6.9 or 6.16 and any one of them, as the context may require.

1.9 "**Proposed Transfer**" means any assignment, sale, offer to sell, pledge, mortgage, hypothecation, encumbrance, disposition of or any other like transfer or encumbering of any Transfer Stock (or any interest therein) proposed by any stockholder of the Company.

1.10 "**Proposed Transfer Notice**" means written notice from a stockholder of the Company setting forth the terms and conditions of a Proposed Transfer.

1.11 "**Prospective Transferee**" means any person to whom a stockholder of the Company proposes to make a Proposed Transfer.

1.12 "**Restated Certificate**" means the Company's Amended and Restated Certificate of Formation, as amended from time to time.

1.13 "**Right of Co-Sale**" means the right, but not an obligation, of an Investor to participate in a Proposed Transfer on the terms and conditions specified in the Proposed Transfer Notice.

1.14 "**Right of First Refusal**" means the right, but not an obligation, of the Company, or its permitted transferees or assigns, to purchase some or all of the Transfer Stock with respect to a Proposed Transfer, on the terms and conditions specified in the Proposed Transfer Notice.

1.15 "**Secondary Notice**" means written notice from the Company notifying the Investors and the selling stockholder of the Company that the Company does not intend to exercise its Right of First Refusal as to all shares of Transfer Stock with respect to any Proposed Transfer.

1.16 "**Secondary Refusal Right**" means the right, but not an obligation, of each Investor to purchase up to its pro rata portion (based upon the total number of shares of Capital Stock then held by all Investors) of any Transfer Stock not purchased pursuant to the Right of First Refusal, on the terms and conditions specified in the Proposed Transfer Notice.

1.17 "**Transfer Stock**" means shares of Capital Stock owned by a stockholder of the Company, or issued to a stockholder of the Company after the date hereof (including, without limitation, in connection with any stock split, stock dividend, recapitalization, reorganization, or the like), but does not include any shares of Series A Preferred Stock or of Common Stock that are issued or issuable upon conversion of Series A Preferred Stock.

1.18 "**Undersubscription Notice**" means written notice from an Investor notifying the Company and the selling stockholder of the Company that such Investor intends to exercise its option to purchase all or any portion of the Transfer Stock not purchased pursuant to the Right of First Refusal or the Secondary Refusal Right.

2. Agreement Among the Company, the Investors and the Stockholders of the Company.

2.1 Right of First Refusal.

(a) Grant. Subject to the terms of Section 3 below, each Company stockholder hereby unconditionally and irrevocably grants to the Company a Right of First Refusal to purchase all or any portion of Transfer Stock that such stockholder may propose to transfer in a Proposed Transfer, at the same price and on the same terms and conditions as those offered to the Prospective Transferee.

(b) Notice. Each stockholder of the Company proposing to make a Proposed Transfer must deliver a Proposed Transfer Notice to the Company and each Investor not later than thirty (30) days prior to the consummation of such Proposed Transfer. Such Proposed Transfer Notice shall contain the material terms and conditions (including price and form of consideration) of the Proposed Transfer, the identity of the Prospective Transferee and the intended date of the Proposed Transfer. To exercise its Right of First Refusal under this Section 2, the Company must deliver a Company Notice to the selling stockholder within fifteen (15) days after delivery of the Proposed Transfer Notice. In the event of a conflict between this Agreement and any other agreement that may have been entered into by a stockholder with the Company that contains a preexisting right of first refusal, the Company and the stockholder acknowledge and agree that the terms of this Agreement shall control and the preexisting right of first refusal shall be deemed satisfied by compliance with Section 2.1(a) and this Section 2.1(b).

(c) Grant of Secondary Refusal Right to Investors. Subject to the terms of Section 3 below, each stockholder of the Company hereby unconditionally and irrevocably grants to the Investors a Secondary Refusal Right to purchase all or any portion of the Transfer Stock not purchased by the Company pursuant to the Right of First Refusal, as provided in this Section 2.1(c). If the Company does not intend to exercise its Right of First Refusal with respect to all Transfer Stock subject to a Proposed Transfer, the Company must deliver a Secondary Notice to the selling stockholder and to each Investor to that effect no later than ten (10) days after the selling stockholder delivers the Proposed Transfer Notice to the Company. To exercise its Secondary Refusal Right, an Investor must deliver an Investor Notice to the selling stockholder and the Company within ten (10) days after the Company's deadline for its delivery of the Secondary Notice as provided in the preceding sentence.

(d) Undersubscription of Transfer Stock. If options to purchase have been exercised by the Company and the Investors with respect to some but not all of the Transfer Stock by the end of the ten (10) day period specified in the last sentence of Section 2.1(c) (the "**Investor Notice Period**"), then the Company shall, immediately after the expiration of the Investor Notice Period, send written notice (the "**Company Undersubscription Notice**") to those Investors who fully exercised their Secondary Refusal Right within the Investor Notice Period (the "**Exercising Investors**"). Each Exercising Investor shall, subject to the provisions of this Section 2.1(d), have an additional option to purchase all or any part of the balance of any such remaining unsubscribed shares of Transfer Stock on the terms and conditions set forth in the Proposed Transfer Notice. To exercise such option, an Exercising Investor must deliver an Undersubscription Notice to the selling stockholder and the Company within ten (10) days after the expiration of the Investor Notice Period. In the event there are two (2) or more such Exercising Investors that choose to exercise the last-mentioned option for a total number of remaining shares in excess of the number available, the remaining shares available for purchase under this Section 2.1(d) shall be allocated to such Exercising Investors pro rata based on the number of shares of Transfer Stock such Exercising Investors have elected to purchase pursuant to the Secondary Refusal Right (without giving effect to any shares of Transfer Stock that any such Exercising Investor has elected to purchase pursuant to the Company Undersubscription Notice). If the options to purchase the remaining shares are exercised in full by the Exercising Investors, the Company shall immediately notify all of the Exercising Investors and the selling stockholder of that fact.

(e) Forfeiture of Rights. Notwithstanding the foregoing, if the total number of shares of Transfer Stock that the Company and the Investors have agreed to purchase in the Company Notice, Investor Notices and Undersubscription Notices is less than the total number of shares of Transfer Stock, then the Company and the Investors shall be deemed to have forfeited any right to purchase such Transfer Stock, and the selling stockholder shall be free to sell all, but not less than all, of the Transfer Stock to the Prospective Transferee on terms and conditions substantially similar to (and in no event more favorable than) the terms and conditions set forth in the Proposed Transfer Notice, it being understood and agreed that (i) any such sale or transfer shall be subject to the other terms and restrictions of this Agreement, including, without limitation, the terms and restrictions set forth in Sections 2.2 and 6.9(b); (ii) any future Proposed Transfer shall remain subject to the terms and conditions of this Agreement, including this Section 2; and (iii) such sale shall be consummated within forty-five (45) days after receipt of the Proposed Transfer Notice by the Company and, if such sale is not consummated within such forty-five (45) day period, such sale shall again become subject to the Right of First Refusal and Secondary Refusal Right on the terms set forth herein.

(f) Consideration; Closing. If the consideration proposed to be paid for the Transfer Stock is in property, services or other non-cash consideration, the fair market value of the consideration shall be as determined in good faith by the Company's Board of Directors and as set forth in the Company Notice. If the Company or any Investor cannot for any reason pay for the Transfer Stock in the same form of non-cash consideration, the Company or such Investor may pay the cash value equivalent thereof, as determined in good faith by the Board of Directors and as set forth in the Company Notice. The closing of the purchase of Transfer Stock by the Company and the Investors shall take place, and all payments from the Company and the Investors shall have been delivered to the selling stockholder, by the later of (i) the date specified in the Proposed Transfer Notice as the intended date of the Proposed Transfer; and (ii) forty-five (45) days after delivery of the Proposed Transfer Notice.

2.2 Right of Co-Sale.

(a) Exercise of Right. If any Transfer Stock subject to a Proposed Transfer is not purchased pursuant to Section 2.1 above and thereafter is to be sold to a Prospective Transferee, each respective Investor may elect to exercise its Right of Co-Sale and participate on a pro rata basis in the Proposed Transfer as set forth in Section 2.2(b) below and, subject to Section 2.2(d), otherwise on the same terms and conditions specified in the Proposed Transfer Notice. Each Investor who desires to exercise its Right of Co-Sale (each, a "**Participating Investor**") must give the selling stockholder written notice to that effect within ten (10) days after the deadline for delivery of the Secondary Notice described above, and upon giving such notice such Participating Investor shall be deemed to have effectively exercised the Right of Co-Sale.

(b) Shares Includable. Each Participating Investor may include in the Proposed Transfer all or any part of such Participating Investor's Capital Stock equal to the product obtained by multiplying (i) the aggregate number of shares of Transfer Stock subject to the Proposed Transfer (excluding shares purchased by the Company or the Participating Investors pursuant to the Right of First Refusal or the Secondary Refusal Right) by (ii) a fraction, the numerator of which is the number of shares of Capital Stock owned by such Participating Investor immediately before consummation of the Proposed Transfer (including any shares that such Investor has agreed to purchase pursuant to the Secondary Refusal Right) and the denominator of which is the total number of shares of Capital Stock owned, in the aggregate, by all Participating Investors immediately prior to the consummation of the Proposed Transfer (including any shares that all Participating Investors have collectively agreed to purchase pursuant to the Secondary Refusal Right), plus the number of shares of Transfer Stock held by the stockholders of the Company. To the extent one (1) or more of the Participating Investors exercise such right of participation in accordance with the terms and conditions set forth herein, the number of shares of Transfer Stock that the selling stockholder may sell in the Proposed Transfer shall be correspondingly reduced.

(c) Purchase and Sale Agreement. The Participating Investors and the selling stockholder agree that the terms and conditions of any Proposed Transfer in accordance with Section 2.2 will be memorialized in, and governed by, a written purchase and sale agreement with the Prospective Transferee (the "**Purchase and Sale Agreement**") with customary terms and provisions for such a transaction, and the Participating Investors and the selling stockholder further covenant and agree to enter into such Purchase and Sale Agreement as a condition precedent to any sale or other transfer in accordance with this Section 2.2.

(d) Allocation of Consideration.

(i) Subject to Section 2.2(d)(ii), the aggregate consideration payable to the Participating Investors and the selling stockholder shall be allocated based on the number of shares of Capital Stock sold to the Prospective Transferee by each Participating Investor and the selling stockholder as provided in Section 2.2(b), provided that if a Participating Investor wishes to sell Series A Preferred Stock, the price set forth in the Proposed Transfer Notice shall be appropriately adjusted based on the conversion ratio of the Series A Preferred Stock into Common Stock.

(ii) In the event that the Proposed Transfer constitutes a Change of Control, the terms of the Purchase and Sale Agreement shall provide that the aggregate consideration from such transfer shall be allocated to the Participating Investors and the selling stockholder in accordance with Sections 2.1 and 2.2 of Article IV(B) of the Restated Certificate as if (A) such transfer were a Deemed Liquidation Event (as defined in the Restated Certificate), and (B) the Capital Stock sold in accordance with the Purchase and Sale Agreement were the only Capital Stock outstanding. In the event that a portion of the aggregate consideration payable to the Participating Investor(s) and selling stockholder is placed into escrow, the Purchase and Sale Agreement shall provide that (x) the portion of such consideration that is not placed in escrow (the "**Initial Consideration**") shall be allocated in accordance with Sections 2.1 and 2.2 of Article IV(B) of the Restated Certificate as if the Initial Consideration were the only consideration payable in connection with such transfer, and (y) any additional consideration which becomes payable to the Participating Investor(s) and selling stockholder upon release from escrow shall be allocated in accordance with Sections 2.1 and 2.2 of Article IV(B) of the Restated Certificate after taking into account the previous payment of the Initial Consideration as part of the same transfer.

(e) Purchase by Selling Stockholder; Deliveries. Notwithstanding Section 2.2(c) above, if any Prospective Transferee or Transferees refuse(s) to purchase securities subject to the Right of Co-Sale from any Participating Investor or Investors or upon the failure to negotiate in good faith a Purchase and Sale Agreement reasonably satisfactory to the Participating Investors, no stockholder of the Company may sell any Transfer Stock to such Prospective Transferee or Transferees unless and until, simultaneously with such sale, such stockholder purchases all securities subject to the Right of Co-Sale from such Participating Investor or Investors on the same terms and conditions (including the proposed purchase price) as set forth in the Proposed Transfer Notice and as provided in Section 2.2(d)(i); provided, however, if such sale constitutes a Change of Control, the portion of the aggregate consideration paid by the selling stockholder to such Participating Investor or Investors shall be made in accordance with the first sentence of Section 2.2(d)(ii). In connection with such purchase by the selling stockholder, such Participating Investor or Investors shall deliver to the selling stockholder any stock certificate or certificates, properly endorsed for transfer, representing the Capital Stock being purchased by the selling stockholder (or request that the Company effect such transfer in the name of the selling stockholder). Any such shares transferred to the selling stockholder will be transferred to the Prospective Transferee against payment therefor in consummation of the sale of the Transfer Stock pursuant to the terms and conditions specified in the Proposed Transfer Notice, and the selling stockholder shall concurrently therewith remit or direct payment to each such Participating Investor the portion of the aggregate consideration to which each such Participating Investor is entitled by reason of its participation in such sale as provided in this Section 2.2(e).

(f) Additional Compliance. If any Proposed Transfer is not consummated within sixty (60) days after receipt of the Proposed Transfer Notice by the Company, the stockholders of the Company proposing the Proposed Transfer may not sell any Transfer Stock unless they first comply in full with each provision of this Section 2. The exercise or election not to exercise any right by any Investor hereunder shall not adversely affect its right to participate in any other sales of Transfer Stock subject to this Section 2.2.

2.3 Effect of Failure to Comply.

(a) Transfer Void; Equitable Relief. Any Proposed Transfer not made in compliance with the requirements of this Agreement shall be null and void ab initio, shall not be recorded on the books of the Company or its transfer agent and shall not be recognized by the Company. Each party hereto acknowledges and agrees that any breach of this Agreement would result in substantial harm to the other parties hereto for which monetary damages alone could not adequately compensate. Therefore, the parties hereto unconditionally and irrevocably agree that any non-breaching party hereto shall be entitled to seek protective orders, injunctive relief and other remedies available at law or in equity (including, without limitation, seeking specific performance or the rescission of purchases, sales and other transfers of Transfer Stock not made in strict compliance with this Agreement).

(b) Violation of First Refusal Right. If any stockholder of the Company becomes obligated to sell any Transfer Stock to the Company or any Investor under this Agreement and fails to deliver such Transfer Stock in accordance with the terms of this Agreement, the Company and/or such Investor may, at its option, in addition to all other remedies it may have, send to such stockholder the purchase price for such Transfer Stock as is herein specified and transfer to the name of the Company or such Investor (or request that the Company effect such transfer in the name of an Investor) on the Company's books any certificates, instruments, or book entry representing the Transfer Stock to be sold.

(c) Violation of Co-Sale Right. If any stockholder of the Company purports to sell any Transfer Stock in contravention of the Right of Co-Sale (a "**Prohibited Transfer**"), each Investor who desires to exercise its Right of Co-Sale under Section 2.2 may, in addition to such remedies as may be available by law, in equity or hereunder, require such stockholder to purchase from such Investor the type and number of shares of Capital Stock that such Investor would have been entitled to sell to the Prospective Transferee had the Prohibited Transfer been effected in compliance with the terms of Section 2.2. The sale will be made on the same terms, including, without limitation, as provided in Section 2.2(d)(i) and the first sentence of Section 2.2(d)(ii), as applicable, and subject to the same conditions as would have applied had the stockholder not made the Prohibited Transfer, except that the sale (including, without limitation, the delivery of the purchase price) must be made within ninety (90) days after the Investor learns of the Prohibited Transfer, as opposed to the timeframe proscribed in Section 2.2. Such stockholder shall also reimburse each Investor for any and all reasonable and documented out-of-pocket fees and expenses, including reasonable legal fees and expenses, incurred pursuant to the exercise or the attempted exercise of the Investor's rights under Section 2.2.

3. Exempt Transfers.

3.1 Exempted Transfers. Notwithstanding the foregoing or anything to the contrary herein, the provisions of Sections 2.1 and 2.2 shall not apply (a) in the case of a stockholder of the Company that is an entity, upon a transfer by such stockholder to its Affiliates or its stockholders, members, partners or other equity holders, (b) to a repurchase of Transfer Stock from a stockholder of the Company by the Company at a price no greater than that originally paid by such stockholder for such Transfer Stock and pursuant to an agreement containing vesting and/or repurchase provisions approved by a majority of the Board of Directors, (c) to a pledge of Transfer Stock that creates a mere security interest in the pledged Transfer Stock, provided that the pledgee thereof agrees in writing in advance to be bound by and comply with all applicable provisions of this Agreement to the same extent as if it were the stockholder making such pledge, or (d) in the case of a stockholder of the Company that is a natural person, upon a transfer of Transfer Stock by such stockholder made for bona fide estate planning purposes, either during his or her lifetime or on death by will or intestacy to his or her spouse, child (natural or adopted), or any other direct lineal descendant of such stockholder (or his or her spouse) (all of the foregoing collectively referred to as "family members"), or any other relative approved by unanimous consent of the Board of Directors of the Company, or any custodian or trustee of any trust, partnership or limited liability company for the benefit of, or the ownership interests of which are owned wholly by such stockholder or any such family members; provided that in the case of clause(s) (a), (c), or (d), the stockholder shall deliver prior written notice to the Investors of such pledge, gift or transfer and such shares of Transfer Stock shall at all times remain subject to the terms and restrictions set forth in this Agreement and such transferee shall, as a condition to such issuance, deliver a counterpart signature page to this Agreement as confirmation that such transferee shall be bound by all the terms and conditions of this Agreement (but only with respect to the securities so transferred to the transferee), including the obligations with respect to Proposed Transfers of such Transfer Stock pursuant to Section 2; and provided further in the case of any transfer pursuant to clause (a) or (d) above, that such transfer is made pursuant to a transaction in which there is no consideration actually paid for such transfer.

3.2 Exempted Offerings. Notwithstanding the foregoing or anything to the contrary herein, the provisions of Section 2 shall not apply to the sale of any Transfer Stock (a) to the public in an offering pursuant to an effective registration statement under the Securities Act of 1933, as amended (a "**Public Offering**"); or (b) pursuant to a Deemed Liquidation Event (as defined in the Company's Restated Certificate).

3.3 Prohibited Transferees. Notwithstanding the foregoing, no stockholder of the Company shall transfer any Transfer Stock to (a) any entity which, in the determination of the Company's Board of Directors, directly or indirectly competes with the Company; or (b) any customer, distributor or supplier of the Company, if the Company's Board of Directors should determine that such transfer would result in such customer, distributor or supplier receiving information that would place the Company at a competitive disadvantage with respect to such customer, distributor or supplier.

4. Legend. Each certificate, instrument, or book entry representing shares of Transfer Stock held by a stockholder of the Company or issued to any permitted transferee in connection with a transfer permitted by Section 3.1 hereof shall be notated with the following legend:

> THE SALE, PLEDGE, HYPOTHECATION, OR TRANSFER OF THE SECURITIES REPRESENTED HEREBY IS SUBJECT TO, AND IN CERTAIN CASES PROHIBITED BY, THE TERMS AND CONDITIONS OF A CERTAIN RIGHT OF FIRST REFUSAL AND CO-SALE AGREEMENT (AS MAY BE AMENDED, RESTATED, SUPPLEMENTED, OR OTHERWISE MODIFIED FROM TIME TO TIME) BY AND AMONG THE STOCKHOLDER, THE CORPORATION AND CERTAIN OTHER HOLDERS OF STOCK OF THE CORPORATION. COPIES OF SUCH AGREEMENT MAY BE OBTAINED UPON WRITTEN REQUEST TO THE SECRETARY OF THE CORPORATION.

Each stockholder of the Company agrees that the Company may instruct its transfer agent to impose transfer restrictions on the shares notated with the legend referred to in this Section 4 above to enforce the provisions of this Agreement, and the Company agrees to promptly do so. The legend shall be removed upon termination of this Agreement at the request of the holder.

5. Lock-Up.

5.1 Agreement to Lock-Up. Each stockholder of the Company hereby agrees that it will not, without the prior written consent of the managing underwriter, during the period commencing on the date of the final prospectus relating to the Company's initial public offering (the "**IPO**") and ending on the date specified by the Company and the managing underwriter (such period not to exceed one hundred eighty (l80) days), or such other period as may be requested by the Company or an underwriter to accommodate regulatory restrictions on (1) the publication or other distribution of research reports; and (2) analyst recommendations and opinions, including, but not limited to, the restrictions contained in FINRA Rule 2711(f)(4) or NYSE Rule 472(f)(4), or any successor provisions or amendments thereto), (a) lend, offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Capital Stock held immediately prior to the effectiveness of the registration statement for the IPO; or (b) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Capital Stock, whether any such transaction described in clause (a) or (b) above is to be settled by delivery of Capital Stock or other securities, in cash or otherwise. The foregoing provisions of this Section 5 shall not apply to the sale of any shares to an underwriter pursuant to an underwriting agreement, and shall only be applicable to the stockholders of the Company if all officers, directors and holders of more than one percent (1%) of the outstanding Common Stock (after giving effect to the conversion into Common Stock of all outstanding Series A Preferred Stock) enter into similar agreements. The underwriters in connection with the IPO are intended third-party beneficiaries of this Section 5 and shall have the right, power and authority to enforce the provisions hereof as though they were a party hereto. Each stockholder further agrees to execute such agreements as may be reasonably requested by the underwriters in the IPO that are consistent with this Section 5 or that are necessary to give further effect thereto.

5.2 Stop Transfer Instructions. In order to enforce the foregoing covenant, the Company may impose stop-transfer instructions with respect to the shares of Capital Stock of each stockholder of the Company (and transferees and assignees thereof) until the end of such restricted period.

6. Miscellaneous.

6.1 Term. This Agreement shall automatically terminate upon the earlier of (a) immediately prior to the consummation of the Company's IPO; and (b) the consummation of a Deemed Liquidation Event (as defined in the Restated Certificate).

6.2 Stock Split. All references to numbers of shares in this Agreement shall be appropriately adjusted to reflect any stock dividend, split, combination or other recapitalization affecting the Capital Stock occurring after the date of this Agreement.

6.3 Ownership. Each Key Holder represents and warrants that such Key Holder is the sole legal and beneficial owner of the shares of Transfer Stock subject to this Agreement and that no other person or entity has any interest in such shares (other than a community property interest as to which the holder thereof has acknowledged and agreed in writing to the restrictions and obligations hereunder).

6.4 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of Texas and to the jurisdiction of the United States District Court for the Northern District of Texas for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of Texas or the United States District Court for the Northern District of Texas, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the above-named courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALL-ENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

Each party will bear its own costs in respect of any disputes arising under this Agreement. The prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the Northern District of Texas or any state court of the State of Texas having subject matter jurisdiction.

6.5 Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (a) personal delivery to the party to be notified, (b) when sent, if sent by electronic mail or facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) business day after deposit with a nationally recognized overnight courier, freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on Schedule A or Schedule B hereof, as the case may be, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this Section 6.5. If notice is given to the Company, it shall be sent to 211 N. Ervay Street, 14th Floor, Dallas, TX 75201, Attn: Arunkumar Asaithambi, with a copy (which shall not constitute notice) shall also be sent to McGuireWoods LLP, Attn: David McLean, Esq., 2000 McKinney Avenue, Suite 1400, Dallas, TX 75201.

6.6 Entire Agreement. This Agreement (including, the Exhibits and Schedules hereto) constitutes the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties are expressly canceled.

6.7 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such non-breaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

6.8 Amendment; Waiver and Termination. This Agreement may be amended, modified or terminated (other than pursuant to Section 6.1 above) and the observance of any term hereof may be waived (either generally or in a particular instance and either retroactively or prospectively) only by a written instrument executed by (a) the Company, (b) the Key Holders holding at least a majority of the shares of Transfer Stock then held by all of the Key Holders, and (c) the holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of the then outstanding shares of Series A Preferred Stock held by the Investors (voting as a single class and on an as-converted basis). Any amendment, modification, termination or waiver so effected shall be binding upon the Company, the Investors, the Key Holders and all of their respective successors and permitted assigns whether or not such party, assignee or other stockholder entered into or approved such amendment, modification, termination or waiver. Notwithstanding the foregoing, (i) this Agreement may not be amended, modified or terminated and the observance of any term hereunder may not be waived with respect to any Investor or Key Holder without the written consent of such Investor or Key Holder unless such amendment, modification, termination or waiver applies to all Investors and Key Holders, respectively, in the same fashion, and (ii) the consent of the Key Holders shall not be required for any amendment, modification, termination or waiver if such amendment, modification, termination or waiver does not apply to the Key Holders, and (iii) Schedule A hereto may be amended by the Company from time to time in accordance with the Purchase Agreement to add information regarding Additional Purchasers (as defined in the Purchase Agreement) without the consent of the other parties hereto. The Company shall give prompt written notice of any amendment, modification or termination hereof or waiver hereunder to any party hereto that did not consent in writing to such amendment, modification, termination or waiver. No waivers of or exceptions to any term, condition or provision of this Agreement, in any one or more instances, shall be deemed to be, or construed as, a further or continuing waiver of any such term, condition or provision.

6.9 Assignment of Rights.

(a) The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and permitted assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

(b) Any successor or permitted assignee of any stockholder of the Company, including any Prospective Transferee who purchases shares of Transfer Stock in accordance with the terms hereof, shall deliver to the Company and the Investors, as a condition to any transfer or assignment, a counterpart signature page hereto pursuant to which such successor or permitted assignee shall confirm their agreement to be subject to and bound by all of the provisions set forth in this Agreement that were applicable to the predecessor or assignor of such successor or permitted assignee.

(c) The rights of the Investors hereunder are not assignable without the Company's written consent (which shall not be unreasonably withheld, delayed or conditioned), except (i) by an Investor to any Affiliate, or (ii) to an assignee or transferee who acquires at least 93,000 shares of Capital Stock (as adjusted for any stock combination, stock split, stock dividend, recapitalization or other similar transaction), it being acknowledged and agreed that any such assignment, including an assignment contemplated by the preceding clauses (i) or (ii) shall be subject to and conditioned upon any such assignee's delivery to the Company and the other Investors of a counterpart signature page hereto pursuant to which such assignee shall confirm their agreement to be subject to and bound by all of the provisions set forth in this Agreement that were applicable to the assignor of such assignee.

(d) Except in connection with an assignment by the Company by operation of law to the acquirer of the Company, the rights and obligations of the Company hereunder may not be assigned under any circumstances.

6.10 Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

6.11 Additional Investors. Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of the Company's Series A Preferred Stock after the date hereof, any purchaser of such shares of Series A Preferred Stock may become a party to this Agreement by executing and delivering an additional counterpart signature page to this Agreement and thereafter shall be deemed an "Investor" for all purposes hereunder.

6.12 Governing Law. This Agreement shall be governed by the internal law of the State of Texas.

6.13 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

6.14 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

6.15 Specific Performance. In addition to any and all other remedies that may be available at law in the event of any breach of this Agreement, each Investor shall be entitled to specific performance of the agreements and obligations of the Company and the stockholders of the Company hereunder and to such other injunction or other equitable relief as may be granted by a court of competent jurisdiction.

6.16 Additional Key Holders. In the event that after the date of this Agreement, the Company issues shares of Common Stock, or options to purchase Common Stock, to any employee or consultant, which shares or options would collectively constitute with respect to such employee or consultant (taking into account all shares of Common Stock, options and other purchase rights held by such employee or consultant) one percent (1%) or more of the Company's then outstanding Common Stock (treating for this purpose all shares of Common Stock issuable upon exercise of or conversion of outstanding options, warrants or convertible securities, as if exercised or converted), the Company shall, as a condition to such issuance, cause such employee or consultant to execute a counterpart signature page hereto as a Key Holder, and such person shall thereby be bound by, and subject to, all the terms and provisions of this Agreement applicable to a Key Holder.

6.17 Consent of Spouse. If any Key Holder is married on the date of this Agreement, such Key Holder's spouse shall execute and deliver to the Company a Consent of Spouse in the form of Exhibit A hereto ("**Consent of Spouse**"), effective on the date hereof. Notwithstanding the execution and delivery thereof, such consent shall not be deemed to confer or convey to the spouse any rights in such Key Holder's shares of Transfer Stock that do not otherwise exist by operation of law or the agreement of the parties. If any Key Holder should marry or remarry subsequent to the date of this Agreement, such Key Holder shall within thirty (30) days thereafter obtain his/her new spouse's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by causing such spouse to execute and deliver a Consent of Spouse acknowledging the restrictions and obligations contained in this Agreement and agreeing and consenting to the same.

[Remainder of Page Intentionally Left Blank]

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Right of First Refusal and Co-Sale Agreement as of the date first written above.

Lantern Pharma Inc., a Texas corporation

By: /s/ Arunkumar Asaithambi

Name: Arunkumar Asaithambi

Title: President

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

KEY HOLDERS:

Biological Mimetics Inc.

By: /s/ Peter L. Nara

Name: Dr. Peter L. Nara

Title: President and CEO

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Health Wildcatters Fund II, LLC

By: /s/ Hubert Zajicek

Name: Hubert Zajicek

Title: CEO

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Arunkumar Asaithambi

/s/ Arunkumar Asaithambi

[**Signature Page to Amended and Restated ROFR and Co-Sale Agreement**]

Jeff Thomas

/s/ Jeff Thomas

[**Signature Page to Amended and Restated ROFR and Co-Sale Agreement**]

INVESTORS:

GPG LPI Investment, LLC

By: /s/ Gilbert Garcia

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Peter Gottlieb

/s/ Peter Gottlieb

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Oncology Venture, A/S

By: /s/ Peter Buhl Jensen

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

J H Starship LLC

By: /s/ John J. Flowers

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Beefeater Assets LTD

By: /s/ Eric Reinhart

Name:

Title:

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Vandna Chavda

/s/ Vandna Chavda

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Michael J. McNally

/s/ Michael J. McNally

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Chad Hebel

/s/ Chad Hebel

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

C. H. Kiser & Company, LLC

By: /s/ Charles H. Kiser

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Meridian Energy Investments, LLC

By: /s/ Dave B. Marshall

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

The Cook Family Living Trust

By: /s/ Rick Cook

Name: _____

Title: _____

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

Bios Fund I, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.

Name: Leslie Wayne Kreis, Jr.

Title: Managing Partner

Bios Fund I QP, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.

Name: Leslie Wayne Kreis, Jr.

Title: Managing Partner

[Signature Page to Amended and Restated ROFR and Co-Sale Agreement]

SCHEDULE A

INVESTORS

Name	Address	Number of Shares Held
GPG LPI Investment, LLC	[_____]	168,164
Peter Gottlieb	[_____]	21,197
J H Starship LLC	[_____]	2,778
Beefeater Assets LTD	[_____]	2,384
Vandna Chavda	[_____]	7,155
Michael J. McNally	[_____]	4,767
C.H. Kiser & Company, LLC	[_____]	4,771
Meridian Energy Investments, LLC	[_____]	9,543
The Cook Family Living Trust	[_____]	2,781
Chad Hebel	[_____]	7,134
Bios Fund I, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	289,429.10
Bios Fund I QP, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	169,286.5

SCHEDULE B

KEY HOLDERS

Name	Address	Number of Shares Held
Biological Mimetics Inc.	[_____]	600,000
Arunkumar Asaithambi	[_____]	400,000
Health Wildcatters Fund II, LLC	[_____]	121,432*
Jeff Thomas	[_____]	4587.2

*Health Wildcatters Fund II, LLC holds 97,561 shares of Common Stock and 23,871 shares of Preferred Stock, for a total of 121,432 shares held.

EXHIBIT A

CONSENT OF SPOUSE

I, _____, spouse of _____, acknowledge that I have read the Amended and Restated Right of First Refusal and Co-Sale Agreement, dated as of [_____ __, 20__], to which this Consent is attached as Exhibit A (the "**Agreement**"), and that I know the contents of the Agreement. I am aware that the Agreement contains provisions regarding certain rights to certain other holders of Capital Stock of the Company upon a Proposed Transfer of shares of Transfer Stock of the Company which my spouse may own including any interest I might have therein.

I hereby agree that my interest, if any, in any shares of Transfer Stock of the Company subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in such shares of Transfer Stock of the Company shall be similarly bound by the Agreement.

I am aware that the legal, financial and related matters contained in the Agreement are complex and that I am free to seek independent professional guidance or counsel with respect to this Consent. I have either sought such guidance or counsel or determined after reviewing the Agreement carefully that I will waive such right.

Dated as of _____

_____
Signature

_____
Print Name

Exhibit 10.6

Execution Version

AMENDED AND RESTATED

VOTING AGREEMENT

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(continued)

AMENDED AND RESTATED
VOTING AGREEMENT

THIS AMENDED AND RESTATED VOTING AGREEMENT (this " **Agreement**"), is made and entered into as of March 17, 2017, by and among Lantern Pharma Inc., a Texas corporation (the "**Company**"), the holders of the Company's Series A Preferred Stock, $0.01 par value per share ("**Series A Preferred Stock**") listed on Schedule A (together with any subsequent investors, or transferees, who become parties hereto as "Investors" pursuant toSections 7.1(a) or 7.2 below, the "**Investors**"), and those certain stockholders of the Company listed on Schedule B (together with any subsequent stockholders, or any transferees, who become parties hereto as "Key Holders" pursuant to Sections 7.1(b) or 7.2 below, the "**Key Holders**," and together collectively with the Investors, the "**Stockholders**").

RECITALS

A. Concurrently with the execution of this Agreement, the Company and the Investors are entering into a Series A Preferred Stock Purchase Agreement (the "**Purchase Agreement**") providing for the sale of shares of the Company's Series A Preferred Stock, and in connection with that agreement the parties desire to provide the Investors with the right, among other rights, to designate the election of certain members of the board of directors of the Company (the "**Board**") in accordance with the terms of this Agreement.

B. The Amended and Restated Certificate of Formation of the Company (the "**Restated Certificate**") provides that (a) the holders of record of the shares of the Company's Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect two directors of the Company (each, a " **Series A Director**"); and (b) the holders of record of the shares of common stock of the Company, $0.01 par value ("**Common Stock**"), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Company.

C. The Company and the existing Investors and Key Holders (collectively, the "***Existing Parties***") are parties to that certain Voting Agreement dated as of December 31, 2014 (the "***Prior Agreement***"). The Existing Parties desire that the Company sell shares of Series A Preferred Stock, that the Company grant the purchaser of the Series A Preferred Stock the rights contemplated herein, and that the Prior Agreement be amended and restated in its entirety as set forth herein.

D. Pursuant to Section 6.8 of the Prior Agreement, any amendment or modification of the Prior Agreement shall be effective if evidenced by a written instrument executed by (i) the Company, (ii) the Key Holders holding as least a majority of the shares of Common Stock then held by the Key Holders, and (c) the holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of the shares of Series A Preferred Stock held by the Investors (voting as a single class and on an as-converted basis). The Existing Parties, in each case, holding not less than the minimum number of shares required to amend the Prior Agreement, hereby consent in writing to this amendment and restatement in its entirety of the Prior Agreement and the adoption of this Agreement as the sole agreement concerning the rights set forth in the Prior Agreement.

E. In consideration of the mutual promises and covenants set forth herein and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Existing Parties hereby agree that the Prior Agreement shall be superseded and replaced in its entirety by this Agreement, and the parties hereto, intending to be legally bound, further agree as provided herein.

F. The parties also desire to enter into this Agreement to set forth their agreements and understandings with respect to how shares of the Company's capital stock held by them will be voted on, or tendered in connection with, an acquisition of the Company.

NOW, THEREFORE, the parties agree as follows:

1. Voting Provisions Regarding Board of Directors.

1.1 Size of the Board. Each Stockholder agrees to vote, or cause to be voted, all Shares (as defined below) owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that the size of the Board shall be set and remain at four (4) directors and may be increased only with the written consent of Investors holding Series A Preferred Stock representing at least a majority of the shares of Common Stock issuable upon conversion of the then outstanding shares of Series A Preferred Stock. For purposes of this Agreement, the term "Shares" shall mean and include any securities of the Company the holders of which are entitled to vote for members of the Board, including without limitation, all shares of Common Stock, Series A Preferred Stock, by whatever name called, now owned or subsequently acquired by a Stockholder, however acquired, whether through stock splits, stock dividends, reclassifications, recapitalizations, similar events or otherwise.

1.2 Board Composition. Each Stockholder agrees to vote, or cause to be voted, all Shares owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that at each annual or special meeting of stockholders at which an election of directors is held or pursuant to any written consent of the stockholders, the following persons shall be elected to the Board:

(a) One person designated by Bios Fund I, LP ("***Bios I***") and Bios Fund I QP, LP (together with Bios I, "***Bios***"), which individual shall be selected at such time as determined by Bios, to serve as one of the two Series A Directors, for so long as Bios and its Affiliates continue to own beneficially at least seven and one-half percent (7.5%) of the shares of Common Stock of the Company (including shares of Common Stock issued or issuable upon conversion of Series A Preferred Stock), which number is subject to appropriate adjustment for all stock splits, dividends, combinations, recapitalizations and the like;

(b) One person designated by Green Park & Golf Ventures, LLC, a Texas limited liability company ("**Green Park**"), which individual shall be selected at such time as determined by Green Park, to serve the remaining Series A Director, for so long as Green Park and its Affiliates continue to own beneficially at least seven and one-half percent (7.5%) shares of Common Stock of the Company (including shares of Common Stock issued or issuable upon conversion of Series A Preferred Stock), which number is subject to appropriate adjustment for all stock splits, dividends, combinations, recapitalizations and the like; and

(c) For so long as the Key Holders hold at least 400,000 shares of Common Stock (as adjusted for any stock splits, stock dividends, recapitalizations or the like), two individuals designated by the holders of a majority of the Shares of Common Stock held by the Key Holders, which individuals shall initially be Peter Nara and Arunkumar Asaithambi.

To the extent that any of clauses (a) through (c) above shall not be applicable, any member of the Board who would otherwise have been designated in accordance with the terms thereof shall instead be voted upon by all the stockholders of the Company entitled to vote thereon in accordance with, and pursuant to, the Company's Restated Certificate.

For purposes of this Agreement, an individual, firm, corporation, partnership, association, limited liability company, trust or any other entity (collectively, a "**Person**") shall be deemed an "Affiliate" of another Person who, directly or indirectly, controls, is controlled by or is under common control with such Person, including, without limitation, any general partner, managing member, officer or director of such Person or any venture capital fund now or hereafter existing that is controlled by one or more general partners or managing members of, or shares the same management company with, such Person.

1.3 Failure to Designate a Board Member. In the absence of any designation from the Persons or groups with the right to designate a director as specified above, the director previously designated by them and then serving shall be reelected if still eligible to serve as provided herein.

1.4 Removal of Board Members. Each Stockholder also agrees to vote, or cause to be voted, all Shares owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that:

(a) no director elected pursuant to Sections 1.3 or 1.4 of this Agreement may be removed from office other than for cause unless (i) such removal is directed or approved by the affirmative vote of the Person, or of the holders of at least a majority of the shares of stock, entitled under Section 1.3 to designate that director; or (ii) the Person(s) originally entitled to designate or approve such director or occupy such Board seat pursuant to Section 1.3 is no longer so entitled to designate or approve such director or occupy such Board seat;

(b) any vacancies created by the resignation, removal or death of a director elected pursuant to Sections 1.3 or 1.4 shall be filled pursuant to the provisions of this Section 1; and

(c) upon the request of any party entitled to designate a director as provided in Section 1.2(a) or 1.2(b) to remove such director, such director shall be removed.

All Stockholders agree to execute any written consents required to perform the obligations of this Agreement, and the Company agrees at the request of any party entitled to designate directors to call a special meeting of stockholders for the purpose of electing directors.

1.5 No Liability for Election of Recommended Directors. No Stockholder, nor any Affiliate of any Stockholder, shall have any liability as a result of designating a person for election as a director for any act or omission by such designated person in his or her capacity as a director of the Company, nor shall any Stockholder have any liability as a result of voting for any such designee in accordance with the provisions of this Agreement.

1.6 No "Bad Actor" Designees. Each Person with the right to designate or participate in the designation of a director as specified above hereby represents and warrants to the Company that, to such Person's knowledge, none of the "bad actor" disqualifying events described in Rule 506(d)(1)(i)-(viii) promulgated under the Securities Act of 1933, as amended (the "**Securities Act**") (each, a "**Disqualification Event**"), is applicable to such Person's initial designee named above except, if applicable, for a Disqualification Event as to which Rule 506(d)(2)(ii) or (iii) or (d)(3) is applicable. Any director designee to whom any Disqualification Event is applicable, except for a Disqualification Event as to which Rule 506(d)(2)(ii) or (iii) or (d)(3) is applicable, is hereinafter referred to as a "**Disqualified Designee**". Each Person with the right to designate or participate in the designation of a director as specified above hereby covenants and agrees (A) not to designate or participate in the designation of any director designee who, to such Person's knowledge, is a Disqualified Designee and (B) that in the event such Person becomes aware that any individual previously designated by any such Person is or has become a Disqualified Designee, such Person shall as promptly as practicable take such actions as are necessary to remove such Disqualified Designee from the Board and designate a replacement designee who is not a Disqualified Designee.

2. Vote to Increase Authorized Common Stock. Each Stockholder agrees to vote or cause to be voted all Shares owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to increase the number of authorized shares of Common Stock from time to time to ensure that there will be sufficient shares of Common Stock available for conversion of all of the shares of Series A Preferred Stock outstanding at any given time.

3. Drag-Along Right.

3.1 Definitions. A "**Sale of the Company**" shall mean either: (a) a transaction or series of related transactions in which a Person, or a group of related Persons, acquires from stockholders of the Company shares representing more than fifty percent (50%) of the out-standing voting power of the Company (a "**Stock Sale**"); or (b) a transaction that qualifies as a "**Deemed Liquidation Event**" as defined in the Restated Certificate.

3.2 Actions to be Taken. In the event that the holders of at least seventy-five percent (75%) of the shares of Common Stock then issued or issuable upon conversion of the shares of Series A Preferred Stock (the "**Selling Investors**") approve a Sale of the Company in writing, specifying that this Section 3 shall apply to such transaction, then each Stockholder and the Company hereby agree:

(a) if such transaction requires stockholder approval, with respect to all Shares that such Stockholder owns or over which such Stockholder otherwise exercises voting power, to vote (in person, by proxy or by action by written consent, as applicable) all Shares in favor of, and adopt, such Sale of the Company (together with any related amendment to the Restated Certificate required in order to implement such Sale of the Company) and to vote in opposition to any and all other proposals that could reasonably be expected to delay or impair the ability of the Company to consummate such Sale of the Company;

(b) if such transaction is a Stock Sale, to sell the same proportion of shares of capital stock of the Company beneficially held by such Stockholder as is being sold by the Selling Investors to the Person to whom the Selling Investors propose to sell their Shares, and, except as permitted in Section 3.3 below, on the same terms and conditions as the Selling Investors;

(c) to execute and deliver all related documentation and take such other action in support of the Sale of the Company as shall reasonably be requested by the Company or the Selling Investors in order to carry out the terms and provision of this Section 3, including, without limitation, executing and delivering instruments of conveyance and transfer, and any purchase agreement, merger agreement, indemnity agreement, escrow agreement, consent, waiver, governmental filing, share certificates duly endorsed for transfer (free and clear of impermissible liens, claims and encumbrances), and any similar or related documents;

(d) not to deposit, and to cause their Affiliates not to deposit, except as provided in this Agreement, any Shares of the Company owned by such party or Affiliate in a voting trust or subject any Shares to any arrangement or agreement with respect to the voting of such Shares, unless specifically requested to do so by the acquiror in connection with the Sale of the Company;

(e) to refrain from exercising any dissenters' rights or rights of appraisal under applicable law at any time with respect to such Sale of the Company;

(f) if the consideration to be paid in exchange for the Shares pursuant to this Section 3 includes any securities and due receipt thereof by any Stockholder would require under applicable law (x) the registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities; or (y) the provision to any Stockholder of any information other than such information as a prudent issuer would generally furnish in an offering made solely to "accredited investors" as defined in Regulation D promulgated under the Securities Act, the Company may cause to be paid to any such Stockholder in lieu thereof, against surrender of the Shares which would have otherwise been sold by such Stockholder, an amount in cash equal to the fair value (as determined in good faith by the Company) of the securities which such Stockholder would otherwise receive as of the date of the issuance of such securities in exchange for the Shares; and

(g) in the event that the Selling Investors, in connection with such Sale of the Company, appoint a stockholder representative (the "**Stockholder Representative**") with respect to matters affecting the Stockholders under the applicable definitive transaction agreements following consummation of such Sale of the Company, (x) to consent to (i) the appointment of such Stockholder Representative, (ii) the establishment of any applicable escrow, expense or similar fund in connection with any indemnification or similar obligations, and (iii) the payment of such Stockholder's pro rata portion (from the applicable escrow or expense fund or otherwise) of any and all reasonable fees and expenses to such Stockholder Representative in connection with such Stockholder Representative's services and duties in connection with such Sale of the Company and its related service as the representative of the Stockholders, and (y) not to assert any claim or commence any suit against the Stockholder Representative or any other Stockholder with respect to any action or inaction taken or failed to be taken by the Stockholder Representative in connection with its service as the Stockholder Representative, absent fraud or willful misconduct.

3.3 Exceptions. Notwithstanding the foregoing, a Stockholder will not be required to comply with Section 3.2 above in connection with any proposed Sale of the Company (the "**Proposed Sale**"), unless:

(a) any representations and warranties to be made by such Stockholder in connection with the Proposed Sale are limited to representations and warranties related to authority, ownership and the ability to convey title to such Shares, including, but not limited to, representations and warranties that (i) the Stockholder holds all right, title and interest in and to the Shares such Stockholder purports to hold, free and clear of all liens and encumbrances, (ii) the obligations of the Stockholder in connection with the transaction have been duly authorized, if applicable, (iii) the documents to be entered into by the Stockholder have been duly executed by the Stockholder and delivered to the acquirer and are enforceable against the Stockholder in accordance with their respective terms; and (iv) neither the execution and delivery of documents to be entered into in connection with the transaction, nor the performance of the Stockholder's obligations thereunder, will cause a breach or violation of the terms of any agreement, law or judgment, order or decree of any court or governmental agency;

(b) the Stockholder shall not be liable for the inaccuracy of any representation or warranty made by any other Person in connection with the Proposed Sale, other than the Company (except to the extent that funds may be paid out of an escrow established to cover breach of representations, warranties and covenants of the Company as well as breach by any stockholder of any of identical representations, warranties and covenants provided by all stockholders);

(c) the liability for indemnification, if any, of such Stockholder in the Proposed Sale and for the inaccuracy of any representations and warranties made by the Company or its Stockholders in connection with such Proposed Sale, is several and not joint with any other Person (except to the extent that funds may be paid out of an escrow established to cover breach of representations, warranties and covenants of the Company as well as breach by any stockholder of any of identical representations, warranties and covenants provided by all stockholders), and subject to the provisions of the Restated Certificate related to the allocation of the escrow, is pro rata in proportion to, and does not exceed, the amount of consideration paid to such Stockholder in connection with such Proposed Sale;

(d) liability shall be limited to such Stockholder's applicable share (determined based on the respective proceeds payable to each Stockholder in connection with such Proposed Sale in accordance with the provisions of the Restated Certificate) of a negotiated aggregate indemnification amount that applies equally to all Stockholders but that in no event exceeds the amount of consideration otherwise payable to such Stockholder in connection with such Proposed Sale, except with respect to claims related to fraud by such Stockholder, the liability for which need not be limited as to such Stockholder;

(e) upon the consummation of the Proposed Sale (i) each holder of each class or series of the Company's stock will receive the same form of consideration for their shares of such class or series as is received by other holders in respect of their shares of such same class or series of stock, (ii) each holder of a series of Series A Preferred Stock will receive the same amount of consideration per share of such series of Series A Preferred Stock as is received by other holders in respect of their shares of such same series, (iii) each holder of Common Stock will receive the same amount of consideration per share of Common Stock as is received by other holders in respect of their shares of Common Stock, and (iv) unless the holders of at least a majority of the Series A Preferred Stock elect to receive a lesser amount by written notice given to the Company at least five (5) days prior to the effective date of any such Proposed Sale, the aggregate consideration receivable by all holders of the Series A Preferred Stock and Common Stock shall be allocated among the holders of Series A Preferred Stock and Common Stock on the basis of the relative liquidation preferences to which the holders of each respective series of Series A Preferred Stock and the holders of Common Stock are entitled in a Deemed Liquidation Event (assuming for this purpose that the Proposed Sale is a Deemed Liquidation Event) in accordance with the Company's Certificate of Incorporation in effect immediately prior to the Proposed Sale; provided, however, that, notwithstanding the foregoing, if the consideration to be paid in exchange for the Key Holder Shares or Investor Shares, as applicable, pursuant to this Section 3.3(e) includes any securities and due receipt thereof by any Key Holder or Investor would require under applicable law (x) the registration or qualification of such securities or of any person as a broker or dealer or agent with respect to such securities; or (y) the provision to any Key Holder or Investor of any information other than such information as a prudent issuer would generally furnish in an offering made solely to "accredited investors" as defined in Regulation D promulgated under the Securities Act, the Company may cause to be paid to any such Key Holder or Investor in lieu thereof, against surrender of the Key Holder Shares or Investor Shares, as applicable, which would have otherwise been sold by such Key Holder or Investor, an amount in cash equal to the fair value (as determined in good faith by the Company) of the securities which such Key Holder or Investor would otherwise receive as of the date of the issuance of such securities in exchange for the Key Holder Shares or Investor Shares, as applicable; and

(f) subject to clause (e) above, requiring the same form of consideration to be available to the holders of any single class or series of capital stock, if any holders of any capital stock of the Company are given an option as to the form and amount of consideration to be received as a result of the Proposed Sale, all holders of such capital stock will be given the same option; provided, however, that nothing in this Section 3.3(f) shall entitle any holder to receive any form of consideration that such holder would be ineligible to receive as a result of such holder's failure to satisfy any condition, requirement or limitation that is generally applicable to the Company's stockholders.

3.4 Restrictions on Sales of Control of the Company. No Stockholder shall be a party to any Stock Sale unless all holders of Series A Preferred Stock are allowed to participate in such transaction and the consideration received pursuant to such transaction is allocated among the parties thereto in the manner specified in the Company's Restated Certificate in effect immediately prior to the Stock Sale (as if such transaction were a Deemed Liquidation Event), unless the holders of at least a majority of the Series A Preferred Stock elect otherwise by written notice given to the Company at least ten (10) days prior to the effective date of any such transaction or series of related transactions.

4. Remedies.

4.1 Covenants of the Company. The Company agrees to use its best efforts, within the requirements of applicable law, to ensure that the rights granted under this Agreement are effective and that the parties enjoy the benefits of this Agreement. Such actions include, without limitation, the use of the Company's best efforts to cause the nomination and election of the directors as provided in this Agreement.

4.2 Irrevocable Proxy and Power of Attorney. Each party to this Agreement hereby constitutes and appoints as the proxies of the party and hereby grants a power of attorney to the President of the Company, and a designee of the Selling Investors, and each of them, with full power of substitution, with respect to the matters set forth herein, including, without limitation, election of persons as members of the Board in accordance with Section 1 hereto, votes to increase authorized shares pursuant to Section 2 hereof and votes regarding any Sale of the Company pursuant to Section 3 hereof, and hereby authorizes each of them to represent and vote, if and only if the party (i) fails to vote, or (ii) attempts to vote (whether by proxy, in person or by written consent), in a manner which is inconsistent with the terms of this Agreement, all of such party's Shares in favor of the election of persons as members of the Board determined pursuant to and in accordance with the terms and provisions of this Agreement or the increase of authorized shares or approval of any Sale of the Company pursuant to and in accordance with the terms and provisions of Sections 2 and 3, respectively, of this Agreement or to take any action necessary to effect Sections 2 and 3, respectively, of this Agreement. Each of the proxy and power of attorney granted pursuant to the immediately preceding sentence is given in consideration of the agreements and covenants of the Company and the parties in connection with the transactions contemplated by this Agreement and, as such, each is coupled with an interest and shall be irrevocable unless and until this Agreement terminates or expires pursuant to Section 6 hereof. Each party hereto hereby revokes any and all previous proxies or powers of attorney with respect to the Shares and shall not hereafter, unless and until this Agreement terminates or expires pursuant to Section 6 hereof, purport to grant any other proxy or power of attorney with respect to any of the Shares, deposit any of the Shares into a voting trust or enter into any agreement (other than this Agreement), arrangement or understanding with any person, directly or indirectly, to vote, grant any proxy or give instructions with respect to the voting of any of the Shares, in each case, with respect to any of the matters set forth herein.

4.3 Specific Enforcement. Each party acknowledges and agrees that each party hereto will be irreparably damaged in the event any of the provisions of this Agreement are not performed by the parties in accordance with their specific terms or are otherwise breached. Accordingly, it is agreed that each of the Company and the Stockholders shall be entitled to an injunction to prevent breaches of this Agreement, and to specific enforcement of this Agreement and its terms and provisions in any action instituted in any court of the United States or any state having subject matter jurisdiction.

4.4 Remedies Cumulative. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

5. "Bad Actor" Matters.

5.1 Representation. Each Person with the right to designate or participate in the designation of a director pursuant to this Agreement hereby represents that none of the "bad actor" disqualifying events described in Rule 506(d)(1)(i)-(viii) promulgated under the Securities Act (a "**Disqualification Event**") is applicable to such Person or any of its Rule 506(d) Related Parties, except, if applicable, for a Disqualification Event as to which Rule 506(d)(2)(ii) or (iii) or (d)(3) is applicable. For purposes of this Agreement, "Rule 506(d) Related Party" shall mean with respect to any Person any other Person that is a beneficial owner of such first Person's securities for purposes of Rule 506(d) of the Securities Act.

5.2 Covenant. Each Person with the right to designate or participate in the designation of a director pursuant to this Agreement hereby agrees that it shall notify the Company promptly in writing in the event a Disqualification Event becomes applicable to such Person or any of its Rule 506(d) Related Parties, except, if applicable, for a Disqualification Event as to which Rule 506(d)(2)(ii) or (iii) or (d)(3) is applicable.

6. Term. This Agreement shall be effective as of the date hereof and shall continue in effect until and shall terminate upon the earliest to occur of (a) the consummation of the Company's first underwritten public offering of its Common Stock (other than a registration statement relating either to the sale of securities to employees of the Company pursuant to its stock option, stock purchase or similar plan or an SEC Rule 145 transaction); (b) the consummation of a Sale of the Company and distribution of proceeds to or escrow for the benefit of the Stockholders in accordance with the Restated Certificate, provided that the provisions of Section 3 hereof will continue after the closing of any Sale of the Company to the extent necessary to enforce the provisions of Section 3 with respect to such Sale of the Company; (c) termination of this Agreement in accordance with Section 7.8 below.

7. Miscellaneous.

7.1 Additional Parties.

(a) Notwithstanding anything to the contrary contained herein, if the Company issues additional shares of Series A Preferred Stock after the date hereof, as a condition to the issuance of such shares the Company shall require that any purchaser of Series A Preferred Stock become a party to this Agreement by executing and delivering (i) the Adoption Agreement attached to this Agreement as Exhibit A, or (ii) a counterpart signature page hereto agreeing to be bound by and subject to the terms of this Agreement as an Investor and Stockholder hereunder. In either event, each such person shall thereafter shall be deemed an Investor and Stockholder for all purposes under this Agreement.

(b) In the event that after the date of this Agreement, the Company enters into an agreement with any Person to issue shares of capital stock to such Person (other than to a purchaser of Series A Preferred Stock described in Section 7.1(a) above), then, the Company shall cause such Person, as a condition precedent to entering into such agreement, to become a party to this Agreement by executing an Adoption Agreement in the form attached hereto as Exhibit A, agreeing to be bound by and subject to the terms of this Agreement as a Stockholder and thereafter such person shall be deemed a Stockholder for all purposes under this Agreement.

7.2 Transfers. Each transferee or assignee of any Shares subject to this Agreement shall continue to be subject to the terms hereof, and, as a condition precedent to the Company's recognizing such transfer, each transferee or assignee shall agree in writing to be subject to each of the terms of this Agreement by executing and delivering an Adoption Agreement substantially in the form attached hereto as Exhibit A. Upon the execution and delivery of an Adoption Agreement by any transferee, such transferee shall be deemed to be a party hereto as if such transferee were the transferor and such transferee's signature appeared on the signature pages of this Agreement and shall be deemed to be an Investor and Stockholder, or Key Holder and Stockholder, as applicable. The Company shall not permit the transfer of the Shares subject to this Agreement on its books or issue a new certificate representing any such Shares unless and until such transferee shall have complied with the terms of this Section 7.2. Each certificate instrument, or book entry representing the Shares subject to this Agreement if issued on or after the date of this Agreement shall be notated by the Company with the legend set forth in Section 7.12.

7.3 Successors and Assigns. The terms and conditions of this Agreement shall inure to the benefit of and be binding upon the respective successors and assigns of the parties. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and assigns any rights, remedies, obligations, or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement.

7.4 Governing Law. This Agreement shall be governed by the internal law of the State of Texas.

7.5 Counterparts. This Agreement may be executed in two (2) or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

7.6 Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement.

7.7 Notices. All notices and other communications given or made pursuant to this Agreement shall be in writing and shall be deemed effectively given upon the earlier of actual receipt or (a) personal delivery to the party to be notified, (b) when sent, if sent by electronic mail or facsimile during normal business hours of the recipient, and if not sent during normal business hours, then on the recipient's next business day, (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid, or (d) one (1) business day after the business day of deposit with a nationally recognized overnight courier, freight prepaid, specifying next business day delivery, with written verification of receipt. All communications shall be sent to the respective parties at their address as set forth on Schedule A or Schedule B hereto, or to such email address, facsimile number or address as subsequently modified by written notice given in accordance with this Section 7.7. If notice is given to the Company, a copy shall also be sent to McGuireWoods LLP, Attn: David McLean, Esq., 2000 McKinney Avenue, Suite 1400, Dallas, TX 75201.

7.8 Consent Required to Amend, Terminate or Waive. This Agreement may be amended or terminated and the observance of any term hereof may be waived (either generally or in a particular instance and either retroactively or prospectively) only by a written instrument executed by (a) the Company; (b) the Key Holders holding at least a majority of the Shares then held by the Key Holders; and (c) the holders of at least a majority of the shares of Common Stock issued or issuable upon conversion of the shares of Series A Preferred Stock held by the Investors (voting as a single class and on an as-converted basis). Notwithstanding the foregoing:

(a) this Agreement may not be amended or terminated and the observance of any term of this Agreement may not be waived with respect to any Investor or Key Holder without the written consent of such Investor or Key Holder unless such amendment, termination or waiver applies to all Investors or Key Holders, as the case may be, in the same fashion;

(b) the consent of the Key Holders shall not be required for any amendment or waiver if such amendment or waiver either (A) is not directly applicable to the rights of the Key Holders hereunder; or (B) does not adversely affect the rights of the Key Holders in a manner that is different than the effect on the rights of the other parties hereto;

(c) Schedules A hereto may be amended by the Company from time to time in accordance with Section 1.3 of the Purchase Agreement to add information regarding additional Purchasers (as defined in the Purchase Agreement) without the consent of the other parties hereto;

(d) any provision hereof may be waived by the waiving party on such party's own behalf, without the consent of any other party; and (e) Section 1.2(a) of this Agreement shall not be amended or waived without the written consent of Bios, and Section 1.2(b) of this Agreement shall not be amended or waived without the written consent of at least a majority of the shares of Common Stock.

The Company shall give prompt written notice of any amendment, termination, or waiver hereunder to any party that did not consent in writing thereto. Any amendment, termination, or waiver effected in accordance with this Section 7.8 shall be binding on each party and all of such party's successors and permitted assigns, whether or not any such party, successor or assignee entered into or approved such amendment, termination or waiver. For purposes of this Section 7.8, the requirement of a written instrument may be satisfied in the form of an action by written consent of the Stockholders circulated by the Company and executed by the Stockholder parties specified, whether or not such action by written consent makes explicit reference to the terms of this Agreement.

7.9 Delays or Omissions. No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, upon any breach or default of any other party under this Agreement, shall impair any such right, power or remedy of such nonbreaching or non-defaulting party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default previously or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies, either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

7.10 Severability. The invalidity or unenforceability of any provision hereof shall in no way affect the validity or enforceability of any other provision.

7.11 Entire Agreement. This Agreement (including the Exhibits hereto), the Restated Certificate and the other Transaction Agreements (as defined in the Purchase Agreement) constitute the full and entire understanding and agreement between the parties with respect to the subject matter hereof, and any other written or oral agreement relating to the subject matter hereof existing between the parties is expressly canceled.

7.12 Share Certificate Legend. Each certificate, instrument, or book entry representing any Shares issued after the date hereof shall be notated by the Company with a legend reading substantially as follows:

> "THE SHARES REPRESENTED HEREBY ARE SUBJECT TO A VOTING AGREEMENT, AS MAY BE AMENDED, RESTATED, SUPPLEMENTED, OR OTHERWISE MODIFIED FROM TIME TO TIME, (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE COMPANY), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF THAT VOTING AGREEMENT, INCLUDING CERTAIN RESTRICTIONS ON TRANSFER AND OWNERSHIP SET FORTH THEREIN."

The Company, by its execution of this Agreement, agrees that it will cause the certificates instruments, or book entry evidencing the Shares issued after the date hereof to be notated with the legend required by this Section 7.12 of this Agreement, and it shall supply, free of charge, a copy of this Agreement to any holder of such Shares upon written request from such holder to the Company at its principal office. The parties to this Agreement do hereby agree that the failure to cause the certificates, instruments, or book entry evidencing the Shares to be notated with the legend required by this Section 7.12 herein and/or the failure of the Company to supply, free of charge, a copy of this Agreement as provided hereunder shall not affect the validity or enforcement of this Agreement.

7.13 Stock Splits, Stock Dividends, etc. In the event of any issuance of Shares of the Company's voting securities hereafter to any of the Stockholders (including, without limitation, in connection with any stock split, stock dividend, recapitalization, reorganization, or the like), such Shares shall become subject to this Agreement and shall be notated with the legend set forth in Section 7.12.

7.14 Manner of Voting. The voting of Shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law. For the avoidance of doubt, voting of the Shares pursuant to the Agreement need not make explicit reference to the terms of this Agreement.

7.15 Further Assurances. At any time or from time to time after the date hereof, the parties agree to cooperate with each other, and at the request of any other party, to execute and deliver any further instruments or documents and to take all such further action as the other party may reasonably request in order to evidence or effectuate the consummation of the transactions contemplated hereby and to otherwise carry out the intent of the parties hereunder.

7.16 Dispute Resolution. The parties (a) hereby irrevocably and unconditionally submit to the jurisdiction of the state courts of Texas and to the jurisdiction of the United States District Court for the Northern District of Texas for the purpose of any suit, action or other proceeding arising out of or based upon this Agreement, (b) agree not to commence any suit, action or other proceeding arising out of or based upon this Agreement except in the state courts of Texas or the United States District Court for the Northern District of Texas, and (c) hereby waive, and agree not to assert, by way of motion, as a defense, or otherwise, in any such suit, action or proceeding, any claim that it is not subject personally to the jurisdiction of the abovenamed courts, that its property is exempt or immune from attachment or execution, that the suit, action or proceeding is brought in an inconvenient forum, that the venue of the suit, action or proceeding is improper or that this Agreement or the subject matter hereof may not be enforced in or by such court.

WAIVER OF JURY TRIAL: EACH PARTY HEREBY WAIVES ITS RIGHTS TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT, THE OTHER TRANSACTION DOCUMENTS, THE SECURITIES OR THE SUBJECT MATTER HEREOF OR THEREOF. THE SCOPE OF THIS WAIVER IS INTENDED TO BE ALLENCOMPASSING OF ANY AND ALL DISPUTES THAT MAY BE FILED IN ANY COURT AND THAT RELATE TO THE SUBJECT MATTER OF THIS TRANSACTION, INCLUDING, WITHOUT LIMITATION, CONTRACT CLAIMS, TORT CLAIMS (INCLUDING NEGLIGENCE), BREACH OF DUTY CLAIMS, AND ALL OTHER COMMON LAW AND STATUTORY CLAIMS. THIS SECTION HAS BEEN FULLY DISCUSSED BY EACH OF THE PARTIES HERETO AND THESE PROVISIONS WILL NOT BE SUBJECT TO ANY EXCEPTIONS. EACH PARTY HERETO HEREBY FURTHER WARRANTS AND REPRESENTS THAT SUCH PARTY HAS REVIEWED THIS WAIVER WITH ITS LEGAL COUNSEL, AND THAT SUCH PARTY KNOWINGLY AND VOLUNTARILY WAIVES ITS JURY TRIAL RIGHTS FOLLOWING CONSULTATION WITH LEGAL COUNSEL.

Each party will bear its own costs in respect of any disputes arising under this Agreement. The prevailing party shall be entitled to reasonable attorney's fees, costs, and necessary disbursements in addition to any other relief to which such party may be entitled. Each of the parties to this Agreement consents to personal jurisdiction for any equitable action sought in the U.S. District Court for the Northern District of Texas or any state court of the State of Texas having subject matter jurisdiction.

7.17 Aggregation of Stock. All Shares held or acquired by a Stockholder and/or its Affiliates shall be aggregated together for the purpose of determining the availability of any rights under this Agreement, and such Affiliated persons may apportion such rights as among themselves in any manner they deem appropriate.

7.18 Spousal Consent. If any individual Stockholder is married on the date of this Agreement, such Stockholder's spouse shall execute and deliver to the Company a consent of spouse in the form of Exhibit B hereto ("**Consent of Spouse**"), effective on the date hereof. Notwithstanding the execution and delivery thereof, such consent shall not be deemed to confer or convey to the spouse any rights in such Stockholder's Shares that do not otherwise exist by operation of law or the agreement of the parties. If any individual Stockholder should marry or remarry subsequent to the date of this Agreement, such Stockholder shall within thirty (30) days thereafter obtain his/her new spouse's acknowledgement of and consent to the existence and binding effect of all restrictions contained in this Agreement by causing such spouse to execute and deliver a Consent of Spouse acknowledging the restrictions and obligations contained in this Agreement and agreeing and consenting to the same.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this Amended and Restated Voting Agreement as of the date first written above.

COMPANY:

Lantern Pharma Inc., a Texas corporation

By: /s/ Arunkumar Asaithambi
Name: Arunkumar Asaithambi
Title: President

[Signature Page To Amended and Restated Voting Agreement]

KEY HOLDERS:

Biological Mimetics Inc.

By: /s/ Dr. Peter L. Nara
Name: Dr. Peter L. Nara
Title: President and CEO

[**Signature Page To Amended and Restated Voting Agreement]**

Health Wildcatters Fund II, LLC

By: /s/ Hubert Zajicek
Name: Hubert Zajicek
Title: CEO

[**Signature Page To Amended and Restated Voting Agreement**]

Arunkumar Asaithambi

/s/ Arunkumar Asaithambi

[**Signature Page To Amended and Restated Voting Agreement**]

Jeff Thomas

/s/ Jeff Thomas

[**Signature Page To Amended and Restated Voting Agreement**]

INVESTORS:

GPG LPI Investment, LLC

By: /s/ Gilbert Garcia
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

Peter Gottlieb

/s/ Peter Gottlieb

[**Signature Page To Amended and Restated Voting Agreement**]

Oncology Venture, A/S

By: /s/ Peter Buhl Jensen
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

J H Starship LLC

By: /s/ John J. Flowers
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

Beefeater Assets LTD

By: /s/ Eric Reinhart
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

Vandna Chavda

/s/ Vandna Chavda

[Signature Page To Amended and Restated Voting Agreement]

Michael J. McNally

/s/ Michael J. McNally

[Signature Page To Amended and Restated Voting Agreement]

Chad Hebel

/s/ Chad Hebel

[Signature Page To Amended and Restated Voting Agreement]

C. H. Kiser & Company, LLC

By: /s/ Charles H. Kiser
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

Meridian Energy Investments, LLC

By: /s/ Dave B. Marshall
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

The Cook Family Living Trust

By: /s/ Rick Cook
Name:
Title:

[**Signature Page To Amended and Restated Voting Agreement**]

Bios Fund I, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.
Name: Leslie Wayne Kreis, Jr.
Title: Managing Partner

Bios Fund I QP, LP

By: Bios Equity Partners, LP, its general partner

By: /s/ Leslie Wayne Kreis, Jr.
Name: Leslie Wayne Kreis, Jr.
Title: Managing Partner

SCHEDULE A

INVESTORS

Name	Address	Number of Shares Held
GPG LPI Investment, LLC	[_____]	168,164
Peter Gottlieb	[_____]	21,197
J H Starship LLC	[_____]	2,778
Beefeater Assets LTD	[_____]	2,384
Vandna Chavda	[_____]	7,155
Michael J. McNally	[_____]	4,767
C.H. Kiser & Company, LLC	[_____]	4,771
Meridian Energy Investments, LLC	[_____]	9,543
The Cook Family Living Trust	[_____]	2,781
Chad Hebel	[_____]	7,134
Bios Fund I, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	289,429.10
Bios Fund I QP, LP	1401 Foch Street, Suite 140 Fort Worth, Texas 76107 Phone: 817-381-5370	169,286.5

SCHEDULE B

KEY HOLDERS

Name	Address	Number of Shares Held
Biological Mimetics Inc.	[_____]	600,000
Arunkumar Asaithambi	[_____]	400,000
Health Wildcatters Fund II, LLC	[_____]	121,432*
Jeff Thomas	[_____]	4587.2

*Health Wildcatters Fund II, LLC holds 97,561 shares of Common Stock and 23,871 shares of Preferred Stock, for a total of 121,432 shares held.

EXHIBIT A

ADOPTION AGREEMENT

This Adoption Agreement ("**Adoption Agreement**") is executed on_____, 20__, by the undersigned (the "**Holder**") pursuant to the terms of that certain Amended and Restated Voting Agreement dated as of [_____ __, 20__] (the "**Agreement**"), by and among the Company and certain of its Stockholders, as such Agreement may be amended or amended and restated hereafter. Capitalized terms used but not defined in this Adoption Agreement shall have the respective meanings ascribed to such terms in the Agreement. By the execution of this Adoption Agreement, the Holder agrees as follows.

1.1 Acknowledgement. Holder acknowledges that Holder is acquiring certain shares of the capital stock of the Company (the "**Stock**")[or options, warrants, or other rights to purchase such Stock (the "**Options**")], for one of the following reasons (Check the correct box):

☐ As a transferee of Shares from a party in such party's capacity as an "Investor" bound by the Agreement, and after such transfer, Holder shall be considered an "Investor" and a "Stockholder" for all purposes of the Agreement.

☐ As a transferee of Shares from a party in such party's capacity as a "Key Holder" bound by the Agreement, and after such transfer, Holder shall be considered a "Key Holder" and a "Stockholder" for all purposes of the Agreement.

☐ As a new Investor in accordance with Section 7.1(a) of the Agreement, in which case Holder will be an "Investor" and a "Stockholder" for all purposes of the Agreement.

☐ In accordance with Section 7.1(b) of the Agreement, as a new party who is not a new Investor, in which case Holder will be a "Stockholder" for all purposes of the Agreement.

1.2 Agreement. Holder hereby (a) agrees that the Stock [Options], and any other shares of capital stock or securities required by the Agreement to be bound thereby, shall be bound by and subject to the terms of the Agreement and (b) adopts the Agreement with the same force and effect as if Holder were originally a party thereto.

1.3 Notice. Any notice required or permitted by the Agreement shall be given to Holder at the address or facsimile number listed below Holder's signature hereto.

HOLDER: _____

By: _____
Name and Title of Signatory

Address: _____

_____

Facsimile Number: _____

ACCEPTED AND AGREED:

LANTERN PHARMA INC.

By: _____

Title: _____

EXHIBIT B

CONSENT OF SPOUSE

I, _____, spouse of_____, acknowledge that I have read the Amended and Restated Voting Agreement, dated as of [____ __, 20__], to which this Consent is attached as Exhibit B (the "**Agreement**"), and that I know the contents of the Agreement. I am aware that the Agreement contains provisions regarding the voting and transfer of shares of capital stock of the Company that my spouse may own, including any interest I might have therein.

I hereby agree that my interest, if any, in any shares of capital stock of the Company subject to the Agreement shall be irrevocably bound by the Agreement and further understand and agree that any community property interest I may have in such shares of capital stock of the Company shall be similarly bound by the Agreement.

I am aware that the legal, financial and related matters contained in the Agreement are complex and that I am free to seek independent professional guidance or counsel with respect to this Consent. I have either sought such guidance or counsel or determined after reviewing the Agreement carefully that I will waive such right.

Dated as of _____

_____
Signature

_____
Print Name

Amendment to Voting Agreement

This Amendment to Voting Agreement (this "Amendment") is entered into as of February 26, 2019 by Lantern Pharma Inc., a Texas corporation (the "Company") and by the undersigned holders (the "Undersigned Holders") of at least a majority of the shares of Common Stock issued or issuable upon conversion of the shares of Series A Preferred Stock held by the Investors.

WHEREAS, the Company and the Undersigned Holders are parties to that certain Amended and Restated Voting Agreement, dated as of March 17, 2017, by and among the Company and the Investors and Key Holders named in such agreement (the "Agreement"); and

WHEREAS, on November 20, 2018, the Company filed with the Secretary of State of the State of Texas a Certificate of Amendment (the "Certificate Amendment") to the Company's Amended and Restated Certificate of Formation previously filed with the Secretary of State of the State of Texas on March 16, 2017.

NOW, THEREFORE, the Company and the Undersigned Holders hereby agree and consent as follows:

1. The Agreement (including, without limitation, the definition of "Restated Certificate" in Paragraph B of the RECITALS Section of the Agreement) is hereby amended so that the term "Restated Certificate" in the Agreement means the Amended and Restated Certificate of Formation of the Company, as amended from time to time.

2. In connection with such amendment, the Agreement is hereby amended as necessary to reflect that the term "Restated Certificate" in the Agreement includes the Certificate Amendment.

3. The Agreement is hereby further amended as necessary to reflect the amendments described in Sections 1 and 2 of this Amendment.

4. The Agreement, as amended hereby, shall continue in full force and effect in accordance with its terms.

5. Each capitalized term used but not otherwise defined in this Amendment shall have the meaning given to such term in the Agreement.

6. Each of the Company and the Undersigned Holders agrees to take such other actions and execute such further documents as may be reasonably requested by the Company or the Undersigned Holders in order to further reflect or fulfill the terms of this Amendment. This Amendment may be executed in counterparts with the same effect as if all signatories had signed the same document.

[signature page follows]

IN WITNESS WHEREOF, the parties hereto have signed this Amendment to indicate their agreement with respect to the matters described herein.

Company:

Lantern Pharma Inc.

By: /s/ Panna Sharma
Panna Sharma
President & Chief Executive Officer

Undersigned Holders:

Bios Fund I, LP

By: /s/ Leslie Wayne Kreis, Jr.
Title: Managing Partner of Bios Equity Partners, LP, its General Partner
Date: 02/26/2019

Bios Fund I QP, LP

By: /s/ Leslie Wayne Kreis, Jr.
Title: Managing Partner of Bios Equity Partners, LP, its General Partner
Date: 02/26/2019

Amendment to Voting Agreement

This Amendment to Voting Agreement (this "Amendment") is entered into as of October 4, 2019 by Lantern Pharma Inc., a Texas corporation (the "Company"), by the undersigned Key Holders (the "Undersigned Key Holders") holding at least a majority of the Shares currently held by the Key Holders, and by the undersigned holders (the "Undersigned Series A Holders") of at least a majority of the shares of Common Stock issued or issuable upon conversion of the shares of Series A Preferred Stock held by the Investors. The Undersigned Key Holders and the Undersigned Series A Holders are herein collectively referred to as the "Undersigned Holders".

WHEREAS, the Company and the Undersigned Holders are parties to that certain Amended and Restated Voting Agreement, dated as of March 17, 2017 and further amended as of February 26, 2019 (collectively, the "Agreement"), by and among the Company and the Investors, Key Holders and other additional parties to such agreement; and

WHEREAS, the Company and the Undersigned Holders wish to make certain amendments to the Agreement.

NOW, THEREFORE, the Company and the Undersigned Holders hereby agree and consent as follows:

1. The Agreement is hereby amended to add a new Section 1.2(d), which new Section 1.2(d) shall read in its entirety as follows:

   "(d) One person designated by the holders of at least a majority of the then outstanding shares of the Company's Common Stock; and"

2. The Agreement is hereby amended to add a new Section 1.2(e), which new Section 1.2(e) shall read in its entirety as follows:

   "(e) One person designated by the holders of at least a majority of the then outstanding shares of the Company's Series A Preferred Stock."

3. The Agreement is hereby further amended as necessary to reflect the amendments described in Sections 1 and 2 of this Amendment, including, without limitation, as necessary to reflect that the individuals to be elected as directors pursuant to new Sections 1.2(d) and 1.2(e) of the Agreement shall be in addition to the individuals to be elected as directors pursuant to Sections 1.2(a), 1.2(b) and 1.2(c) of the Agreement.

4. The first sentence of Section 1.1 of the Agreement is hereby amended to read in its entirety as follows:

   "Each Stockholder agrees to vote, or cause to be voted, all Shares (as defined below) owned by such Stockholder, or over which such Stockholder has voting control, from time to time and at all times, in whatever manner as shall be necessary to ensure that the size of the Board shall be set and remain at seven (7) directors and may be increased only with the written consent of Investors holding Series A Preferred Stock representing at least a majority of the shares of Common Stock issuable upon conversion of the then outstanding shares of Series A Preferred Stock."

5. Paragraph B of the "Recitals" section of the Agreement is hereby amended to read in its entirety as follows:

> "B. The Company's Certificate of Formation, as restated and amended, currently provides that (a) the holders of record of the shares of the Company's Series A Preferred Stock, exclusively and as a separate class, shall be entitled to elect two directors of the Company (each, a "**Series A Director**"); (b) the holders of record of the shares of common stock of the Company, $0.01 par value ("**Common Stock**"), exclusively and voting together as a single class, shall be entitled to elect two directors of the Company; and (c) the holders of record of the shares of the Company's Common Stock and of any other class or series of voting stock (including the Series A Preferred Stock), exclusively and voting together as a single class, shall be entitled to elect the balance of the total number of directors of the Company. For purposes of this Agreement, the term "**Restated Certificate**" shall mean the Amended and Restated Certificate of Formation of the Company, as amended from time to time."

6. The penultimate paragraph of Section 1.2 of the Agreement is hereby amended so that the reference to "clauses (a) through (c)" in such penultimate paragraph of Section 1.2 shall hereafter be a reference "clauses (a) through (e)".

7. The Agreement is hereby amended to remove the word "and" at the very end of Section 1.2(b).

8. The Agreement is hereby amended to replace the period at the end of Section 1.2(c) with a semicolon.

9. The Agreement, as amended hereby, shall continue in full force and effect in accordance with its terms.

10. Each capitalized term used but not otherwise defined in this Amendment shall have the meaning given to such term in the Agreement.

11. Each of the Company and the Undersigned Holders agrees to take such other actions and execute such further documents as may be reasonably requested by the Company or the Undersigned Holders in order to further reflect or fulfill the terms of this Amendment. This Amendment may be executed in counterparts with the same effect as if all signatories had signed the same document.

[signature page follows]

IN WITNESS WHEREOF, the parties hereto have signed this Amendment to indicate their agreement with respect to the matters described herein.

Company:

Lantern Pharma Inc.

By: /s/ Panna Sharma
Panna Sharma
President & Chief Executive Officer

Undersigned Series A Holders:

Bios Fund I, LP

By: BIOS Equity Partners, LP
Its: General Partner

By: /s/ Leslie Wayne Kreis, Jr.
Title:

Bios Fund I QP, LP

By: BIOS Equity Partners, LP
Its: General Partner

By: /s/ Leslie Wayne Kreis, Jr.
Title:

Bios Fund II, LP

By: BIOS Equity Partners II, LP
Its: General Partner

By: /s/ Leslie Wayne Kreis, Jr.
Title:

Bios Fund II QP, LP

By: BIOS Equity Partners II, LP
Its: General Partner

By: /s/ Leslie Wayne Kreis, Jr.
Title:

Bios Fund II NT, LP

By: BIOS Equity Partners II, LP
Its: General Partner

By: /s/ Leslie Wayne Kreis, Jr.
Title:

Undersigned Series A Holders:

GPG LPI Investment, LLC

By: Green Park & Golf Ventures II, LLC
Its: Managing Member

By: /s/ Gilbert G. Garcia
Title:

Lantern 3-19 Investment, LLC

By: Green Park & Golf Ventures II, LLC
Its: Managing Member

By: /s/ Gilbert G. Garcia
Title:

Undersigned Key Holders:

Biological Mimetics, Inc.

By: /s/ Gregory Tobin
Title:

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

TECHNOLOGY LICENSE AGREEMENT

PARTIES

This Technology License Agreement (the "AGREEMENT") is entered into by and between Lantern Pharma Inc., a Texas corporation (hereinafter referred to as "LANTERN") having principal offices at 211, N Ervay St, Dallas, TX 75201 and AF Chemicals, LLC, a Californian Limited Liability Company having principal offices at 5545 Coral Reef, La Jolla, CA 92037 (hereinafter referred to as "AFC") each individually referred to hereinafter as a "Party" and collectively referred to hereinafter as the "Parties".

RECITALS

WHEREAS, LANTERN has expertise in drug development and partnering with biotechnology / biopharmaceutical / pharmaceutical companies in funding, gaining regulatory approval, manufacturing, marketing and distribution of the TARGETED COMPOUNDS;

Whereas AFC has rights to the TARGETED COMPOUNDS;

WHEREAS, LANTERN desires to acquire right, title and interest in and to the LICENSED TECHNOLOGY in the FIELD OF USE.

NOW, THEREFORE, for good and valuable consideration the Parties, intending to be legally bound hereby, agree that they shall be subject to the following terms and conditions:

TERMS OF AGREEMENT

1. DEFINITIONS

1.1 "TARGETED COMPOUNDS" shall mean any illudin, acylfulvene or Irofulven analog composition in one or more patents listed in Exhibit A, (ii) or otherwise belonging to a genus that is covered by one or more claims of the one or more patents listed in Exhibit A, (iii) together with rights in technical information recorded in the form of drawings, plans, specification, diagrams, trade secrets as defined by the Uniform Trade Secrets Act and other data relating to the manufacture, design and improvement of the TARGETED COMPOUNDS and (iv) any AFC INVENTIONS together with (v) any improvements of the TARGETED COMPOUNDS as they now exist or may become available throughout the life of the AGREEMENT irrespective of whether such improvements are necessary to manufacture the TARGETED COMPOUNDS, but excluding the TARGETED COMPOUNDS when bound or conjugated to any moiety including for example an illudin, illudin analog, acylfulvene analog, irofulven or irofulven analog bound either directly or via a linker to any antibody, antibody fragment, peptide, growth factor, receptor proteins, receptor binding entity, lipids, liposomal particles, nanoparticles, PEG carriers, steroids, proteins, toxins, or another drug conjugate.

1.2 "FIELD OF USE" is the ethical, regulated use and or sale of the TARGETED COMPOUNDS as cancer treatments for humans. The FIELD OF USE includes companion diagnostic clinical assays used, indicated or licensed for use with any of the TARGETED COMPOUNDS. The FIELD OF USE does not include any conjugate of the TARGETED COMPOUNDS including an illudin, illudin analog, acylfulvene analog, irofulven or irofulven analog bound directly or via a linker to any antibody, antibody fragment, peptide, growth factor, receptor proteins, receptor binding entity, lipids, liposomal particles, nanoparticles, PEG carriers, steroids, proteins, toxins, or another drug conjugate.

1.3 "LICENSED TECHNOLOGY" shall mean any inventions disclosing the TARGETED COMPOUNDS.

1.4 "SUB-LICENSEES" shall mean an entity authorized to sub-license and manufacture, sub-license and distribute, or otherwise sub-license the TARGETED COMPOUNDS. SUB-LICENSEES are required to pay directly to LANTERN any and all consideration owing to LANTERN for the forbearance to grant, manufacture and or sell the TARGETED COMPOUNDS.

1.5 "CUSTOMERS" shall mean any person, distributor or entity that purchases, manufactures, distributes or otherwise receives the TARGETED COMPOUNDS other than a SUB-LICENSEE.

1.6 "GROSS REVENUE" shall mean the amount of all REVENUE whether received by LANTERN, paid by SUB-LICENSEES, or paid by CUSTOMERS for the TARGETED COMPOUNDS including any FINANCIAL BENEFIT.

1.7 “NET REVENUE” shall mean GROSS REVENUE less EXPENSES.

1.8 “EXPENSES” shall mean any and all expenses incurred in (i) maintaining the LICENSED TECHNOLOGY, (ii) prosecuting the LICENSED TECHNOLOGY, (iii) developing the LICENSED TECHNOLOGY including direct expenses related to research and development, clinical trials, marketing and distribution, and miscellaneous expenses including samples, returns, direct selling expenses, and (iv) indirect expenses and (v) administrative expenses,

1.9 “FINANCIAL BENEFIT” shall mean any and all forms of value and consideration which LANTERN may realize (i) from the development, manufacture, licensing and exploitation of LICENSED TECHNOLOGY; (ii) possession, use, sale, manufacture or import of TARGETED COMPOUNDS; or (iii) grant of or forbearance to grant sublicenses or forbearance to manufacture with respect to the TARGETED COMPOUNDS and any NON-CASH CONSIDERATION for the TARGETED COMPOUNDS, excluding (iv) grants from non-profit organizations.

1.10 “NON-CASH CONSIDERATION” shall mean any consideration other than cash, including but not limited to stock, LLC membership interests, or interest in a partnership, for transactions related to the TARGETED COMPOUNDS. NON-CASH CONSIDERATION shall be calculated as the fair market cash value of such NON-CASH CONSIDERATION, at the time of the transaction by an independent accredited third party forming a valuation on any NON-CASH CONSIDERATION.

1.11 “LICENSED TERRITORY” shall mean worldwide.

1.12 “REVENUE” shall mean all amounts payable to AFC as identified in Exhibits B and C.

2. LICENCE

2.1 Upon the terms and conditions set forth herein, AFC hereby grants to LANTERN an exclusive non-transferable and non assignable right to make, use, sell, import, offer to sell and practice the LICENSED TECHNOLOGY solely in the FIELD OF USE in the LICENSED TERRITORY, which grant shall include grants to make use and sub-license the LICENSED TECHNOLOGY solely in the FIELD OF USE in the LICENSED TERRITORY and a grant to use any and all know how, now or in the future related to the LICENSED TECHNOLOGY solely in the FIELD OF USE in the LICENSED TERRITORY, during the TERM of this AGREEMENT. Any transfer or assignment of the license shall conform to all the requirements of Section 8.2. Any Change in Control of Lantern shall conform to all the requirements of Section 8.3.

2.2 The REVENUE payable under either Exhibit B or Exhibit C to AFC will be increased [***] fold in the event of any challenge including an action in District Court or a proceeding before the Patent Trial and Appeal Board or the United States Patent and Trademark Office by LANTERN and/or a SUB-LICENSEE as to the validity of (i) any of the patents in Exhibit A, (ii) any patent application or patent issuing from the LICENSED TECHNOLOGY, or (iii) any patent application filed on or before the date of the challenge to the validity, relating to an AFC Invention, or (iv) any patent issuing on or before the date of the challenge to the validity, relating to an AFC Invention.

3. SUBLICENSES

3.1 LANTERN shall negotiate with third parties to sub-license the LICENSED TECHNOLOGY solely in the FIELD OF USE during the TERM of this AGREEMENT. LANTERN shall undertake good faith efforts to maximize the GROSS REVENUE received from the TARGETED COMPOUNDS,

3.2 LANTERN shall insure that each SUB-LICENSEE agrees to similar terms and conditions as outlined in this AGREEMENT with respect to protecting AFC’s interests.

4. REVENUE

4.1 LANTERN agrees to pay to AFC the REVENUE as outlined in Exhibits B and C during the TERM of this AGREEMENT.

5. TERM AND TERMINATION

5.1 The TERM shall begin on the EXECUTED DATE and, unless sooner terminated as otherwise provided for in this AGREEMENT, continue until the expiration date of the last to expire issued valid patent listed in Exhibit A or continue until the expiration date of the last to expire issued valid patent listed in amended Exhibit A.

5.2 Failure to distribute NET REVENUE owed AFC within ninety (90) days of receipt of same or any failure to initiate or complete payments as specified in either Section 8.2 or Section 8,3 shall be a material breach of this AGREEMENT.

5.3 A breach of this AGREEMENT which is not cured within thirty (30) days after notice thereof from the other party specifying such breach shall be a material breach.

5.4 AFC shall have the right to terminate this Agreement if LANTERN (i) materially breaches any of its obligations under this Agreement, (ii) breaches any of its obligations under this Agreement and fails to cure such breach within 30 days after it receives notice of breach from AFC, (iii) immediately upon notice of an Insolvency Event of LANTERN, and (iv) immediately upon notice of a Change of Control of LANTERN, or where a party acquires ownership of all or substantially all of LANTERN's assets, irrespective of whether such party is Hostile. For purposes hereof, (a) "Insolvency Event" means an assignment by LANTERN for the benefit of its creditors, the appointment of a receiver for, or any execution levied upon, all or substantially all of LANTERN's business or assets, the filing of any petition for voluntary or involuntary bankruptcy or similar proceeding against LANTERN which is not dismissed within 90 days of its filing, or LANTERN'S dissolution or liquidation; (b) "Change of Control" means a transaction or series of related transactions as a result of which a person or entity or group of persons or entities acquires control of LANTERN, including, without limitation, by virtue of an issuance of voting securities, a grant of one or more proxies, a merger, a consolidation, a share exchange, a reorganization or an asset sale; (c) "Control" means possession of voting securities representing more than fifty percent (50%) of the voting power of all outstanding voting securities of LANTERN, and (d) "Hostile" means that the party acquiring control of LANTERN (or ownership of all or substantially all of its assets) refuses to demonstrate a commitment to either the development, marketing and/or distribution of the LICENSED TECHNOLOGY.

5.5 The waiver of any material breach or default under this AGREEMENT shall not constitute a waiver of the right to terminate this AGREEMENT for any subsequent material breach or default.

5.6 Bankruptcy

5.6.1 During the TERM, each of the following shall constitute an "event of default" governed by the notice provisions of section 16, unless a subsequent assignee or successor of Lantern or its assignees or successors has expressly assumed all of Lantern's obligations including Sections 8.2 and 8.3 as set forth in this Agreement. Lantern or its assignees or successors, which have expressly assumed all of Lantern's obligations set forth in this Agreement:

(a) become insolvent;
(b) make a general assignment for the benefit of creditors;
(c) have a receiver, trustee, or other custodian appointed over their business or their assets; and
(d) either (i) cease ongoing business operations, (ii) acknowledge they are unable or unwilling to meet their obligations hereunder, or (iii) cease fulfilling their obligations hereunder.

5.6.2 Unless an assignee or successor of Lantern or a subsequent assignee or successor of Lantern's assignees or successors has expressly assumed all of Lantern's obligations including Sections 8.2 and 8.3 set forth in this Agreement either before the Bankruptcy Event of Lantern or before the Bankruptcy Event of the preceding successor or assignee of Lantern, if during the TERM Lantern (or its successors or assigns that are obligated under this Agreement) voluntarily file a petition or suffer the filing of an involuntary petition against them under any chapter of the United States Bankruptcy Code or any similar law, now or hereafter in effect, including, but not limited to, those for the purpose of reorganization, arrangement, dissolution, or liquidation (any of the foregoing constituting a "Bankruptcy Event"), this Agreement shall be governed by 11 U.S.C. § 365(n) and AFC shall be deemed to have provided the written request set forth in 11 U.S.C. § 365(n)(4)(A)(i) without any further notice or demand to Lantern (or its successors or assigns) whatsoever. The written request shall not constitute a written request under 11 U.S.C. § 365(n)(4)(A)(ii) or (B) and to obtain the benefits of 11 U.S.C. § 365(n)(4)(B), AFC shall have to provide a separate written request. Lantern, its successors or assigns that are obligated under this Agreement, or their bankruptcy trustee shall have sixty (60) days from the petition filing date to file a motion with the bankruptcy court or any other court, tribunal, or governing body supervising the administration of the proceeding to assume or reject this Agreement including Sections 8.2 and 8.3 under 11 U.S.C. § 365 or any similar law hereafter in effect. The failure to file the motion shall constitute an event of default. If this Agreement is rejected under 11 U.S.C. § 365 or any similar law hereafter in effect, the Parties shall have all of the rights and remedies available to them under 11 U.S.C. § 365(n). For purposes of this section, this Agreement constitutes an executory contract involving "intellectual property" as that term is defined in 11 U.S.C. § 101(35A). The Parties have not agreed to a particular successor or assignee of Lantern assuming all of Lantern's obligations set forth in this Agreement. Nevertheless, for purposes of 11 U.S.C. § 365(e)(2)(A)(ii) only, AFC consents to the assumption and assignment of this Agreement. This section 5.6.2 is not intended to waive any rights of the AFC.

6. INFRINGEMENT

6.1 LANTERN and SUB-LICENSEE shall promptly notify AFC of any manufacture, sale, use, importation, offer for sale, other infringing or potential infringing activity by others of the LICENSED TECHNOLOGY for which they become aware.

6.2 In the event that LANTERN or SUB-LICENSEE notifies AFC of any manufacture, sale, use, importation, offer for sale, other infringing or potential infringing activity by others of the LICENSED TECHNOLOGY, AFC shall have the sole right to transmit notices regarding potential infringement, notices of infringement, cease and desist letters or to institute infringement actions against any infringer of the LICENSED TECHNOLOGY. AFC has the right but not the obligation to bring actions against infringers ninety (90) days after AFC has determined that the other is infringing the LICENSED TECHNOLOGY. If AFC chooses not to pursue any infringement action, LANTERN may at its own cost institute infringement actions against the infringer. If requested to do so, AFC shall cooperate with and assist LANTERN in any such action, including joining the action as a co-plaintiff.

6.3 In the event that LANTERN or SUB-LICENSEE notifies AFC of any manufacture, sale, use, importation, offer for sale, other infringing or potential infringing activity by others, AFC shall have the sole right to transmit notices regarding potential infringement, notices of infringement, cease and desist letters or to institute or defend against an infringement action promptly and with due diligence against any infringer of the LICENSED TECHNOLOGY

6.4 Any award or portion of an award, recovered by AFC in any such action or proceeding commenced by AFC shall belong solely to AFC. Any award, or portion of an award, recovered by AFC in combination with LANTERN in any such action or proceeding commenced by AFC in combination with LANTERN shall be payable to LANTERN after recovery by AFC of fees, costs and expenses, any other out-of-pocket costs related to the action or proceeding and after payment to AFC of any REVENUE payable on the award. Any and all recovery of punitive or treble damage awards shall be considered a net sale upon which REVENUE is payable to AFC.

7. DEFENSE AND INDEMNITY

7.1 LANTERN shall maintain, throughout the TERM of this Agreement, insurance policy or policies for general liability coverage issued by a reputable insurance company of no less than [***] per occurrence, and [***] in aggregate coverage which after human trials have commenced shall be increased to a general liability coverage issued by a reputable insurance company of no less than [***] per occurrence, and [***] in aggregate coverage. A SUB-LICENSEE shall be required to secure and maintain appropriate 'product liability' insurance issued by a reputable insurance company.

7.2 LANTERN or its SUB-LICENSEES shall indemnify and save AFC harmless from any and all claims against LANTERN as a result of injury or damage to an ultimate user or other party caused by the TARGETED COMPOUNDS or by the use or sale of the TARGETED COMPOUNDS whether sold by a SUB-LICENSEE or a third party, whether the injury is the result of negligent manufacture or otherwise.

7.3 LANTERN agrees to indemnify AFC with respect to any suits against AFC brought under either 35 U.S.C. §271(a); 17 U.S.C. §501(a) based upon a claim that the LICENSED TECHNOLOGY directly infringe an apparatus, machine, manufacture or composition of matter claims of U.S. patents held by third parties due to the activities of LANTERN and/or a SUB-LICENSEE, including practicing the LICENSED TECHNOLOGY; or a United States copyright which has been registered in the U.S. Copyright Office as of the date of this Agreement. LANTERN agrees to pay costs and damages finally awarded after all appeals in any such suit, provided that LANTERN is notified promptly in writing of the suit by AFC with AFC's request for indemnification, and at LANTERN's request and at LANTERN'S expense is given control of said suit and any settlement negotiations arising from said suit, and all requested assistance for defense of same. If all use of the LICENSED TECHNOLOGY is enjoined as a result of such suit, or if LANTERN determines in LANTERN's sole discretion that such action may occur, then LANTERN, at its sole option (hereunder "LANTERN's Option") may: obtain a license to continue marketing, sale, distribution and sub-licensing, or modify or replace with a non-infringing equivalent. This indemnity extends to any suit based in whole or in part upon infringement of any patent or copyright by the combination of the LICENSED TECHNOLOGY furnished by AFC with other elements or improvements, including without limitation to any elements or improvements of LANTERN's design, formula, method, process, specifications, or instruction. This indemnification extends to non-United States patents or to any method, process or product by process claims of U.S. patents held by third parties due to the activities of LANTERN and/or a SUB-LICENSEE, including practicing the LICENSED TECHNOLOGY. This indemnification extends to any non-United States copyright. In no event shall AFC be liable for indirect, incidental, or consequential damages arising from infringement or alleged infringement of patents or copyrights. The foregoing Section 7 "DEFENSE AND INDEMNITY" is stated in addition to any other expressed, implied, or statutory warranty or indemnification against infringement.

7.4 LANTERN shall hold AFC harmless from any and all damages and claims that may arise for any reason on the part of any person, including LANTERN's agents or employees arising out of the manufacture, use or sale of the TARGETED COMPOUNDS.

8. ASSIGNMENTS

8.1 LANTERN shall not assign all or substantially all of its rights under the Agreement, nor transfer any of the LICENSED TECHNOLOGY rights without the express written approval of AFC. LANTERN will provide AFC with reasonable advance written notice of any assignment of LANTERN's right to receive GROSS REVENUE. Any such assignment shall not prohibit AFC from enforcing any of its rights against the assignee. LANTERN shall not license the rights except as outlined in Section 3.

8.2 A transfer or assignment of the license to a third party (hereinafter the 'Acquirer') shall require that the Acquirer make a Transfer Payment to AFC. The Transfer Payment will be [***] where the Transfer Payment will be spread out over 5 years as follows: [***] will be due within 30 days of the transfer or assignment of rights, with the residual due in four (4) equal installments of [***] at yearly intervals on the anniversary of the transfer or assignment of rights. The Acquirer will be responsible for making the [***] payment. The Acquirer will be responsible for all other payments outlined in Exhibits B and C (milestone and royalty payments) from the date of the transfer or assignment of rights.

8.3 Any event that results in a Change in Control of LANTERN to a third party irrespective of whether the third party is a person, an entity, a group of persons or entities (hereinafter the 'Purchaser') shall require that the Purchaser make a payment of [***] to AFC as a result of the Change of Control. Payments will be spread out over 5 years as follows: [***] will be due within 30 days of the Change of Control, with the residual due in four (4) equal installments (each up to [***]) at yearly intervals on the anniversary of the Change of Control. The Purchaser will be responsible for making the [***] payment. LANTERN will continue to be responsible for all other payments outlined in Exhibits B and C (milestone and royalty payments) after the date of the Change of Control.

9. MISCELANEOUS

9.1 This AGREEMENT shall be binding upon and inure to the benefit of the Parties, their successors, heirs, permitted assigns and legal representatives.

9.2 This AGREEMENT embodies the entire understanding and obligation of the Parties with respect to the subject matter of the AGREEMENT and supersedes any and all prior or contemporaneous negotiations, representations, understandings and agreements, whether written or oral between the Parties. No amendment or modification of this AGREEMENT shall be valid or binding unless made in writing and signed on behalf of each of the Parties.

9.3 If a court of competent jurisdiction adjudges a provision of this AGREEMENT illegal, unenforceable, invalid, or void, such determination will not impair the enforceability of any of the remaining provisions hereof and the provisions will remain in full force and effect. All other provisions of this Agreement shall be given effect separately there from and shall not be affected thereby,

9.4 This AGREEMENT shall be deemed to be a contract made under the laws of the State of California and for all purposes shall be interpreted in its entirety in accordance with the State of California. A suit, claim or other action to enforce the terms of this AGREEMENT will be brought exclusively in the state and federal courts of San Diego County and the Southern District of California respectively. The Parties submit to the jurisdiction of the state and federal courts of San Diego County and the Southern District of California respectively.

10. CONFIDENTIALITY AND NON-DISCLOSURE

10.1 "Confidential Information" means any confidential or proprietary information, technical data, trade secrets as defined by the Uniform Trade Secrets Act, or know-how of either Party, including, but not limited to, that which relates to research, products, services, customers, markets, software, developments, inventions, processes, designs, drawings, engineering, business strategies, operations, plants and facilities, marketing or finances. Unless otherwise indicated, all information disclosed by either Party is to be treated as Confidential Information.

Confidential Information does not include information, technical data or know-how which:

i. is generally available to the public prior to its disclosure; or
ii. is generally known to the Receiving Party prior to the disclosure thereof as evidenced by written and dated material in its possessions; or
iii. through no fault of the Receiving Party, becomes available to the public after the disclosure thereof; or
iv. is disclosed to the Receiving Party by a third party having a bona fide right to do so; or
v. is approved for release by the written authorization of the Disclosing Party; or
vi. is disclosed pursuant to the requirement of a government agency or by operation of law after the Disclosing Party has been given at least thirty (30) days' notice and an opportunity to object to such disclosures; or
vii. is developed by the Receiving Party completely independent of Confidential Information disclosed to the Receiving Party by the Disclosing Party.

10.2 Any materials or documents which have been furnished by the Disclosing Party to the Receiving Party will be promptly returned, accompanied by all copies of such materials or documents upon request of the Disclosing Party.

10.3 All documents, software code, drawings, diagrams, specifications and other materials furnished by either Party relating to the development, use and licensing of LICENSED TECHNOLOGY are proprietary to that Party. Such materials have been developed at great expense and may contain trade secrets. Neither Party may reproduce or distribute, disseminate, disclosure, publish or make accessible such materials except to SUB-LICENSEES, employees, or independent contractors on a `need to know basis', who must agree to be bound by conditions no less onerous than the conditions of this Section 10 and who may only use the material as part of their duties in carrying out this AGREEMENT. All such materials (except information as may be established to be in the public domain or disclosed pursuant to judicial or government action) shall be received in confidence, and the Receiving Party shall exercise reasonable care to hold such information in confidence and in no event less care than the Receiving Party exercises to protect its own confidential information.

11. AUDIT RIGHTS

11.1 AFC will have the right at any reasonable time and upon reasonable notice to send a reasonable number of authorized representatives to examine all pertinent documents and materials in the possession or under the control of LANTERN or a SUB-LICENSEE relating to any obligations under the Agreement or any payments requested under the Agreement. LANTERN shall maintain all pertinent financial books and records relating to the Agreement for a period of five (5) years after completion of the TERM of this AGREEMENT.

11.2 LANTERN will make reasonable business efforts to accommodate any audit at their place of business or an alternative location not to exceed five (5) miles in distance from LANTERN's place of business unless the audit location is otherwise agreed to by both Parties.

12. FORCE MAJEURE

12.1 Neither Party shall be in default or otherwise liable for any delay in or failure of its performance under this Agreement if such delay or failure arises by any act of God, any acts of the common enemy, the elements, earthquakes, floods, fires, epidemics, riots, failures or delay in transportation or public utilities where reasonable redundant systems cannot be obtained, however, that lack of funds shall not be deemed to be a reason beyond a party's reasonable control, The Parties will promptly inform and consult with each other as to any of the above causes which in their judgment may or could be the cause of a delay in the performance of this Agreement.

13. REMEDIES, WAIVER

13.1 A Party to this Agreement will not be bound by a waiver of any right or remedy that inures to the Party's benefit under this Agreement unless the waiver is in writing signed by the Party. The waiver by any Party of strict performance of any provision in this Agreement shall not operate or be construed as a waiver of any subsequent breach. No waiver of any breach of any provision of the Agreement will constitute a waiver of any other breach of such or any other provisions.

13.2 The individual remedies reserved in the Agreement will be in addition to any remedies provided by law.

14. COMPLIANCE WITH LAW

14.1 LANTERN and/or its SUB-LICENSEE shall comply with applicable laws, rules, regulations, orders, conventions, ordinances or standards of the country in which it is doing business. At AFC's request, LANTERN and/or its SUB-LICENSEE shall certify in writing compliance with any law or regulation.

15. RESOLUTION OF DISPUTE/APPLICABLE LAW AND ARBITRATION

15.1 All disputes and controversies between the Parties hereto of any kind and nature arising of or in connection with this Agreement, as to the existence, construction, validity, interpretation or meaning, performance, non-performance, enforcement, aberration, breach, continuation or termination of this Agreement shall be resolved as set forth herein.

15.2 Either Party to this Agreement may, after a dispute or controversy arises, making written requests and demand arbitration of any dispute or controversy hereunder by making such written requests in writing to the other party.

15.3 Any dispute or controversy shall be submitted to a single arbitrator with experience in bio-technology / pharmaceutical commercial matters to be chosen by mutual agreement of the Parties within five (5) days alter the request for arbitration is made. If the Parties, within such time, cannot agree on an arbitrator, the arbitrator shall be chosen pursuant to the American Arbitration Association procedures from its panel of arbitrators with bio-technology / pharmaceutical commercial experience.

15.4 The arbitration hearing shall be held in San Diego California, United States of America. The commercial arbitration rules of the American Arbitration Association shall be used in the arbitration proceedings.

15.5 The arbitration herein shall be concluded in not more than three (3) days unless otherwise ordered by the arbitrator. The award on the hearing shall be made within fourteen (14) days after the close of the submission of evidence.

15.6 An award rendered by the arbitrator or appointed pursuant to this agreement shall be final and binding on all of the parties to such proceeding and enforced in the District Court for the Southern District of California or the Superior Court of California, County of San Diego.

15.7 The provisions of this section shall be a complete bar and defense to any suit, action or proceedings instituted in any Court or before any Court or before any administrative tribunal with respect to any dispute or controversy arising out of or in connection with this Agreement, with the exception of the provisions of section 15.10 below. The arbitration provisions of this Agreement shall, with respect to any such dispute or controversy, survive the termination or expiration of this Agreement.

15.8 The arbitrator shall determine which of the parties shall bear the costs and/or expenses of the arbitration.

15.9 The failure or refusal of any party hereto to submit to arbitration in accordance with this Agreement shall be deemed a breach of this Agreement.

15.10 Each party shall continue to support its obligations including REVENUE obligations as per Exhibits B and C under the terms of this Agreement pending final resolution of any dispute arising out of or relating to this Agreement. Should LANTERN fail to make REVENUE payments due to AFC under this Section 15 or Section 4 above, AFC may apply to the District Court for the Southern District of California or the Superior Court of California, County of San Diego for an immediate order requiring LANTERN to make those payments forthwith. Both parties to this Agreement agree and understand that a failure to make the monthly payments to AFC shall constitute irreparable injury, notwithstanding their financial nature and the parties agree that such a failure would justify the entry of an immediate order by the District Court for the Southern District of California or the Superior Court of California, County of San Diego requiring such payment.

16. NOTICES

16.1 Any notice or other communication to be given hereunder by either Party to the other shall be in writing and delivered by overnight courier, or by certified or registered mail, postage prepaid, return receipt requested. Notice shall he deemed communicated on receipt in case of personal delivery, the next day in the case of overnight courier, upon confirmation of transmission in the case of fax, and five days after mailing deposit in the U.S. Mail in the case of mailed notice. All such notices of other communications shall be addressed as set forth below, but either Party may change its address by notice or other communication given in accordance with provisions of this paragraph.

AFC:
Notices to:
5545 Coral Reef,
La Jolla, CA 92037

Payments to:
P.O. BOX 99213,
San Diego, CA 92169

LANTERN:
Notices to:
4287 Beltline Rd.,
Suite #270,
Addison, TX 75001

17. RELATION OF THE PARTIES

17.1 Nothing contained in this AGREEMENT shall be construed to imply a joint venture, partnership, or principal-agent relationship between the Parties; and neither Party by virtue of this AGREEMENT shall have any right, power or authority, express or implied, to act on behalf of or enter into any undertaking binding the other Party. This AGREEMENT shall not be construed to create rights, express or implied, on behalf of, or for the use of, any Parties aside from AFC and LANTERN, and AFC and LANTERN shall not be obligated, separately or jointly, to any third parties or any third party beneficiaries by virtue of this AGREEMENT.

18. EXCLUSION OF DAMAGES

18.1 IN NO EVENT SHALL AFC BE LIABLE FOR DAMAGES FOR LOSS OF PROFITS, LOSS OF USE, LOSS OF DATA OR INTERRUPTION OF BUSINESS, OR ANY OTHER INDIRECT, INCIDENTAL, SPECIAL, CONSEQUENTIAL, PUNITIVE OR OTHER DAMAGES ARISING OUT OF OR RELATING TO THIS AGREEMENT, EVEN IF AFC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

19. LIMITATION OF LIABILITY

19.1 IN NO EVENT SHALL THE LIABILITY OF AFC EXCEED THE AMOUNT OF MONIES RECEIVED BY AFC UNDER THIS AGREEMENT.

20. INTELLECTUAL PROPERTY

20.1 It is recognized and understood that AFC patents including the patents listed in Exhibit A relating to the TARGETED COMPOUNDS and the LICENSED TECHNOLOGY are the separate property of AFC and the ownership of the AFC patents is only affected as explicitly recited in this AGREEMENT.

20.2 AFC shall have exclusive ownership rights to all inventions, discoveries, improvements, and modifications, as well as all methods, processes, know-how and/or trade secrets arising from or conceived or reduced to practice during and as part of the research, development, formulation, marketing and sale of the TARGETED COMPOUNDS and LICENSED TECHNOLOGY ("AFC INVENTIONS") and regardless of whether generated by an AFC employee alone, a LANTERN employee alone, a SUB-LICENSEE employee alone, an AFC employee and a LANTERN employee jointly, an AFC employee and a SUB-LICENSEE employee jointly, a LANTERN employee and a SUB-LICENSEE employee jointly or any of the above combinations with others, LANTERN and/or a SUB-LICENSEE shall disclose promptly to AFC any AFC INVENTIONS. LANTERN and/or a SUB-LICENSEE shall, upon AFC's written request, assign its entire right, title and interest in and to any and all AFC INVENTIONS to AFC and to execute such documents as may be required to file applications and to obtain patents or copyrights in the name of AFC or its nominees, in any countries, covering the LICENSED TECHNOLOGY.

20.3 AFC shall be entitled to shop rights to any license or other technology acquired by LANTERN relevant to the TARGETED COMPOUNDS and/or the LICENSED TECHNOLOGY.

21. COUNTERPARTS

21.1 This AGREEMENT may be executed in counterparts, each of which shall be deemed to be an original and all of which together shall be deemed to be one and the same instrument.

22. FURTHER ASSURANCES

22.1 From time to time, as and when requested by either Party, the other Party shall execute and deliver, or cause to be executed and delivered, all such documents and instruments and shall take, or cause to be taken, all such further actions as such other Party may reasonably deem necessary or desirable to carry out the intentions of the Parties embodied in this AGREEMENT.

23. HEADINGS

23.1 The headings used in this AGREEMENT are for convenience of reference only and do not form a part of this AGREEMENT.

24. SURVIVAL OF TERMS

24.1 Any and all provisions of Sections 2, 5, 6, 7, 9, 10, 13, 15, 18, 19 and 20 herein shall survive expiration or termination of this AGREEMENT. Additionally, any other provision required to interpret and enforce the Parties' rights and obligations under this AGREEMENT shall also survive, but only to the extent required for the full observation and performance of this AGREEMENT.

EXECUTION

The AGREEMENT shall enter into full force and effect on the EXECUTED DATE by execution of both Parties.

Executed on this 15 day of Jan 2015, at

Lantern Pharma, Inc.

By: /s/ Arunkumar Asaithambi
Name: Arunkumar Asaithambi
Title: CEO

EXECUTED on this 15 day of Jan 2015, at La Jolla, CA

AF Chemicals, LLC

By: /s/ Michael J. Kelner
Name: Michael J. Kelner
Title: Manager

Exhibit A

Case Title	Lead Inv	App No	Filing Dt	Pat No	Pat Iss Dt
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	1909783	10/12/2011
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	1909783	10/12/2011
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	2008-525225	08/03/2006	4989648	05/11/2012
IIYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	1909783	10/12/2011
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	11/997,432	01/31/2008	7,655,695	02/02/2010
ANTITUMOR AGENTS	Kelner, Michael	11/600,375	11/16/2006	7,629,380	12/08/2009
ANTITUMOR AGENTS	Kelner, Michael	11/151,013	06/13/2005	7,141,603	11/28/2006
ANTITUMOR AGENTS	Kelner, Michael	10/013,009	11/05/2001	6,855,696	02/15/2005
ANTITUMOR AGENTS	Kelner, Michael	09/641,191	08/17/2000	6,548,679	04/15/2003
ANTITUMOR AGENTS	Kelner, Michael	09/386,555	08/31/1999	6,323,181	11/27/2001
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	11/955,247	12/12/2007	7,713,939	05/11/2010
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	10/694,533	10/27/2003	6,987,193	01/17/2006
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	10/134,260	04/29/2002	6,639,105	10/28/2003
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	09/501,151	02/09/2000	6,380,403	04/30/2002
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	08/683,687	07/18/1996	5,932,553	08/03/1999

TERMS 2015 01 15	TERM SHEET FOR LANTERN PHARMACEUTICAL - Irofulven Details
Expiration date	Terms expire January 21st, 2015 unless extension mutually agreed upon.
Annual Licensing Fee	Year 1: $[***]; increases by $[***]/year to a maximum of $[***] Year 2: $[***] Year 3: $[***] Year 4 and thereafter: $[***] Initial Annual Licensing fee due within 30 days of execution of license.
Field and Region of Coverage	In countries where patent protection is provided an exclusive transferable license (subject to review) to Irofulven (6-hydroxymethylacylfulvene; NSC 683863) and USA Patent number 5,932,553 and any related international patents subject to potential carve-out of Japan in the event that AFC concludes successful negotiation with Elsal for either transfer of the Irofulven IND, ability to operate under the Elsal IND, or obtainment of the pre-clinical and clinical data package from Elsal. In the event that Japan becomes available, and Lantern subsequently desires Japan, the licensing terms shall be the same as for Germany ($[***] for Approval to market, and milestone payments for submission of 2nd and 3rd therapeutic indications).
Signing Fee	$ [***] for past expenses. Due within 45 days of signing. If Lantern exercises both the Irofulven and the analog portfolio then only one signing fee is paid.
Milestone Payments	IND Filing: n.a. Phase I: n.a. - associated with IND
	Phase II First patient: $[***]
	Phase Ill First Patient: $[***]
	NDA Filing: $[***]
	FDA approval to market In USA: $ [***]
	NDA filing in any other country: $[***]
	European Approval to Market: Germany $ [***]
	European Approval to Market: Great Britain $ [***]
	European Approval to Market: France Spain Italy $ [***]
	European Approval to Market: Any other country population > 10 million $ [***]
	European Approval to Market: Any other country population < 10 million $ [***]
Submission of a 2nd therapeutic indication	[***]% of above milestone payments (per country)
Submission of a 3rd therapeutic indication	[***]% of above milestone payments (per country)
Royalty Rate	In the event that Lantern receives a royalty share rate from its partner above [***]% of net sales, or develops the drug internally, Lantern will pay AFC [***]% of net sales. In the event Lantern receives a royalty share rate between [***] and [***]% of sales, Lantern will pay AFC [***]% of net sales. In the event that Lantern receives a royalty rate below [***]% of net sales, Lantern will transfer [***]% of royalty rate for sales to AFC.

Sublicensing Fees USA	[***]% of gross Income/fees received by Lantern
Sublicensing Fees Europe	[***]% of the gross income/fees received by Lantern
Rest of the world	In the event that Lantern subsequently desires other countries in which AFC has or obtains intellectual property on Irofulven (e.g. Korea, South American countries, etc.) the licensing terms shall be the same as Germany.
Patents	Pay for maintenance fees of patents listed in Appendix A. AF Chemicals will pay the fee and Lantern will reimburse within 30 days. AF Chemicals shall consider input from Lantern regarding continuation of patent maintenance in small market countries.
Future Patents	Any manufacturing patents or other patents obtained by AFC to extend the patent life of Irofulven shall be Included In this license at no additional fee provided Lantern accepts these patents and agrees to pay all associated costs to procure and maintain the patents. AFC shall include Lantern in IP strategizing.
Transferability	See licensing agreement
Due Diligence and other issues	Details/Time
Enrollment time line commencements	Time commences within 120 days of IND submission to the FDA unless "FDA stop" issued, once "FDA stop" removed then time line commences within 60 days.
File IND	Not applicable
Enroll 1st patient in Phase I trial	Not applicable
Enroll 1st patient in Phase II trial	3 years
Enroll 1st patient in Phase III trial	5 years
File NDA	7 years
Extensions	May purchase an additional year by paying additional funds of $[***]. May purchase a second additional year by paying additional funds of $[***]. May purchase a third additional year by paying additional funds of $[***]. Extensions are specific and limited to each product under development (irofulven or analog 184). Additional extensions to be negotiated.
Marketing	Will market each licensed product within 6 months of receiving regulatory approval (to market)
Progress Report	Quarterly (every 3 months)
Royalty Report	Quarterly (every 3 months)
Milestone Fee payment	Milestone: Within 30 days of an event occurring (NDA filed, patient enrolled, regulatory approval, etc.)
Royalty/Sublicensing Fee payment	Quarterly (every 3 months)
Insurance prior to commencement of human trials ($US)	Each occurrence: $ [***] Products/completed operations in aggregate: $ [***] Personal & Advertizing: $ [***] General Commercial Aggregate: $ [***]
Insurance once commencement of human trials ($US)	Each occurrence: $[***] Products/completed operations In aggregate: $[***] Personal & Advertizing: $[***] General Commercial Aggregate: $[***]

Abandonment: Within 30 days will:	Pay for any existing costs including patent fees due within 6 months Return all product (licensed and nonlicensed) & feed stocks Return any associated biological products Return all preclinical & clinical data (efficacy, safety & otherwise) Return any regulatory approvals including orphan drug approval and regulatory approval to market licensed product in all countries
Submission of a 2nd or 3rd therapeutic indication	No deadlines
Other	Indemnification per terms of prior submitted contract

TERMS 2015 01 15	TERM SHEET FOR LANTERN PHARMACEUTICAL - ANALOGS Details
Expiration date	Terms expire January 21st, 2015 unless extension mutually agreed upon.
Annual Licensing Fee for Analogs	Year 1: $[***]; increases by $[***]/year to a maximum of $[***] Year 2: $[***] Year 3: $[***] Year 4 and thereafter: $[***] Initial Annual Licensing fee due within 30 days of execution of license.
Field and Region of Coverage	In countries where patent protection is provided an exclusive transferable license (subject to review) to Analog AFC #184 (NSC D740821) & additional analogs depicted by structure & number and described by patents (insert numbers here), subject to potential carve-out of Japan in the event that AFC concludes successful negotiation with Elsal for Irofulven documents in exchange for providing Elsal with commercial rights to analogs In Japan. In the event that Japan becomes available, and Lantern subsequently desires Japan, the licensing terms shall be the same as for Germany ($[***] for Approval to market, and milestone payments for submission of 2nd and 3rd therapeutic indications).
Signing Fee	$ [***] for past expenses. Due within 45 days of signing. If Lantern exercises both the Irofulven and the analog portfolio then only one signing fee is paid.
Milestone Payments	IND Filing $[***] each analog filed Phase I: n.a. — associated with IND
	Phase II First patient: $[***] each analog filed
	Phase III First Patient: $[***] each analog flied
	NDA Filing: $[***] each analog filed
	FDA approval to market in USA: $[***] each analog filed
	NDA filing in any other country: $[***] each analog filed
	European Approval to Market: Germany $[***] each analog filed
	European Approval to Market: Great Britain $[***] each analog filed
	European Approval to Market: France Spain Italy $[***] each analog filed
	European Approval to Market: Any other country population > 10 million $[***] each analog filed
	European Approval to Market: Any other country population < 10 million $[***] each analog filed
Submission of a 2nd therapeutic indication	[***]% of above milestone payments (per country) each analog filed
Submission of a 3rd therapeutic indication	[***]% of above milestone payments (per country) each analog filed
Royalty Rate	Minimum rate of [***]% of net sales for each analog filed Net sales are defined elsewhere.

Sublicensing Fees USA	[***]% of gross income/fees received by Lantern, each analog filed
Sublicensing Fees Europe & Japan	[***]% of the gross Income/fees received by Lantern.
Patents	Pay maintenance fees of patents listed in Attachment A. AF Chemicals will pay the fee and lantern will reimburse within 30 days.
Transferability	See Licensing agreement.
Due Diligence and other Issues	Details/Time
File IND	Analog 184 -3 years
Enroll 1st patient in Phase I trial	Analog 184 - within 120 days of IND unless "FDA stop" Issued. Once "FDA stop" removed then within 60 days.
Enroll 1st patient in Phase II trial	Analog 184 - 5 years
Enroll 1st patient in Phase II trial	Analog 184 - 7 years
File NDA	Analog 184 - 9 years
Extensions	May purchase an additional year by paying additional funds of $[***]. May purchase a second additional year by paying additional funds of $[***]. May purchase a third additional year by paying additional funds of $[***]. Extensions are specific and limited to each product under development (Irofulven or analog 184). Additional extensions to be negotiated.
Marketing	Will market each licensed product within 6 months of receiving regulatory approval (to market)
Progress Report	Quarterly (every 3 months)
Royalty Report	Quarterly (every 3 months)
Milestone Fee payment	Milestone: Within 30 days of an event occurring (NDA filed, patient enrolled, regulatory approval, etc.)
Royalty/Sublicensing Fee payment	Quarterly (every 3 months)
Insurance prior to commencement of human trials ($US)	Each occurrence: $[***] General Commercial Aggregate: $[***]
Insurance once commencement of human trials ($US)	Each occurrence: $[***] Products/completed operations in aggregate: $[***] Personal & Advertising: $[***] General Commercial Aggregate: $[***]
Abandonment: Within 30 days will:	Pay for any existing costs including patent fees due within 6 months Return all product (licensed and nonlicensed) & feed stocks Return any associated biological products Return all preclinical & clinical data (efficacy, safety & otherwise) Return any regulatory approvals including orphan drug approval and regulatory approval to market licensed product in all countries
Submission of a 2nd or 3rd therapeutic Indication	No deadlines
Other	Indemnification per terms of prior submitted contract

Exhibit 10.8

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

EXECUTION VERSION

CONFIDENTIAL

DRUG LICENSE AND DEVELOPMENT AGREEMENT

by and between

LANTERN PHARMA, INC.

and

ONCOLOGY VENTURE, APS

EXECUTION VERSION

CONFIDENTIAL

DRUG LICENSE AND DEVELOPMENT AGREEMENT

This Drug License And Development Agreement (the "**Agreement**") is entered into and effective as of May 23, 2015 (the "**Effective Date**") by and between **Oncology Venture Aps**, (Company Registration no. 34 62 35 62) a Danish corporation having its principal offices at Venlighedesvej 1, 2970 Hørsholm, Denmark ("**OV**"), and **Lantern Pharma, Inc**, (Company Registration no. _____) a Texas corporation

having its principal place of business at 211 N Ervay Street, Suite 404, Dallas, TX 75201 U.S.A. ("**LP**"). LP and OV are sometimes referred to herein individually as a "**Party**" and collectively as the "**Parties**".

Recitals

LP owns certain intellectual property rights in and to the cancer drug Irofulven (CAS No. 158440-71-2), an alkylating DNA damage repair inhibitor, which rights include the LP Data Package (as defined herein).

OV controls certain intellectual property rights in and to a DRP Biomarker (as defined herein) specific for Irofulven, which is useful for selecting likely responder patients for the drug.

OV and LP jointly desire to establish a partnership for the renewed development and clinical advancement of Irofulven for the treatment of cancers, by employing the DRP Biomarker to select likely responder patients.

LP desires to grant, and OV desires to accept, an exclusive license to develop, clinically advance and commercialize Irofulven for cancers, worldwide.

OV and LP have previously entered into a non-binding Term Sheet, dated February 3, 2015, setting forth the major terms of the proposed license and development agreement contemplated herein.

Now Therefore, in consideration of the foregoing premises and the mutual promises, covenants and conditions contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

As used in this Agreement, the following initially capitalized terms, whether used in the singular or plural form, shall have the meanings set forth in this ARTICLE 1.

1.1 "**Additional Secondary Indication**" has the meaning set forth in Section 4.11.

1.2 "**AFC**" means AF Chemicals, LLC, a Californian limited liability company having its principal office at 5545 Coral Reef, La Jolla, CA 92037, the United States of America.

1.3 "**Affiliate**" means, with respect to a particular Person, any person, firm, trust, corporation, company, partnership, or other entity or combination thereof that directly or indirectly controls, is controlled by or is under common control with such Person. For the purposes of this definition, the word "control" (including, with correlative meaning, the terms "controlled by" or "under the common control with") means (a) ownership of fifty percent (50%) or more, including ownership by trusts with substantially the same beneficial interest, of the voting and equity rights of such person, firm, trust, corporation, company, partnership or other entity or combination thereof, or (b) the power to direct the management of such person, firm, trust, corporation, company, partnership, or other entity or combination thereof.

1.4 "**Alliance Manager**" has the meaning set forth in Section 3.1.

1.5 "**ANDA**" means an Abbreviated New Drug Application, as described in Section 505(j) of the FD&C Act, or any similar procedure in any country in the Territory.

1.6 "**Applicable Law**" means any and all statutes, ordinances, regulations or rules of any kind whatsoever and any and all requirements under permits, orders, decrees, judgments or directives and requirements of applicable Governmental Authorities, in each case pertaining to any of the activities contemplated by this Agreement, including any regulations promulgated by any Regulatory Authority in the Territory, all as amended from time to time.

1.7 "**Biomarker Agreement**" has the meaning set forth in Section 4.1(a).

1.8 "**Business Day**" means each day of the week excluding Saturday, Sunday or a day on which banking institutions in New York, USA or Copenhagen, Denmark are closed.

1.9 "**Cambridge Office Overhead**" means the documented costs of leasing office space for LP in Cambridge, MA U.S.A. together with the salary and benefits paid to one full-time LP employee based in Cambridge, MA (currently Dr. [***], Ph.D), and any documented, reasonably necessary incidental costs such as travel, lodging, telephone and computer equipment, and the like, which are incurred prior to or during the Term of this Agreement and associated with preparation for and conduct of the Phase 2 Clinical Trial and/or conduct of the Clinical Development Plan.

1.10 "**Clinical Development Plan**" has the meaning set forth in Section 4.2(b).

1.11 "**Clinical Supply Agreement**" has the meaning set forth in Section 5.7(b).

1.12 "**Commercialization**" or "**Commercialize**" means engaging in any and all activities directed towards the manufacturing (including having manufactured), marketing, promoting, distributing, offering for sale, selling, registering, importing, exporting, using for commercial purposes and/or exploiting of Compound and/or Product(s).

1.13 "**Commercially Reasonable Efforts**" means, with respect to a Party's obligations under this Agreement, the reasonable and good faith efforts normally used by a company in the pharmaceutical industry for a product (regardless of whether the product is owned by the company or the company has obtained rights to such product), which is of similar market potential at a similar stage in its development or product life, which level of effort is at least commensurate with the level of effort that a Party would devote to its own internally discovered compounds or products that are of most closely comparable market potential at a most closely comparable stage in their development or product life, taking into account regulatory requirements of safety and efficacy, product profile, the competitiveness of the marketplace, the proprietary position of the product, and the cost of scaling up a manufacturing process (including facility costs) and the market potential of the applicable product.

1.14 "**Common Stock**" has the meaning set forth in Section 6.9.

1.15 "**Compound**" means Irofulven and/or any pharmaceutically-active formulations of Irofulven.

1.16 "**Confidential Information**" means, with respect to a Party, all proprietary Information of such Party that is disclosed to or accessed by the other Party under this Agreement.

1.17 "**Covering**" means, with respect to Patent(s), that, but for a license granted to a licensee, its Affiliates or sublicensees under a Valid Claim included in the licensed Patent(s), the Development, use or Commercialization by the licensee of the subject matter at issue would infringe such Valid Claim.

1.18 "**Development**" means all activities worldwide that relate to obtaining, maintaining or expanding Regulatory Approval of Product. This includes, but is not limited to, (a) research, preclinical testing, toxicology, chemical process, formulation, manufacturing and clinical studies or trials of Product; (b) preparation, submission, review, and development of data or information for the purpose of submission to a Governmental Authority to obtain, maintain and/or expand Regulatory Approval of Product; and (c) post-Regulatory Approval product support for Product (including laboratory and clinical efforts directed toward the further understanding of the safety and efficacy of Product). "**Develop**" and "**Developed**" have correlative meanings.

1.19 "**Development Costs**" means all direct and indirect expenditures actually incurred by OV in connection with the Development of a Product for Primary Indication (or Secondary Indication) in the Field in accordance with the Clinical Development Plan, including Cambridge Office Overhead and Regulatory Costs, to the extent such direct expenditures are directly related to the Development Program and such indirect expenditures are allocated based upon the proportion of such expenditures directly attributable to the support of the applicable activity, including expenditures for full time employees (FTEs), part time employees (PTEs) and the following expenditures to the extent such items are customary under industry practices: (a) expenditures for Development activities incurred by a Party or paid by such Party to subcontractors or other Third Parties; (b) FTEs and PTEs engaged in planning publications related to Development activities; (c) expenditures for safety and pharmacovigilance activities; and (d) other expenditures mutually agreed to by the Parties during the Term in connection with the Development of any Product.

The following expenditures shall not be considered Development Costs: (i) any direct or indirect expenses incurred by LP (or its employees, agents, Affiliates, or consultants) relating to conduct of the Program, specifically excepting Cambridge Office Overhead; (ii) amortization and depreciation expenses; (iii) deductions, credits, interest expenses including taxes and extraordinary or nonrecurring losses customarily deducted by a Party in calculating and reporting consolidated net income; (iv) manufacturing facility capital costs, capital expenditures, including purchases of facilities, property or equipment (unless such equipment is exclusively used in the Development Program); and (v) property taxes and any other taxes not related to Development of Products in the Field.

1.20 "**DRP Biomarker**" means a proprietary, gene-based predictive biomarker signature specific for Irofulven and useful for identifying likely responder patients for the drug, which has been or will be developed and owned by MPI and is exclusively licensed to OV for the Field. Such biomarker is or may be covered by one or more existing or future Patent Rights owned by MPI.

1.21 "**EMEA**" has the meaning set forth in Section 4.1.

1.22 "**Excluded Rights**" means all rights under the LP Technology, Joint Patents, and Joint Inventions, to (i) research, develop, make, have made, use, distribute, import, offer for sale and sell Irofulven Analogues, and (ii) access, possess, and utilize LP Data Package for the purpose of exercising rights in the Irofulven Analogues.

1.23 "**Existing Confidentiality Agreement**" means the in-force confidentiality agreement between the Parties dated September 23, 2014.

1.24 "**EU**" means the European Union.

1.25 "**FDA**" means the United States Food and Drug Administration or its successor.

1.26 "**FD&C Act**" means the United States Federal Food, Drug and Cosmetic Act.

1.27 "**Field**" means all therapeutic uses of Compound, alone or in combination with any other active pharmaceutical ingredient(s) or therapeutically or prophylactically active ingredient(s), for the treatment and/or prevention of any kind of disease, including but not limited to prostate cancer (including Primary Indication).

1.28 "**Filing**" means with regard to a particular application for Regulatory Approval the submission of such application to the applicable Regulatory Authority and the initial acceptance by such Regulatory Authority of such application of being facially complete for review (e.g. a confirmatory letter stating that the documents are complete and sufficient for the assessment of the application).

1.29 "**First Commercial Sale**" means, with respect to a Product, the first sale for use or consumption by any person of such Product in a country after Regulatory Approval has been granted by the governing Regulatory Authority of such country, provided that sale of Product for clinical or other research or compassionate use shall not constitute a First Commercial Sale.

1.30 "**Force Majeure**" has the meaning set forth in Section 13.2.

1.31 "**GAAP**" means Generally Accepted Accounting Principles.

1.32 "**Generic Competition**" means, with respect to Product in a given country in the Territory in a given calendar month, if, during such month, one or more Generic Products shall be commercially available in such country and Net Sales of such Generic Product(s) sold account for fifteen percent (15%) or more of all Net Sales of the Product sold by OV, its Affiliates or sublicensees in such country based on monthly data provided by IMS Health, or if such data is not available, such other reliable equivalent Third Party data source as reasonably determined by OV and agreed to by LP, which agreement not to be unreasonably withheld, delayed or conditioned.

1.33 "**Generic Product**" means, on a country-by-country basis, any pharmaceutical product sold by a Third Party which (a) contains a compound which is the same active pharmaceutical ingredient (or any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, ester, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, metabolite, conjugate, complex or mixture of any of the foregoing) as an approved Product of OV, its sublicensee and their respective Affiliates and (b) is approved under an ANDA or under 505(b)(2) of the FD&C Act or any similar abbreviated route of approval in any country in the Territory.

1.34 "**Governmental Authority**" means any multi-national, federal, state, county, local, municipal or other government authority or self-regulating organization of any nature (including any governmental division, subdivision, department, agency, bureau, branch, office, commission, council, court or other tribunal), including the United States Securities and Exchange Commission, The NASDAQ Stock Market, Inc., NASDAQ OMX Group, Inc. NASDAQ OMX Nordic, NASDAQ OMX Copenhagen A/S (Copenhagen stock exchange), First North, and the Stockholm Stock Exchange.

1.35 "**Improvements**" means any and all improvements or enhancements to the LP Technology which are conceived, discovered, invented, developed, created, made or reduced to practice or tangible medium by or on behalf of LP and which is not Sole Inventions or Joint Inventions.

1.36 "**IND**" means an Investigational New Drug Application, as defined in the FD&C Act.

1.37 "**Indemnification Claim Notice**" has the meaning set forth in Section 9.4.

1.38 "**Indemnified Party**" has the meaning set forth in Section 9.4.

1.39 "**Indemnifying Party**" has the meaning set forth in Section 9.4.

1.40 "**Information**" means any data, results, and information of any type whatsoever, in any tangible or intangible form, including know-how, trade secrets, practices, techniques, methods, processes, inventions, developments, specifications, formulations, formulae, software, algorithms, marketing reports, expertise, stability, technology, data including pharmacological, biological, chemical, biochemical, toxicological, and clinical test data, analytical and quality control data, stability data, studies and procedures.

1.41 "**Initial Clinical Development Plan**" has the meaning set forth in Section 4.2(a).

1.42 "**IP Plan**" has the meaning set forth in Section 4.4(d).

1.43 "**Irofulven**" means (i) Irofulven or 6-hydroxymethylacylfulvene (also known as HMAF or MGI-114 or IUPAC name, (6'*R*)-6'-hydroxy-3'-(hydroxymethyl)-2',4',6'-trimethylspiro[cyclopropane-1,5'-inden]-7'(6'*H*)-one or (5'R)-5'-hydroxy-1'-(hydroxymethyl)-2',5',7'-trimethylspiro[cyclopropane-1,6'-indene]-4'-one) (CAS No. 158440-71-2 and/or CAS 187277-46-9) (FDA UNII 6B799IH05A http://fdasis.nlm.nih.gov/srs/ProxyServlet?mergeData=true&objectHandle=DBMaint&APPLICATION_NAME=fdasrs&actionHandle=default&nextPage=jsp/srs/ResultScreen.jsp&TXTSUPE RLISTID=6B799IH05A), an alkylating DNA damage repair inhibitor, having molecular formula $C_{15}H_{18}O_3$, and/or (ii) any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, ester, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, metabolite, conjugate, complex or mixture of any of the foregoing with respect to Irofulven that has the same mechanism of action as Irofulven. For clarity, Irofulven includes the active pharmaceutical ingredient known as Irofulven, together with any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, ester, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, metabolite, conjugate, complex or mixture thereof. For the purposes of this Agreement, Irofulven does not include Irofulven Analogues.

1.44 "**Irofulven Analogues**" means any analogues and/or derivatives of Irofulven owned and/or controlled by LP either prior to or during the Term of this Agreement, which analogues and/or derivatives have the same or similar mechanism-of-action as Irofuvlen but are characterized by substantially different and/or superior anti-tumor activity and/or safety/toxicity profile as compared to Irofulven (e.g. by IC50 and other standard cellular and animal testing models), including analogue LP-184, currently under development by LP.

1.45 "**IST**" has the meaning set forth in Section 4.2(a).

1.46 "**Joint Inventions**" has the meaning set forth in Section 7.1.

1.47 "**Joint Patent**" has the meaning set forth in Section 7.3(b).

1.48 "**Joint Development Committee**" or "**JDC**" means the joint development committee formed by the Parties as described in Section 3.2.

1.49 **"Loss"/"Losses"** has the meaning set forth in Section 9.1.

1.50 **"LP Data Package"** means all data, documentation, test results, and clinical and/or regulatory submissions, including Regulatory Materials, and correspondence (including all submissions, applications, and correspondence with/to the FDA, EMEA or other foreign governmental drug review and approval agency or entity), whether electronic or paper, relating to the pre-clinical and clinical research and development of Irofulven, the suitability of the drug for use in humans, and/or the manufacture or preparation of the Compound, which, as of the Effective Date and/or during the Term, is or becomes owned, controlled, in the possession of, or accessible to LP or its Affiliates and which is necessary or desirable for the conduct of the Program contemplated herein, including those referenced in Section 4.6 below.

1.51 "**LP Indemnitees**" has the meaning set forth in Section 9.2.

1.52 "**LP Know-How**" means all Information (excluding any LP Patents or Joint Inventions) that (a) is held or licensed as of the Effective Date by LP or its Affiliates and which relates to a Compound or Product or researching, Developing, using, or Commercializing Compound or Product(s) (including without limitation, all Product-related data) or (b) becomes held or licensed by LP or its Affiliates after the Effective Date and during the Term and which relates to a Compound or Product or researching, Developing, using or Commercializing Compound or Product(s) (including without limitation, all Compound-related and/or Product-related data).

1.53 "**LP Patents**" means (a) all Patent Rights that are held or licensed by LP as of the Effective Date or during the Term by LP or its Affiliates and that claim, disclose or cover a Compound or Product or the Development, use, or Commercialization of a Compound or Product. As of the Effective Date, the LP Patents include but is not limited to the Patent Rights set forth on Exhibit C.

1.54 "**LP Share Price**" shall have the meaning set forth in Section 6.9.

1.55 "**LP Technology**" means the LP Patents, LP Know-How, and LP Data Package and any Improvements to the foregoing, as well as any trademarks (whether registered or not) in respect of the Compound or Product(s).

1.56 "**Milestone Deadline**" shall mean the deadline for completing each of the milestones identified in Section 5.3(a)(i) and (ii) of this Agreement.

1.57 "**MPI**" means Medical Prognosis Institute, A/S, a corporation of Denmark headquartered at Venlighedsvej 1, 2970 Hørsholm, Denmark and having a U.S. office and subsidiary at 9977 N. 90th Street, Suite 175, Scottsdale, AZ 85258 U.S.A.

1.58 "**NCI**" means the National Cancer Institute of the U.S.

1.59 "**NDA**" means a New Drug Application or supplemental New Drug Application, as defined in the FD&C Act.

1.60 "**Net Sales**" means, for any period, the aggregate of the gross amounts invoiced or otherwise billed by OV or any Program Acquirer, their Affiliates and sublicensees ("**Selling Party**") for arm's length sales or other commercial disposition of a Product to a Third Party purchaser within the Territory, less the following to the extent specifically related to the Product and actually allowed, incurred or paid during such period (collectively, "**Net Sales Deductions**"):

(a) discounts, including cash, trade and quantity discounts, price reduction or incentive programs, retroactive price adjustments with respect to sales of such Product, charge-back payments, and rebates granted to managed health care organizations or to federal, state and local governments (or their respective agencies, purchasers and reimbursers) or to trade customers, including wholesalers and chain and pharmacy buying groups;

(b) credits or allowances taken upon rejections or returns of Products, including for recalls or damaged goods;

(c) freight, postage, shipping and insurance charges for delivery of such Product actually paid;

(d) customs duties, surcharges and other governmental charges incurred in connection with the exportation or importation of such Product;

(e) bad debts relating to sales of Products that are actually written off by the Selling Party following commercially reasonable efforts to collect such bad debts (it being understood that "Net Sales" will include all amounts received for any bad debts at a subsequent date); and

(f) taxes, duties or other governmental charges levied on, absorbed or otherwise imposed on sale of such Product, including value-added taxes, or other governmental charges otherwise measured by the billing amount, as adjusted for rebates and refunds, but specifically excluding taxes based on net income of the Selling Party;

provided that all of the foregoing deductions are incurred in the ordinary course and calculated in accordance with then-current generally accepted accounting principles in either the U.S. or the EU, consistently applied ("**GAAP**" or International Accounting Principles ("**IAP**")) during the applicable calculation period throughout the Selling Party's organization.

Notwithstanding the foregoing, in the event a Product is (i) sold in the form of a combination product containing one or more active pharmaceutical ingredients which are not Compounds or Products or (ii) sold under a bundled or capitated arrangement with one or more products which are not Compounds or Products or (iii) sold under an arrangement whereby the sale of the Product is only available with or conditioned upon the purchase of other products (a "**Combination Product**"), then Net Sales for such Combination Product shall be calculated, on a country-by-country basis, by multiplying actual Net Sales of such Combination Product by the fraction A/(A+B), where A is the average invoiced sales amount of the Product if sold separately by the Selling Party in finished form in such country, and B is the average invoiced sales amount of all other active pharmaceuticals ingredients or products in finished form in such country, less the Net Sales Deductions.

If, on a country-by-country basis, either the Product or the other active pharmaceutical ingredients or products of the Combination Product are not sold separately in finished form in such country, Net Sales of the Combination Product shall be determined by the Parties in good faith based on the relative fair market value for the Product and each active pharmaceutical ingredient or product in finished form, as applicable.

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For sake of clarity and avoidance of doubt, the transfer of Product by a Selling Party or one of its Affiliates to another Affiliate of such Selling Party or to a sublicensee of such Selling Party for resale shall not be considered a sale; in such cases, Net Sales shall be determined based on the amount invoiced or otherwise billed by such Affiliate or sublicensee to an independent Third Party, less the Net Sales Deductions allowed under this Section. Notwithstanding the foregoing, sales of Product by OV to a bona fide Third Party distributor in an arm's length transaction shall be considered a sale to a Third Party customer and Net Sales shall be determined based on all amounts invoiced or otherwise billed to, or other consideration paid by, the distributor, less the Net Sales Deductions allowed under this Section. Any Products used (but not sold for more than nominal consideration) for promotional, advertising or humanitarian purposes or used (but not sold for more than nominal consideration) for clinical or other research purposes shall not be considered in determining Net Sales hereunder.

1.61 "**Net Sales Deductions**" has the meaning set forth in Section 1.60.

1.62 "**Opt-In Rights**" has the meaning set forth in Section 4.12.

1.63 "**OV Development Obligation**" has the meaning set forth in Section 4.3.

1.64 "**OV Indemnitees**" has the meaning set forth in Section 9.1.

1.65 "**OV/MPI Know-How**" means all Information (excluding any OV/MPI Patents or Joint Inventions) that (a) is held or licensed as of the Effective Date by OV, MPI, or their Affiliates and which relates to DRP Biomarker and its use with a Compound or Product or (b) becomes held or licensed by OV, MPI, or their Affiliates after the Effective Date and during the Term and which relates to the DRP Biomarker and its use with a Compound or Product.

1.66 "**OV/MPI Patents**" means (a) all Patent Rights that are held or licensed as of the Effective Date or during the Term by OV, MPI, or their Affiliates and that claim, disclose or cover DRP Biomarker and/or the use of DRP Biomarker with a Compound or Product.

1.67 "**OV/MPI Technology**" means OV/MPI Patents and OV/MPI Know-How.

1.68 "**OV Trademarks**" has the meaning set forth in Section 7.7.

1.69 "**Patent Rights**" means any and all (i) patents, (ii) patent applications, including any provisional and non-provisional applications, substitutions, continuations, continuation-in-parts, divisionals, renewals, and all patents granted thereon, (iii) all patents-of-addition, reissues, re-examinations and extensions or restorations be existing or future extension or restoration mechanisms, including supplementary protection certificates or the equivalent thereof, (iv) utility models, innovation patents, petty patents, patent of additions, inventor's certificates, including any applications therefore, and (v) any other form of right equivalent substantially similar to any of the foregoing in any country or jurisdiction.

1.70 "**Permitted Encumbrances**" means (i) assessments and other governmental charges not yet due and payable; (ii) mechanics', workmen's, repairmen's, warehousemen's, carriers' or other like liens arising or incurred in the ordinary course of business or other encumbrances that are a matter of public record; and (iii) all notices, orders, demands, proposals or requirements of any Governmental Authority which, in the case of each of (i) through (iii), individually are not material and which do not individually materially adverse affect the use of such property in the manner currently being utilized by the Products. The Permitted Encumbrances as of the Effective Date are listed on Exhibit E.

1.71 "**Person**" means an individual, partnership, joint venture, corporation, limited liability company, trust, unincorporated organization or other similar entity or Governmental Authority.

1.72 "**Phase 2 Clinical Trial**" means a targeted-enrollment, Phase 2 clinical trial of Irofulven for Primary Indication or Secondary Indication(s), which clinical trial employs the DRP Biomarker to identify and select Primary Indication or, where relevant, Secondary Indication patients likely to respond to Irofulven for the treatment of their disease.

1.73 "**Phase 3 Clinical Trial**" means a non-exploratory, registration-focused Phase 3 clinical trial of Irofulven for Primary Indication or Secondary Indication(s), which clinical trial employs the DRP Biomarker to identify and select Primary Indication or, where relevant, Secondary Indication patients likely to respond to Irofulven for the treatment of their disease.

1.74 "**Primary Indication**" means hormone-refractory metastatic prostate cancer (HRMPC), also known as metastatic castration-resistant prostate cancer (mCRPC).

1.75 "**Product**" means any and all pharmaceutical preparations in finished form that contain a Compound, alone or in combination with any other active pharmaceutical ingredient(s) or therapeutically or prophylactically active ingredient(s), in any formulation and any dosage strength suitable for administration to humans.

1.76 "**Product Liability**" means any product liability claims asserted or filed by Third Parties (without regard to their merit or lack thereof), seeking damages or equitable relief of any kind, relating to personal injury, wrongful death, medical expenses, an alleged need for medical monitoring, consumer fraud or other alleged economic losses, allegedly caused by any Product, and including claims by or on behalf of users of any Product (including spouses, family members and personal representatives of such users) relating to the use, sale, distribution or purchase of any Product sold by a Party or its distributors or sublicensees, or any Affiliate thereof, including, but not limited to claims by Third Party payers, such as insurance carriers and unions.

1.77 "**Product-Related Inventions**" shall have the meaning seat forth in Section 7.1.

1.78 "**Program(s)**" means the Development including Phase 2 Clinical Trial for Primary Indication and/or Secondary Indication(s) contemplated under this Agreement, including all rights in and to Compound and Products, including further development and commercialization rights, granted under this Agreement.

1.79 "**Program Acquirer**" means a Third Party who assumes control over the Program from OV, whether in whole or in part, in one or more jurisdictions within the Territory, and whether via license, sub-license, assignment, or purchase by and from OV, or otherwise by acquisition of OV.

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1.80 "**Program Acquirer Agreement**" means an agreement entered into between OV and a Program Acquirer with regard to the Program Acquirer's assumption of control over the Program from OV, whether in whole or in part, in one or more jurisdictions within the Territory.

1.81 "**Publication**" has the meaning set forth in Section 10.4.

1.82 "**Registration Rights and Stockholder Agreement**" means the Registration Rights and Stockholder Agreement to be executed between OV and LP relating to OV's purchase of Common Stock of LP as provided in Section 6.9.

1.83 "**Regulatory Approval**" means all approvals authorizations, registrations, amendments and supplements thereto, granted by a Regulatory Authority and which are necessary for the Commercialization of a Product for one or more indications in a country or regulatory jurisdiction, which may include satisfaction of all applicable regulatory and notification requirements, but which shall exclude any pricing and reimbursement approvals. Regulatory Approval in the U.S. is in respect of Section 6.2 constituted by final regulatory approval by the FDA of a New Drug Application in accordance with the U.S. FD&C Act and Regulatory Approval in the EU is in respect of Section 6.2 constituted by final regulatory approval issued on the basis of a full and complete dossier in accordance with Directive 2001/83/EC of 6 November 2001 (as amended) on the Community code relating to medicinal products for human use.

1.84 "**Regulatory Authority**" means, in a particular country or regulatory jurisdiction, any applicable Governmental Authority involved in granting Regulatory Approval and/or, to the extent required in such country or regulatory jurisdiction, governmental pricing or reimbursement approval of a Product in such country or regulatory jurisdiction, including the FDA and the United States Drug Enforcement Administration or its successor.

1.85 "**Regulatory Costs**" means all costs and expenses incurred in connection with preparing, submitting, amending and supplementing any applications for Regulatory Approvals for a Product in the Field, including meetings with any relevant Regulatory Authority.

1.86 "**Regulatory Materials**" means regulatory applications, submissions, notifications, registrations, Regulatory Approvals and/or other filings made to or with a Regulatory Authority that are necessary or reasonably desirable in order to Develop, use, Commercialize Compound or a Product in a particular country or regulatory jurisdiction and all internal contact reports of agency interactions. Regulatory Materials include INDs and NDAs.

1.87 "**Replacement Secondary Indication**" has the meaning set forth in Section 4.11.

1.88 "**Royalty Expiration Date**" has the meaning set forth in Section 6.3(e).

1.89 "**Sales Year**" means the twelve (12) month period commencing with the first full calendar month after First Commercial Sale, and each subsequent twelve (12) month period. The first Sales Year is referred to herein as "Sales Year 1," the second Sales Year is referred to herein as "Sales Year 2," and so on.

1.90 "**Secondary Indication(s)**" means any cancer(s) other than Primary Indication. Further, see Section 4.11.

1.91 "**Sole Inventions**" has the meaning set forth in Section 7.1.

1.92 "**Statutory Exchange**" has the meaning set forth in Section 6.9.

1.93 "**Technical Failure**" means, with respect to Irofulven, (i) the material failure of Irofulven to substantially meet any Phase 2 Clinical Trial (for Primary Indication or Secondary Indication(s)) endpoint, (ii) material safety or efficacy issues of Irofulven, or (iii) any other material failure of Irofulven to satisfy requirements necessary to obtain Regulatory Approval from FDA or EMEA for use in the Field.

1.94 "**Term**" has the meaning set forth in Section 11.1.

1.95 "**Territory**" means the entire world.

1.96 "**Third Party**" means any Person other than LP, OV or an Affiliate of either Party.

1.97 "**TLDs**" has the meaning set forth in Section 2.1(d).

1.98 "**U.S.**" means the United States of America.

1.99 "**Valid Claim**" means a claim of an issued and unexpired patent or pending patent application to the extent such claim has not been revoked, held invalid or unenforceable by a patent office, court or other governmental agency of competent jurisdiction in a final and non-appealable judgment (or judgment from which no appeal was taken within the allowable time period) and which claim has not been disclaimed, denied or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise; provided that, on a country-by-country basis, a patent application pending for more than five (5) years from the date of filing of such application as a utility, non-provisional application shall not be considered to have any Valid Claim for purposes of this Agreement from and after such five (5) year date unless and until a patent with respect to such application issues.

ARTICLE 2
GRANT OF RIGHTS

2.1 **Rights to OV**.

(a) **License under LP Technology**. Subject to the terms and conditions of this Agreement and for the Term, LP hereby grants to OV an exclusive, royalty-bearing license, with the right to sublicense (subject to Section 2.2) and assignment (subject to Section 13.5), under the LP Technology and LP's rights and interest in the Product-Related Inventions, Joint Patents and Joint Inventions, in each case excluding the Excluded Rights, to (i) Develop, have Developed, use and Commercialize Compound and Products in the Territory in the Field, and (ii) access, possess, and utilize LP Data Package in the exercise of the rights granted in subsection (i) above (and as further provided in this Agreement). The Parties acknowledge and agree that the foregoing license grant shall be considered a sublicense with respect to any LP Technology that is licensed by LP from a Third Party.

(b) LP shall within thirty (30) days after the Effective Date, disclose and transfer (electronically or physically where appropriate) to OV and, if requested by OV, its Affiliate and sublicensees, including any Third Party manufacturer, any LP Technology and LP Data Package that has not already been disclosed to OV and shall on a reasonably periodic (but not less than quarterly) basis during the Term disclose and transfer (electronically or physically where appropriate) to OV and, if requested by OV, its Affiliate and sublicensees, including any Third Party manufacturer, such LP Technology or parts thereof, including parts of the LP Data Package, which becomes held or licensed by LP after the before-mentioned disclosure. See further Section 5.7(c) with regard to disclosure and transfer for manufacturing purposes.

(c) For purposes of clarity, the Excluded Rights are expressly reserved to LP, the license granted by LP to OV in this ARTICLE 2 excludes Irofulven Analogues currently under development by LP or otherwise developed by LP during the Term hereof, and nothing herein shall be construed as limiting the ability of LP to develop and commercialized such Irofulven Analogues.

(d) **Domain Names**. As between the Parties, OV shall have the sole right to register country- and/or region-level domain names for the Territory (e.g., .us, .ca, .mx, .eu) containing the name "Irofulven" or otherwise related to the Product in the Territory, and to enforce its rights in such country-level domain names anywhere in the world. OV shall further have the sole right to register the top-level domain names (e.g., .com, .net. and .org) containing the name "Irofulven" or otherwise related to the Product, in consultation with LP (the "**TLDs**"). The Parties agree that the TLDs shall be used solely for the purpose of hosting "jump pages" from which users may link to country specific websites located at country-level domains registered in accordance with this Section 2.1(d). The TLDs and "jump pages" shall be hosted and operated by OV or its designated domain/server provider. The content for all "jump pages" residing at the TLDs (including any sub-pages) shall be discussed in good faith and mutually agreed to by the Parties and shall comply with the terms of this Agreement. Either Party shall have the right to initiate discussions at any time regarding the content of the "jump pages" by providing written notice to the other Party, and promptly thereafter each of the Parties shall appoint a representative to commence such discussions and develop such content. For avoidance of doubt, content on the "jump pages" shall be amended only upon mutual written agreement of the Parties, such agreement not to be unreasonably withheld, delayed or conditioned. Each Party shall promptly notify the other Party upon learning of a Third Party committing an act of cybersquatting, infringement or other misappropriation of a TLD. OV shall have the initial right (at its cost) to take all actions reasonably necessary to protect the TLDs from such cybersquatting, infringement or other misappropriation anywhere in the world, and in such case OV shall consult with LP on the strategy for such actions and considering in good faith LP's comments regarding such actions, and LP shall provide all assistance reasonably requested by OV in any such action. If OV does not, within ninety (90) days of learning of the cybersquatting, infringement or other misappropriation of the TLDs by a Third Party, commence action to cause such Third Party to cease such unlawful activity, or sooner if OV declines in writing to commence such action, LP shall have the right, but not the obligation, to commence such action, at its cost, against such Third Party. In such a case, LP shall consult with OV on the strategy for such actions and consider in good faith OV's comments regarding such actions, and OV shall provide all assistance reasonably requested by LP in any such action. LP shall exclusively license to OV any TLDs or country- and/or region-level domain names for the Territory containing the name "Irofulven" or otherwise related to the Product that LP has registered or owns/controls prior to the Effective Date.

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2.2 **Sublicense Agreements**. The licenses granted by LP to OV in Section 2.1 may be sublicensed by OV to any Affiliate or Third Party, provided that any sublicense to a Program Acquirer shall be subject to the provisions of Section 4.12(e) if applicable. See Section 5.3 in respect of OV's obligations in connection with the negotiation of a Program Acquirer Agreement. Any sublicense under the licenses granted by LP to OV in Section 2.1 shall be consistent with the terms of this Agreement and shall include confidentiality and non-use obligations no less stringent than those set forth in ARTICLE 10.

2.3 Nothing in this Agreement shall be construed as restricting the right of (i) each Party to research, develop and commercialize one or more products with pharmaceutically-active ingredients having the same or similar mechanism of action as Irofulven (other than Compounds or Products) outside the Field; and/or (ii) the right of LP to research, develop and commercialize one or more Irofulven Analogues.

2.4 **No Other Licenses.** Neither Party grants to the other Party any rights, licenses or covenants in or to any intellectual property or technology, whether by implication, estoppel, or otherwise, other than the rights, licenses, and covenants that are expressly granted under this Agreement.

ARTICLE 3
GOVERNANCE

3.1 **Alliance Manager.** Each Party shall appoint one (1) employee representative who possesses a general understanding of clinical, regulatory, manufacturing, and marketing issues to act as its respective alliance manager for this relationship ("**Alliance Manager**"). The Alliance Managers will be responsible for the day-to-day interactions between the Parties related to the Program. LP's initial designated Alliance Manager shall be Dr. [***], Ph.D., located at the Cambridge, MA office of LP. OV's initial designated Alliance Manager shall be Dr. [***] [***], M.D., Ph.D., located at the Denmark office of OV. Each Party may replace its Alliance Manager with another employee of such Party subject to consent of the other Party, which consent shall not be unreasonably withheld.

3.2 **Joint Development Committee**. As of the Effective Date, LP and OV have formed a joint development committee ("**JDC**") consisting of three (3) voting representatives – two (2) from OV and one (1) from LP **-** and two (2) non-voting representatives, which initial representatives are:

- Dr. [***], M.D., Ph.D. (OV) – Chairman of the JDC.
- Dr. [***], Ph.D. (LP).
- Dr. [***], Ph.D. (MPI/OV).
- Dr. [***], Ph.D. (LP) – *non-voting member*.
- TBD – one (1) independent scientist to be mutually agreed by the Parties – within sixty (60) days of the Effective Date – and having extensive knowledge of prior oncology drug clinical development – *non-voting member.*

Each Party may replace its JDC representatives with another competent employee of such Party at a time upon prior written notice to the other Party. A representative designated by OV shall serve as the chairperson of the JDC and shall be responsible for calling meetings of the JDC, establishing the agenda for each meeting and initiating the drafting of minutes of the meetings for approval and finalization by the JDC.

3.3 **Meetings of the JDC.** The JDC shall first meet within sixty (60) days after the Effective Date and on a bi-monthly basis thereafter, unless otherwise agreed by the Parties, in each case unless a particular meeting is waived by mutual consent. In addition, each Party shall have the right to call a meeting of the JDC on reasonable notice to the other Party. Subject to the foregoing, the JDC shall meet on such dates and at such times as agreed by the JDC and shall meet via teleconference or videoconference or, if agreed unanimously by the Parties. The location of the JDC meetings will be Copenhagen, Denmark once per year, and Boston, Massachusetts for any additional annual meetings, or as may be agreed by the Parties. Upon prior written notice to, and approval of, the JDC, each Party may permit visitors to attend meetings of the JDC, provided that any approved visitor shall be subject to confidentiality and non-use obligations no less stringent than the terms of ARTICLE 10. Each Party shall be responsible for its own expenses for participating in the JDC. Meetings of the JDC shall be effective only if all voting representatives are present or participating.

3.4 **Responsibilities of the JDC.** The JDC shall have the responsibility and authority to:

(a) discuss, plan, revise and implement the Clinical Development Plan, including manufacturing of Irofulven for the Phase 2 Clinical Trial;

(b) discuss, plan, and inform of any further Development of Products in all indications in the Field in the Territory, including manufacturing of Products in support of such activities;

(c) use Commercially Reasonable Efforts to align each Party's strategy for the Development of the Products in the Territory;

(d) no less frequently than on a bi-annual basis, review, amend and approve any updates to the Clinical Development Plan, including the activities, budget and timeline for Development (see Section 4.2(b));

(e) review and approve proposed Publications in scientific journals, which will need to be approved unanimously by the JDC members, presentations at conferences, and/or press releases resulting from Development activities;

(f) establish subcommittees pursuant to Section 3.8 on an as-needed basis, oversee the activities of all subcommittees so established, and address disputes or disagreements arising in all such subcommittees;

(g) perform such other functions as are referred to the JDC as per this Agreement or which the Parties may otherwise agree in writing;

(h) discuss, plan and inform of any opportunity to create new intellectual property in relation with Irofulven in the Field of Irofulven in combination with DRP Biomarker or any other intellectual property;

(i) discuss with regard to the jurisdictions within the Territory where it could be relevant to seek Regulatory Approval and commence Commercialization of the Product (for Primary Indication or Replacement Secondary Indication) as per this Agreement; and

(j) discuss, plan and inform of any contact or discussion taking place with potential Program Acquirer or any update thereof.

3.5 **Areas Outside the JDC's Authority; Other**. The JDC shall not have any authority other than that expressly set forth in Section 3.4 and, specifically, shall have no authority to (a) amend or interpret this Agreement, or (b) determine whether or not a breach of this Agreement has occurred. Notwithstanding anything to the contrary in this Agreement, the Parties acknowledge and agree that OV shall be entitled to conduct the Development of the Product(s) in the Territory and to seek and secure Program Acquirer(s) for the Program, subject to the terms of this Agreement.

3.6 **JDC Decisions**. All decisions of the JDC shall be made by a simple majority vote of voting members, with the Chairman having the controlling vote and decision in the event of a deadlock; provided that if LP exercised its Opt-In Rights pursuant to Section 4.12, any such deadlock shall be resolved by the Parties as follows:

(a) Within ten (10) business days of such deadlock, officers of each Party shall confer in good faith to resolve the deadlock. If the deadlock is not resolved within such ten (10) business day period, within the following ten (10) business days, each Party shall appoint a board member to confer in good faith with the board member appointed by the other Party to resolve the deadlock.

(b) Any dispute subject to the foregoing that the board members are unable to resolve shall be resolved in accordance with Section 12.1 (excepting 12.1(a)).

3.7 The members of the JDC shall act in good faith to cooperate with one another and to reach agreement with respect to issues to be decided by the JDC. Action that may be taken at a meeting of the JDC also may be taken without a meeting if a written consent setting forth the action so taken is signed by all voting representatives of each Party. All decisions of the JDC shall be memorialized in writing (minutes). The Chairman may appoint a JDC Secretary for the sole, non-voting purpose of keeping the JDC minutes, such JDC Secretary being compensated by OV and not considered a Development Cost.

3.8 **Subcommittees.** The JDC shall have the right, upon unanimous agreement of the voting representatives thereof (i.e. the principle of the chairman's casting vote shall not apply) to establish subcommittees and to delegate certain of its powers and responsibilities thereto. Subcommittees established by the JDC shall operate under the same rules as the JDC, except that any disputes that cannot be resolved by a subcommittee in a reasonable time period shall be submitted to the JDC for resolution in accordance with Section 3.6.

ARTICLE 4
DEVELOPMENT; REGULATORY

4.1 **Development by OV**. Subject to the terms and conditions of this Agreement including Section 3.6, OV shall be solely responsible for the Development of Products in the Field for Regulatory Approval in the Territory, in accordance with the Clinical Development Plan, and in good scientific manner and in compliance with all applicable good laboratory practices, applicable cGMPs and/or other Applicable Laws. During the Term, neither Party shall on its own, via Affiliates, or with or for the benefit of any Third Party engage in any Development activity within the Field with respect to Compound or Products other than as set forth in this Agreement or otherwise agreed by the Parties (excluding Analogues). The Parties will cooperate and use Commercially Reasonable Efforts to implement a Phase 2 Clinical Trial program for the Product for the Primary Indication and/or, where deemed appropriate by OV, Secondary Indication(s) that is satisfactory to Regulatory Authorities worldwide and to prepare protocols and coordinate the conduct of such clinical trials in a manner intended to result in the OV filing for and obtaining Regulatory Approval as decided by the JDC from the FDA, the European Medicines Agency or its successor ("**EMEA**") and other Regulatory Authorities within a reasonably proximate time frame.

(a) **Subcontracting to MPI**. As part of the Clinical Development Plan and Development of Products, OV shall retain and utilize MPI as a subcontractor to develop and advance the DRP Biomarker. Under the terms of such subcontracting relationship (the "**Biomarker Agreement**"), OV shall retain worldwide commercialization rights to the DRP Biomarker in the Field, including but not limited to use of the DRP Biomarker as an In Vitro Diagnostic (IVD) medical device and/or as a Laboratory Developed Test (LDT) diagnostic. A copy of the Biomarker Agreement shall be attached hereto as Exhibit B and made a part hereof by reference.

4.2 **Clinical Development Plan**.

(a) **Initial Clinical Development Plan**. Within ninety (90) days of the Effective Date, OV shall develop and document an initial comprehensive plan for a clinical development Program for conducting the Phase 2 Clinical Trial for the Primary Indication in accordance with the terms of this Agreement, with the long term goal of obtaining Regulatory Approval for the Product in the relevant jurisdictions of the Territory as decided by the JDC (the "**Initial Clinical Development Plan**"). The Initial Clinical Development Plan, which shall include a budget and timeline for activities, shall be attached hereto as Exhibit A and is incorporated herein and made a part hereof by reference. OV shall introduce the Initial Clinical Development Plan at the first meeting of the JDC following the above ninety (90) day period. Any existing or future studies conducted with the National Cancer Institute ("**NCI**") or any investigator-sponsored trials ("**ISTs**") shall be part of the Clinical Development Plan.

(b) **Clinical Development Plan**. Periodically throughout the Term as needed and in no event less frequently than bi-annually, the JDC shall review, amend and update in writing the Initial Clinical Development Plan for the conduct of Development activities in the Territory, and a budget and timeline for such activities, with respect to Products in the Field in a manner consistent with the overall goals of the collaborative project contemplated under this Agreement (each such updated plan, along with the Initial Clinical Development Plan, referred to as the "**Clinical Development Plan**"). The Clinical Development Plan shall be amended or updated on at least an annual basis no later than February 1st of each calendar year during the term of the Program, and more often as the JDC may reasonably determine, for so long as there is a Product in active Development or mutually agreed to be Developed. OV shall take the lead in preparing the first draft of each updated or amended Clinical Development Plan. All updated or amended Clinical Development Plans shall be filed with the minutes of the JDC upon approval by the JDC in accordance with Section 3.6. Until an amended Clinical Development Plan is approved by the JDC pursuant to this Section, the previous Clinical Development Plan shall remain in effect. For the avoidance of doubt, any decision regarding the Program made by the JDC pursuant to Section 3.6 shall be deemed to be an update to the Clinical Development Plan and shall be deemed incorporated in the Clinical Development Plan as reflected in the JDC minutes; provided that the JDC shall incorporate all such updates reflected in minutes in a comprehensive restatement of the Clinical Development Plan as part of each annual update cycle of the Clinical Development Plan. In no event shall the terms of any Clinical Development Plan override the terms of this Agreement.

(c) **Access to Clinical Trials; NCI/IST Studies**.

(i) With respect to any Phase 2 Clinical Trial conducted by OV, whether or not in collaboration with NCI, for the Product in the Territory, LP shall have the right to be involved and present at all major discussions or visits with trial site sponsors and/or the NCI. OV shall promptly provide LP with notice of any such discussions or visits as soon as practicable.

(ii) LP hereby represents and warrants that there are no existing ISTs or NCI trials relating to Irofulven as of the Effective Date of this Agreement.

(iii) LP hereby represents and warrants that there is not one or more open and not terminated (whether in active or inactive status) IND(s) directed to use of Irofulven in the Field.

(d) **No Activities Outside Clinical Development Plan**. Prior to undertaking any Development work for the Product that is not included in the then current Clinical Development Plan or engaging or supporting any Third Parties to conduct such Development activities (including studies with the NCI or ISTs), OV shall provide the JDC with its overall plan (including clinical trial design if applicable) in sufficient time for review and comment by the JDC. The JDC shall then determine whether to include such Development work in the Clinical Development Plan. Neither Party shall be obligated to pay for any Development activities outside the scope of the activities specified in the Clinical Development Plan(s).

4.3 **OV Development Obligations**. OV shall develop the Products in accordance with the Clinical Development Plan, as such documents may be amended, which will include meeting the targeted activity timelines set forth below, as they may be amended (each an "**OV Development Obligation**"):

(a) OV will be responsible for (i) finalizing any protocol for any clinical trial to be conducted to obtain Regulatory Approval of the Product for Primary Indication or Replacement Secondary Indication in the Territory, (ii) identifying all sites and investigators to perform such clinical trials and (iii) obtaining Institutional Review Board ("IRB") approval for any such clinical trial;

(b) OV will identify and retain clinical research organizations ("**CROs**"), chemistry, manufacturing & control organizations ("**CMC**s"), and other regulatory consultants as it deems necessary to the development of the Compound or Product;

(c) Except as otherwise agreed by the JDC, for conduct of the Phase 2 Clinical Trial for Primary Indication or Replacement Secondary Indication and subject to Section 4.3(c)(i), OV shall commence such Trial in at least two (2) trial centers (anticipated, but not required, to be based in Boston, MA) within eighteen (18) months after the Effective Date, and shall use Commercial Reasonable Efforts to achieve the following deadlines:

(i) OV shall pre-screen at least one hundred and fifty (150) eligible Primary Indication or Replacement Secondary Indication patients using DRP Biomarker to identify likely responders within twenty-four (24) months after the Effective Date, within a target of enrolling the top ten percent (10%) of screened patients in the Phase 2 Clinical Trial; and

(ii) No less than fifteen (15) Primary Indication or Replacement Secondary Indication patients shall be enrolled by OV in the Phase 2 Clinical Trial of the Product during the three (3) year period commencing with the Effective Date, which is based on the clinical trials contemplated by the Clinical Development Plan.

(d) OV shall not be deemed to have failed to perform its obligations under this Agreement, including the foregoing obligations, if in using its Commercially Reasonably Efforts, OV or a Program Acquirer is delayed in/prevented from meeting an OV Development Obligation, e.g. as a result of one or more of the following: (i) the occurrence of adverse events or health or safety issues such that the JDC determines to hold or delay a study, (ii) any regulatory hold, constraint or restriction imposed by the FDA or other relevant Regulatory Authority, (iii) any Force Majeure event, (iv) quality issues concerning the manufacturing of Product(s) for use in the Phase 2 Clinical Trial, (v) actions or omissions of the manufacturer of the Product(s) for use in the Phase 2 Clinical Trial, or (vi) a Third Party alleges that the Development, use or Commercialization of Compound or Product(s) infringes its intellectual property rights; provided that OV shall make commercially reasonable efforts to obtain a license under any such intellectual property rights. In the event OV is unable to meet/timely meet an OV Development Obligation, OV shall notify LP in writing of such delay and OV may extend the deadlines corresponding to the affected OV Development Obligations by the amount of time which in the reasonable opinion of OV is required to overcome the obstacle(s). OV and LP shall in such situation confer and work in good faith to overcome the obstacle and minimize the extent of any resulting delay.

4.4 **Development Activities and Development Costs**.

(a) Subject to LP's Opt-In Right under Section 4.12 below, OV will pay one hundred percent (100%) of the Development Costs (including costs for the DRP Biomarker) associated with the preparation for and conduct of the Phase 2 Clinical Trial of the Compound for the Primary Indication and Secondary Indication(s) that are accrued during the Term. For avoidance of doubt, as part of such Development Costs, OV agrees to reimburse LP for Cambridge Office Overhead if such costs are incurred on the basis of the JDC's decision to initiate work that involves the assistance of the Cambridge Office. LP employees based in the Cambridge Office during the Term of this Agreement shall be dedicated to the execution of the Clinical Development Plan and performance of the Phase 2 Clinical Trial for Primary Indication (and Secondary Indication(s)) unless otherwise agreed to in writing by the Parties. Should either Party deem that more than one (1) employee is required in the Cambridge Office in order to adequately support the conduct of the Clinical Development Plan, the JDC shall determine whether such addition of staff is warranted and whether to include the costs of employing such additional employee(s) in the Cambridge Office Overhead. The Parties agree that 100% of ICIP grant funds (see Section 4.4(c)) awarded to and received (on account) by either Party shall be applied to OV's funding obligation under this Section 4.4(a). Any ICIP grant funds received by LP shall be applied towards, and offset, OV's payment of Cambridge Office Overhead and OV's payment of Compound manufacturing costs in support of the Program.

(b) **Other Development Activities and Costs**.

(i) LP shall be solely responsible for all Development Costs accrued by LP in the performance of its obligations and activities under this Agreement which are not (i) reimbursable by OV as Cambridge Office Overhead and/or (ii) directly resulting from OV's development and execution of the Clinical Development Plan and/or Phase 2 Clinical Trial for the Primary Indication and/or Secondary Indication(s).

(ii) Except as otherwise provided in this ARTICLE 4, OV shall not be obligated to pay any other costs incurred by LP during the Term of this Agreement and relating to conduct of the Program, unless otherwise agreed to in writing by OV.

(iii) OV shall provide to LP, via the JDC meetings, with regular accounting updates on Development Costs actually incurred by OV in the performance of the Clinical Development Plan, and anticipated future Costs. OV shall use Commercially Reasonable Efforts to keep within estimated expense ranges.

(c) **OV Funding of Development Costs**. OV shall use commercially reasonable efforts to secure and commit sufficient funding of the Development Costs set forth in Section 4.4(a) above, which funds are expected to amount to approx. [***] U.S. dollars ($ [***]) for the Term, and may among other things consist of cash on hand and non-dilutive grant funding to be secured by OV, including any grant funds (of in total $ [***]) awarded under the Life Sciences International Collaborative Industry Program (ICIP)(http://www.masslifesciences.com/programs/ international/) received by either Party relating to the Program. OV may secure this funding in one or more tranches during the Term. This required OV Funding shall be offset by any funding provided by LP in the event that LP elects to exercise its Opt-In pursuant to Section 4.12. OV has prior to the Effective Date provided LP copy of transcript of account balance.

(d) **IP Plan**. Within ninety (90) days following the Effective Date, OV will develop a detailed, written strategy and plan for the development of the DRP Biomarker and for the patenting, worldwide, of such DRP Biomarker by MPI for use as a companion diagnostic together with Products. The IP Plan, which may be amended by OV from time-to-time as the Program progresses, shall be presented to the JDC for discussion as early as practicable. The IP Plan shall be attached hereto as Exhibit D.

4.5 **Regulatory Matters**.

(a) **OV Responsibility**. Promptly after the Effective Date, and subject to Section 4.7, (i) if there is an existing IND, EU CTA (Clinical Trial Authorization) or similar authorization for the Product in the Field, then such IND, EU CTA or other similar authorization for the Product shall be transferred to OV (provided that LP remains the owner of LP Data Package licensed hereunder), or (ii) if there is no existing IND, EU CTA or other similar authorization for the Product in the Field, then OV shall prepare to file such IND or EU CTA as soon as reasonably practicable during the Clinical Development Plan. LP shall take all reasonably necessary steps and execute all documents reasonably necessary to effectuate such transfer to OV, for no additional consideration. LP shall have the right to reference such IND, EU CTA or other similar authorization pursuant to Section 4.6 and to file one or more IND(s) for use outside the Field.

In addition, commencing with the Effective Date, OV shall be responsible for preparing and filing all Regulatory Materials and seeking all Regulatory Approvals for the Product in the Field in the relevant jurisdictions of the Territory, including preparing all reports necessary as part of an NDA. All such Regulatory Materials for Products in the Territory shall be filed in the name of OV, and OV alone shall be responsible for all communications and other dealings with Regulatory Authorities relating to the Products in the Territory. As between the Parties, OV shall be the legal and beneficial owner of all Regulatory Materials and Regulatory Approvals for the Product(s) in the Field in the Territory that are developed during the Term of this Agreement for the Program; provided that, LP remains at all times the legal and beneficial owner of LP Data Package. As per Section 3.4, the JDC may develop a plan addressing future plans to obtain Regulatory Approval for the Products in each jurisdiction within the Territory other than the U.S. OV's right to seek Regulatory Approval and commence Commercialization of Product(s) in the Territory shall not be limited to the jurisdictions that may be designated by the JDC as per Section 3.4(i) and this Section 4.5(a).

As part of the Clinical Development Plan(s) and via the JDC, OV shall promptly notify LP of all material Regulatory Materials (including all material written communications with the FDA or EMEA) that it proposes to submit or receives and shall promptly provide LP with a copy (which may be wholly or partly in electronic form) of such material Regulatory Materials in the Territory for review by LP. OV shall reasonably consider and give due consideration to any comments provided by LP with respect to such Regulatory Materials. OV shall retain the right to make any final decisions with respect to the content of any such communications, which shall be compliant with the Clinical Development Plan(s), this Agreement and Applicable Law. OV shall provide LP with reasonable advance notice of any scheduled meeting with any Regulatory Authority relating to the Product and/or any Regulatory Approval in the Territory, and LP shall have the right to have up to two (2) individuals attend any such meeting as non-participating observers, to the extent practicable and permitted by Applicable Law; provided that OV will retain the lead role and responsibility in any such meetings.

(b) **LP Responsibility**. LP shall use Commercially Reasonable Efforts to assist OV, as reasonably requested and necessary, in the preparation, submission, and advancement of Regulatory Materials during the Term of this Agreement.

4.6 **Rights of Reference to Regulatory Materials; Use of Clinical Data**. For clarity, the rights of reference and use granted by ARTICLE 2 and this ARTICLE 4 shall be shall be independent of the ownership of the Regulatory Materials and Regulatory Approvals as allocated or transferred by this Agreement.

4.7 **Adverse Event Reporting and Safety Data Exchange.** At any time after the Effective Date, any adverse event (any unwanted or unintended experience in a person that is associated with the use of a Compound or Product, whether or not that experience is caused by that Compound or Product, including any known side effects) or complaint received by either Party regarding a Product will be forwarded to the other Party as soon as possible, but no later than two (2) calendar days after the Party receives such adverse event or complaint, by telephone, facsimile or secure e-mail, and shall promptly provide the other Party with such other information reasonably requested by the other Party to comply with its reporting obligations in connection with the Development of Product in support of Regulatory Approval. The Parties agree that OV shall be responsible for all safety reporting to Regulatory Authorities under the IND pertaining to the Phase 2 Clinical Trial for Primary Indication (and Secondary Indication(s)).

As part of the Clinical Development Plan, and via the JDC, OV and LP shall define an adequate pharmacovigilance plan containing specific terms, conditions and obligations of the Parties with respect to collection, reporting and monitoring of all adverse drug reactions, adverse events, product complaints, medical inquiries and other relevant drug safety matters relating to the Product, sufficient to enable OV to comply with its reporting obligations and regulatory submissions in the Territory for the Product.

4.8 **Communications with Regulatory Authorities**.

(a) **General.** Each Party shall keep the other Party informed, in a timely manner compliant with the reporting requirements of Regulatory Authorities, of notification of any action by, or notification or other information which it receives (directly or indirectly) from any Regulatory Authority in the Territory with respect to the Product and which may have a material impact on Regulatory Approval or the Commercialization of the Product.

(b) **Other Communications.** Except as may be required by Applicable Law or as necessary to exercise its rights in the Irofulven Analogues, LP shall not, subsequent to final approval by the FDA of the NDA for the Product, communicate regarding the Product with any Regulatory Authority having jurisdiction in the Territory unless explicitly requested or permitted in writing to do so by OV or unless so ordered by such Regulatory Authority in the Territory, in which case LP shall immediately provide notice of such order to OV.

4.9 **Regulatory Inspection or Audit.** If a Regulatory Authority desires to conduct an inspection or audit of either Party's facility or a facility under contract with either Party with regard to the Product in the Territory, such Party shall cooperate and cause the facility to cooperate with such Regulatory Authority during such inspection or audit. Following receipt of the inspection or audit observations of such Regulatory Authority (a copy of which such Party will immediately provide to the other Party), such Party will prepare the response to any such observations. Such Party agrees to conform its activities under this Agreement to any commitments made in such a response, except to the extent it believes in good faith that such commitments violate Applicable Laws.

4.10 **Product Withdrawals and Recalls.** OV shall have the right and responsibility, at its expense, to control any Product recall, field correction, or withdrawal of any Product in the Territory. To the extent practicable, the Parties shall discuss the circumstances of any potential Product recall, field correction or withdrawal of any Product and possible appropriate courses of action, which shall be discussed via the JDC.

4.11 **Secondary Indication(s).** OV shall have the right to develop and initiate one or more clinical development plans for the Development of the Compound and Product(s) for one or more Secondary Indication(s) in the Field in the Territory and to conduct one or more Phase 2 Clinical Trials for such Secondary Indication(s) during the Term of this Agreement. The inclusion of the Development of the Compound and Product(s) for Secondary Indication(s) in the Program can, where deemed relevant by OV, be as an alternative to the Development of the Compound and Product(s) for Primary Indication (a **"Replacement Secondary Indication"**) or be in addition to the Development of the Compound and Product(s) for Primary Indication (an **"Additional Secondary Indication"**). The Program can only include one Replacement Secondary Indication at a time but can include several Additional Secondary Indications. OV shall provide written notice to LP of its intent to include such Development of the Compound and Product(s) for Secondary Indication(s) in the Program. OV's Development of the Compound and Product(s) for such Secondary Indications pursuant to this Section 4.11 shall be according to all terms and conditions of this ARTICLE 4 and of this Agreement, including without limitation that OV remains solely responsible for the payment of all development costs of the Compound and Product(s) for such Secondary Indications. OV shall only be subject to obligations with regard to Secondary Indication(s) where OV itself has decided to include such Secondary Indication(s) in the Program. Where OV decides to include in the Program the Development of the Compound and Product(s) for a Replacement Secondary Indication, LP shall not be entitled to receive milestone payments as set out in Section 6.2 in respect of such Replacement Secondary Indication as it replaces the Primary Indication under the Program. Royalties shall accrue as per Section 6.3 on Compound and Product(s) Developed for any Secondary Indication(s), including Replacement Secondary Indications and Additional Secondary Indications. The JDC shall oversee any Clinical Development Plan(s) and Secondary Phase 2 Clinical Trials for Secondary Indication(s).

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4.12 **LP Opt-In Rights.** LP shall have the right to opt-in to, and invest in, a more active role in the Phase 2 Clinical Trial for the Primary Indication on the following terms and conditions (the "**Opt-In Rights**"):

(a) Within ninety (90) days following accrual of the first half (approximately eight (8)) of the patients to the Phase 2 Clinical Trial for the Primary Indication – estimated to occur by Q3, 2016 – LP shall provide written notice to OV of its exercise of its Opt-In Rights under this Section 4.12.

(b) Within thirty (30) days from the date of the opt-in notice under subsection (a) above, LP shall pay to OV the one-time sum of [***] dollars ($ [***]).

(c) LP shall further fund [***] percent ([***]%) of all costs incurred in the conduct of the Phase 2 Clinical Trial, whether such costs are incurred prior to or after LP's notice of opt-in. OV shall provide to LP a detailed written summary of all such costs incurred prior to the date of opt-in notice.

(d) LP shall have the right to appoint one (1) additional voting member to the JDC, provided such appointee is agreeable to the JDC Chairman, which consent shall not be unreasonably withheld.

(e) Prior to concluding any final Program Acquirer Agreement with a potential Program Acquirer, OV shall, in a situation where LP has exercised its Opt-In Rights, not conclude the final Program Acquirer Agreement with such potential Program Acquirer without the written consent of LP (the ability to withhold such consent being the "LP Veto Right"). Such consent shall not be unreasonably withheld, conditioned, or delayed. LP may only withhold its consent as per the LP Veto Right where it, based on factual circumstances available to both LP and OV, is evident or highly likely that the potential Program Acquirer does not have the financial and human capabilities that are necessary for pursuing and advancing the development of Product past Phase 2 Clinical Trial and Commercializing the Product as contemplated in this Agreement or has a track record of not complying with laws and regulation relating to safety, including product safety, to a degree significantly deviating from the comparable market participants in general. Any exercise of the LP Veto Right is conditioned that LP provides OV with a detailed, written explanation of its basis for concluding that the conditions for withholding its consent are present. See Section 5.3 with regard to OV's obligations towards LP in the negotiation of Program Acquirer Agreement(s)

(f) LP shall be entitled to an increased financial share in the Program contemplated under this Agreement, as further enumerated under ARTICLE 6, as indicated by reference to "Opt-In."

(g) LP shall be entitled to the same opt-in and investment rights for any Replacement Secondary Indication and Additional Secondary Indications as it is entitled to for Primary Indication under this Section 4.12, provided that LP will not obtain the right to appoint one (1) additional voting member to the JDC under subsection (d) above where LP already has appointed such member in connection with a previous exercise of its Opt-In Rights.

(h) A failure by LP to make the required payments under subsections (b) or (c) above shall operate as a waiver by LP of its Opt-In Rights under this Section 4.12.

ARTICLE 5
PROGRAM EXIT; ACQUISITION

5.1 **Commercialization by OV.** OV, itself or through its Affiliates or sublicensees (including Program Acquirer(s)), shall use Commercially Reasonable Efforts to Commercialize Products for which Regulatory Approval has been received in the Territory. The Parties expressly acknowledge and agree that the anticipated and preferred commercialization strategy for Products shall be the exit of the Program, via license and/or sale of the Program by OV to one or more Program Acquirers for one or more jurisdiction within the Territory following conclusion of a successful Phase 2 Clinical Trial and prior to further clinical development and Regulatory Approval, see Sections 3.4(i) and 5.2. However, this ARTICLE 5 shall not limit OV's right to itself pursue and advance the Development of Product past Phase 2 Clinical Trial and Commercialize Product as contemplated in this Agreement.

5.2 **Exit Efforts**. OV shall use Commercially Reasonable Efforts to secure a Program Acquirer for the Program for either the whole Territory or for the U.S. or for the EU within one hundred and eighty (180) days of the publication (by OV) of final, positive Phase 2 Clinical Trial results for the Program (either for the Primary Indication or for a Secondary Indication). See Section 5.6 with regard to prolongation of deadlines. Apart from the obligation set out in the before-mentioned, OV is, unless otherwise decided by the JDC, see Sections 3.4(i) and 4.5(a), free to determine in respect of which jurisdictions within the Territory it will conclude Program Acquirer Agreement(s),

5.3 **Negotiations with Program Acquirer.** OV shall have sole responsibility for negotiating with one or more Third Parties about the potential of such Third Parties to become Program Acquirer(s). Subject to LP's Veto Right under Section 4.12(e) above, if applicable, and the terms and conditions of this Agreement, OV shall have sole responsibility for engaging and concluding Program Acquirer Agreement(s) with such Program Acquirer(s), and negotiating and executing the terms of a Program acquisition by such Program Acquirer(s). Notwithstanding the foregoing, (i) in the event that OV has decided to assign this Agreement to a Program Acquirer, see Section 13.5, OV shall not conclude final Program Acquirer Agreement with such Program Acquirer unless the Program Acquirer replaces OV as a party to this Agreement and assumes all of the rights and undertakes to fulfill all the obligations of OV under this Agreement which relate to and accrue in the time period after the effective date of the Program Acquirer Agreement and (ii) in the event that OV has decided to sublicense all or part of its rights and obligations under this Agreement to a Program Acquirer, see Section 2.2 and Section 4.12(e), OV shall not conclude a final Program Acquirer Agreement with such Program Acquirer unless the Program Acquirer in such Program Acquirer Agreement in writing undertakes, with regard to the relevant jurisdiction(s) within the Territory, to fulfill the rights and obligations of OV under this Agreement which relate to and accrue in the time period after the effective date of the Program Acquirer Agreement in respect of the pursuing and advancing of the Development of Product past Phase 2 Clinical Trial and Commercializing the Product as contemplated in this Agreement, and OV shall provide LP copy of such written statement for commenting and OV shall comply with LP's reasonable request for amendment of the wording of the statement. Before concluding any final Program Acquirer Agreement with any Program Acquirer, OV shall first have determined, after reasonable diligence, that such Program Acquirer has the requisite skill, expertise, resources, and alignment of business interests (absence of conflicts) to faithfully pursue and advance the development of Product past Phase 2 Clinical Trial and Commercialize Product as contemplated in this Agreement within the relevant jurisdiction(s). OV shall not suggest or accept terms and conditions of any Program Acquirer Agreement that would deprive LP of the rights LP is entitled under this Agreement.

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(a) In addition, OV shall, subject to Section 5.6, ensure, either itself or via one or more Program Acquirers, the following:

(i) Enrollment of a first patient in a Phase 3 Clinical Trial for Primary Indication or Replacement Secondary Indication no later than December 31, 2021.

(ii) Filing for Regulatory Approval in either the U.S. or in the EU for the Product(s) (Primary Indication or Replacement Secondary Indication) no later than December 31, 2023.

(b) In addition to the specific Milestone Deadlines set out in subsection (a) above, a Program Acquirer Agreement shall prescribe that the Program Acquirer shall use Commercially Reasonably Efforts to obtain Regulatory Approval for the Product(s) for Primary Indication or Replacement Secondary Indication in each jurisdiction covered by the relevant Program Acquirer Agreement. A Program Acquirer Agreement concerning a Program Acquirer's acquisition of rights on the basis of a license shall prescribe (i) that if the Program Acquirer is not successful in obtaining Regulatory Approval and effecting distribution in the jurisdiction(s) in questions within the period stipulated in the Program Acquirer Agreement, the rights granted under the Program Acquirer Agreement with regard to such jurisdiction(s) shall be omitted from the Program Acquirer Agreement and shall be vested in OV again and (ii) that OV will exercise commercially reasonable efforts to appoint another Program Acquirer to effect Regulatory Approval and distribution in such jurisdiction(s) or itself pursue Regulatory Approval and carry out distribution in such jurisdictions, also see Section 5.5, Section 5.6 and Section 11.1(a).

5.4 **Failure to Secure Program Acquirer.** In the event that OV fails to secure a suitable Program Acquirer as per Section 5.2, OV shall be entitled to decide that it itself will pursue Regulatory Approval and the Commercialization in the relevant jurisdiction(s), see Sections 5.5 and 11.1(a), or that it will exercise its right to have the deadlines set out in this ARTICLE 5 extended as per Section 5.6.

5.5 **OV's own direct continued Development and Commercialization**. In the event OV, e.g. as per Section 5.4 and Section 11.1(a), decides to itself pursue the obtaining of Regulatory Approval and subsequently Commercialization of Products in the U.S. and/or in the EU, or where OV re-acquires the rights and obligations as per Section 5.3(b) with regard to the U.S. and/or the EU and subsequent thereto decides to itself pursue the obtaining of Regulatory Approval and subsequently Commercialization of Products in the jurisdiction(s) in question, OV shall, be obliged to meet all obligations which otherwise be required of a Program Acquirer engaged pursuant to the terms of this Agreement, including without limitation the relevant milestone deadline(s) (subject to OV's right to have the Milestone Deadlines extended in accordance with Section 5.6).

5.6 **Extension of Deadlines.** In the event that OV, either itself or via a Program Acquirer, is unable to meet any of the deadlines applicable to OV or a Program Acquirer under this Agreement, such as the deadline set out in 5.2 or the Milestone Deadlines, OV shall be entitled to have all the mentioned deadlines extended by yearly extensions. Where OV chooses to exercise its right to have the relevant deadlines extended, OV shall prior to the expiry of the relevant deadline(s) inform LP hereof by a written notice. All deadlines designated by OV in the notice to LP shall be extended by a one (1) year extension term, and OV may continue, by written notice prior to the expiry of each extension term, to have the deadline(s) extended without limitation by one (1) year at a time. OV shall pay to LP in total [***] dollars ($[***]) for the first year of extension of all the designated deadlines, in total [***] dollars ($ [***]) for the second year of extension of all the designated deadlines, in total [***] dollars ($ [***]) for the third year of extension of all the designated deadlines and so forth, where the payment for an additional year of extension of the designated deadlines is the payment of the previous year of extension plus in total [***] dollars ($ [***]). If OV ceases to extend the deadlines as per this Section 5.6, and does not itself undertake to pursue the obtaining of Regulatory Approval and subsequently Commercialization of Products in the jurisdiction(s) in question as per Sections 5.4 and 5.5, LP shall, with regard to the jurisdiction in respect of which the deadline(s) relate, be entitled by a one (1) months written notice to OV to terminate OV's rights and obligations, and thereby a Program Acquirer's rights and obligations, with regard to the pursuing and obtaining of Regulatory Approval and subsequently Commercialization of Product(s) in the jurisdiction(s) in question and itself, including via one or more Third Parties, pursue the obtaining of Regulatory Approval and subsequently Commercialization of Product(s) in the jurisdiction(s) in question. Such termination shall not affect OV's or any Program Acquirer's rights and obligations with regard to the pursuing and obtaining of Regulatory Approval and subsequently Commercialization of Product(s) in other jurisdictions. For the avoidance of doubt, in the event that OV does not meet the deadline set out in Section 5.2 and does not extend or ceases to extend the deadline as per this Section 5.6, LP can only carry out a termination with regard to OV's rights and obligations to obtain Regulatory Approval and Commercialize Product(s) in the U.S. and in the EU but not the whole Territory, irrespective that the whole Territory is mentioned in Section 5.2.

5.7 **Manufacture and Supply of Product.**

(a) Except as set forth below, OV shall have sole responsibility (either itself or through one or more contract manufacturers), at its own expense, for manufacturing all clinical supplies of Product for the Phase 2 Clinical Trial(s), in all formulations in bulk and finished form. LP represents and warrants that any of LP's existing manufacturing agreements do not contain any obligations for OV to obtain all or part of its requirements from such Third Parties and LP will take no action or inaction that would result in any such obligation or that would adversely affect OV's rights under this Agreement. Commencing on the Effective Date, LP shall not negotiate or enter into any manufacturing or supply agreements for Compound or Products or in any way implicating or impacting on Products, without the express prior written consent of OV.

(b) Within ninety (90) days after the Effective Date, OV shall negotiate and execute an agreement for the clinical supply of Product to OV (the "**Clinical Supply Agreement**"), on such commercially reasonable terms and conditions deemed necessary to adequately support the Clinical Development Plan and conduct of the Phase 2 Clinical Trial. Should any backup clinical supplier of Product be required or deemed desirable by OV during the Term of this Agreement, OV shall have the right and power to negotiate and execute suitable agreements with such backup clinical suppliers.

(c) LP shall when making the disclosure and transfer as per Section 2.1(b), ensure that OV, its Affiliates and/or the Third Party manufacturer possess all information and know-how that is necessary or useful to enable OV, its Affiliate or a Third Party manufacturer (as appropriate) to replicate any processes employed by or on behalf of LP to manufacture Product. LP shall take commercially reasonable steps, at its own expense, to ensure the smooth and timely transfer of the manufacturing process for Products to OV, its Affiliate or Third Party manufacturer. OV shall not engage any Third Party manufacturer to manufacture Product that is not subject to a confidentiality agreement that contains obligations of confidentiality and non-use that are no less stringent than those of ARTICLE 10 of this Agreement.

(i) To the extent permitted by the manufacturing agreements for Product that OV enters into, OV shall pass through to LP the benefit of any representations, warranties, and indemnities made by the Third Party manufacturers under such agreements and any other remedies OV may have against such manufacturers. LP shall not have any liability to OV or any other Person with respect to, and OV shall indemnify LP for, any liability attributable to a breach or other failure by any such manufacturer.

ARTICLE 6
FINANCIALS

6.1 **License Fee; Grant Fee**.

(a) Subject to LP's confirmation to OV that the condition subsequent specified in Section 13.16(d) has been fulfilled, OV shall within five (5) Business Days after OV receives wire transfer information from LP pay to LP (subject to the below) a non-refundable, non-creditable license fee of [***] dollars ($[***]) by wire transfer of immediately available funds into the account designated by LP. The mentioned license fee shall, irrespective of the before-mentioned, be refunded if LP breaches any material warranty or representation provided in this Agreement, or if LP fails to timely provide the LP Data Package to OV.

(b) OV shall pay to LP a one-time fee of [***] dollars ($[***]) within ten (10) Business Days of the first-to-occur of the following events: (i) receipt (on account) by OV of at least a [***] dollar ($[***]) grant award under the Danish/Massachusetts Life Sciences International Collaborative Industry Program (ICIP)(which grant is anticipated to occur by/before April 1, 2015); or (ii) if no such grant payment is received, three (3) out of the first eight (8) patients enrolled in the Phase 2 Clinical Trial for Primary Indication being observed to achieve the therapeutic endpoint benefit defined in the Clinical Development Plan and/or IND for the Phase 2 Clinical Trial for Primary Indication. Provided that, the payment by OV to LP under the ICIP grant event (i) above shall be paid and deducted from any ICIP grant funds awarded directly to LP in reimbursement of Cambridge Office Overhead and Compound manufacturing expenses, with OV then paying LP for any difference between the [***] dollars ($ [***]) payment required in this subsection (b) and a lessor amount of ICIP grants funds received directly by LP.

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6.2 **Development Milestone Payments.** Subject to Section 6.2(f) and Section 6.2(j), OV shall further make development milestone payments to LP as follows,

(I) Clinical Development Events:

(a) **First Patient, First Visit in Phase 3 Clinical Trial.**

(i) If **no** Opt-in by LP (under Section 4.12 above), then: [***] U.S. dollars ($[***]) upon initiation by OV, or an Affiliate of OV or Program Acquirer, of treatment of the first patient in a Phase 3 Clinical Trial of a Product for use in a Primary or Replacement Secondary Indication; or

(ii) If Opt-in by LP, then: [***] U.S. dollars ($[***]) upon initiation by OV, or an Affiliate of OV or Program Acquirer, of treatment of the first patient in a Phase 3 Clinical Trial of a Product for use in a Primary or Replacement Secondary Indication.

(b) **First Filing for Regulatory Approval: European Union (EU).**

(i) If **no** Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first Filing by OV, or an Affiliate of OV or Program Acquirer, for Regulatory Approval in the EU of a Product for use in a Primary or Replacement Secondary Indication; or

(ii) If Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first Filing by OV, or an Affiliate of OV or Program Acquirer, for Regulatory Approval in the EU of a Product for use in a Primary or Replacement Secondary Indication.

(c) **First Filing for Regulatory Approval: United States (U.S.)**

(i) If **no** Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first Filing by OV, or an Affiliate of OV or Program Acquirer, for Regulatory Approval in the U.S. of a Product for use in a Primary or Replacement Secondary Indication; or

(ii) If Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first Filing by OV, or an Affiliate of OV or Program Acquirer, for Regulatory Approval in the U.S. of a Product for use in a Primary or Replacement Secondary Indication.

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(II) Regulatory Development Events:

(d) **First Regulatory Approval: European Union (EU).**

(i) If **no** Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first receipt by OV, or an Affiliate of OV or Program Acquirer, of Regulatory Approval in the EU of a Product for use in a Primary or Replacement Secondary Indication; or

(ii) If Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first receipt by OV, or an Affiliate of OV or Program Acquirer, of Regulatory Approval in the EU of a Product for use in a Primary or Replacement Secondary Indication.

(e) **First Regulatory Approval: United States (U.S.)**

(i) If **no** Opt-in by LP, then: [***] U.S. dollars ($[***]) upon first receipt by OV, or an Affiliate of OV or Program Acquirer, of Regulatory Approval in the U.S. of a Product for use in a Primary or Replacement Secondary Indication; or

(ii) If Opt-in by LP, then:[***] U.S. dollars ($[***]) upon first receipt by OV, or an Affiliate of OV or Program Acquirer, of Regulatory Approval in the U.S. of a Product for use in a Primary or Replacement Secondary Indication.

(f) **Milestone Caps and Floors**.

(i) Irrespective of what is otherwise set out in Section 6.2, each of the development milestone payments under Section 6.2, subsections (a), (b), and (c) above (the Clinical Development Events) shall not, in any case, be lower than (1) [***] percent ([***]%), in the case of **no** Opt-In by LP or (2) [***]percent ([***]%), in the case of Opt-In by LP, of any milestone payment OV receives from a Program Acquirer upon the occurrence of substantially the same milestone events.

(ii) Irrespective of what is otherwise set out in Section 6.2, each of the development milestone payments under Section 6.2, subsections (d) and (e) above (the Regulatory Development Events) shall not be higher than (1) [***] percent ([***]%), in the case of **no** Opt-In by LP or (2) [***] percent ([***]%), in the case ofOpt-In by LP, of any substantially similar milestone payment OV receives from Program Acquirer.

(g) **Other Milestones.** OV shall further pay to LP the minimum of either (i) [***] percent ([***]%) of any milestone payments OV receives from a Program Acquirer for clinical development events other than events under Section 6.2(a)-(c) above (the Clinical Development Events), or (ii) a one-time payment of [***] U.S dollars ($[***]), whichever is higher. In the event of an Opt-In by LP, such additional payments under this subsection (g) shall increase to either (I) [***] percent ([***]%) of any clinical development milestone payments OV receives from a Program Acquirer for clinical development events other than events under Section 6.2(a)-(c) above (the Clinical Development Events), or (II) a one-time payment [***] of U.S dollars ($[***]), whichever is higher.

(h) Each development milestone payment in this Section 6.2 shall be paid only once by OV, regardless of the number of Products or Indications that achieve such milestones, and shall be non-refundable and non-creditable. Except to the extent set forth in 6.2(f) and 6.2(g), the total amount that OV (or a Program Acquirer) shall be liable to pay as per Section 6.2(a) - 6.2(e) is (i) if LP has not exercised its Opt-In Rights: twenty one million U.S dollars ($21,000,000) and (ii) if LP has exercised its Opt-In Rights: thirty-one million five hundred thousand U.S dollars ($31,500,000).

(i) For purposes of clarity, no other milestone payments than specified in this Section 6.2 shall be due to LP from OV for any other events, including developmental events relating to Products that occur during Phase 1 or Phase 2 clinical trials throughout the Territory.

(j) **Alternative Payment Structure.** Prior to the entering into by OV of a Program Acquirer Agreement for the Territory or a specific part of the Territory, OV shall provide LP with information about the payments, other than royalty payments (as LP's rights in respect of such are regulated by Section 6.3 below), to be made by the Program Acquirer to OV for the rights granted under the Program Acquirer Agreement in question, e.g. milestone payments and other lump sum payments, such as upfront payments. LP shall within fifteen (15) days of receipt of this information inform OV by a written notice whether LP in respect of the Program Acquirer Agreement in question chooses to receive payments, where relevant, according to the milestone payment principles set out in Section 6.2(a)-(h) above or whether LP chooses to receive alternative payments as per this Section 6.2(j). If LP elects to receive alternative payments, the following provisions shall apply, to the extent applicable, in lieu of payments which would otherwise have to be made under 6.2(a)-(h):

(i) The alternative payment structure entitles LP to receive (i) if LP has not exercised its Opt-In Rights, [***] percent ([***]%), or (ii) if LP has exercised its Opt-In Rights, [***] percent ([***]%), of all amounts, other than royalty payments, received by or on behalf of OV from the Program Acquirer, or from a Third Party paying on behalf of the Program Acquirer, in consideration of the Program Acquirer Agreement after subtraction of any amounts paid or payable by OV on the basis of the Program Acquirer Agreement (including in respect of receipt of payments thereunder) for VAT, other taxes (including income taxes), and other fees and payments to Governmental Authorities, including in respect of the development or distribution of the Products, and payments made by the Program Acquirer to compensate OV's documented reasonable costs of any kind, including Regulatory Costs (the "Alternative Payment Basis").

(ii) Payments to LP as per the alternative payment structure shall be made by OV within thirty (30) days of OV's receipt on account of any subject payment(s) from the Program Acquirer.

(iii) LP's choice with regard to the application of the alternative payment structure is binding and irrevocable.

(iv) If LP chooses to receive payment as per the alternative payment structure, LP shall, with regard to the Program Acquirer Agreement in question and any clinical trials, research, Development, filings, etc. carried out by the Program Acquirer under the agreement, have no right or claim against OV or the Program Acquirer in respect of any payment as per Section 6.2(a)-(h), irrespective that the Program Acquirer Agreement in question may comprise the EU and/or the U.S. and irrespective that the Program Acquirer Agreement may contain an obligation for the Program Acquirer to pay milestone payments in respect of milestone events identical or similar to those set out in Section 6.2(a)-(h). This has the implication that LP will not have a right to receive, for example, payment as per Section 6.2(c) if LP has elected to receive alternative payments. Notwithstanding the foregoing, LP shall, subject to Section 6.2(j)(vi), retain the option to receive alternative payments in respect of any Program Acquirer Agreement presented as per the above after the receipt of a milestone payment from OV.

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(v) If LP does not provide written notice to OV of its election to receive alternative payments within the aforementioned fifteen (15) Business Days period or if LP notifies OV that it for the Program Acquirer Agreement in question chooses to opt for application of the payment principles set out in Section 6.2(a)-(h), the principles set out in Section 6.2(a)-(h) shall, where relevant, apply in respect of the Program Acquirer Agreement in question and LP shall, in respect of the Program Acquirer Agreement in question, have no right or claim for alternative payment as per this Section 6.2(j).

(vi) In the event a Program Acquirer Agreement is presented after payment of one or more milestone payments under 6.2(a)-(e), the alternative payment amount(s) otherwise payable to LP in respect of the Program Acquirer Agreement in question (calculated as per subsection (iv) above) shall prior to payment to LP be reduced to the extent of any milestone payments already paid to LP by OV. For example, if a Program Acquirer Agreement (having the U.S. as its applicable jurisdiction or part of its applicable jurisdiction) is presented in accordance with this Section after OV has paid a milestone payment as per Section 6.2(a) for treatment of first patient in a Phase 3 Clinical Trial, whether in the U.S. or in another jurisdiction, and OV has not yet filed for Regulatory Approval in the U.S., and assuming LP has not exercised its Opt-In Rights, the calculated alternative payment amount shall be reduced by [***] U.S dollars ($ [***]) before payment to LP and LP shall only be entitled to receive the reduced amount.

6.3 **Royalties.**

(a) **Royalty Rate; Caps**. Subject to the terms of this Section 6.3, OV shall pay to LP a royalty on annual Net Sales in the Territory, as follows:

Annual Net Sales ($U.S.)	No Opt-In by LP	Opt-In by LP
Zero to $50 million:	[***] %	[***] %
>$50 million to $150 million:	[***] %	[***] %
>$150 million to $300 million:	[***] %	[***] %
>$300 million:	[***] %	[***] %

Provided, however, that the above royalties shall be subject to the following caps: Royalties shall not be higher than (i) [***] percent ([***]%), in the case of **no** Opt-In by LP or (ii) [***] percent ([***]%), in the case ofOpt-In by LP, of any royalty payment OV receives from a Program Acquirer with regard to the Program Acquirer's sale of Products within the Territory.

(b) **Royalty Reduction – Generic Competition**. In the event a Product is subject to Generic Competition in a country in the Territory, then the royalty rate set forth in Section 6.3(a) (as such rate may have been adjusted under Section 6.3(d)) shall be reduced by [***]percent ([***]%) with respect to Annual Net Sales made in such country, provided that if the royalty rate set forth in Section 6.3(a) has already been reduced pursuant to Section 6.3(c), the amount of the reduction permitted to be taken under this Section 6.3(b) shall be limited to [***] percent ([***]%) of the royalty rate prior to the reduction being taken under Section 6.3(c). Such royalty reduction shall become effective on the first day of the month after the month in which on such Generic Competition first occurs and shall expire on the last day of the month in which such Generic Competition ceases to exist, subject to the royalty duration provided for under Section 6.3(e).

(c) **Royalty Reduction – Patent Expiry**. If expiration of all Valid Claims of (i) LP Patents in the relevant country Covering Product and (ii) OV/MPI Patents in the relevant country Covering Product with DRP Biomarker (as a companion diagnostic for Irofulven) occurs prior to the expiration of the ten (10) year period set forth in Section 6.3(e) with regard to such country, the royalty rate set forth in Section 6.3(a) (as such rate may have been adjusted under Section 6.3(d)) for such Product shall be reduced by [***] percent ([***]%) for the remainder of the applicable royalty duration.

(d) **Royalty Reduction – Anti-Stacking**. In the event the Development, use or Commercialization of Compound or any Product in the Territory under this Agreement would infringe the intellectual property rights of any Third Party absent a license thereunder, which manufacturing, use or sale activity necessitates OV to reasonably obtain a license under such Third Party intellectual property rights, then OV may deduct from the royalties due to LP pursuant to this Section 6.3 [***]percent ([***]%) of any payments actually paid to any such Third Party as consideration solely for any such license to such intellectual property rights; provided that in no event shall the royalties due to LP for a given calendar quarter be reduced under this Section 6.3(d) by more than [***] percent ([***]%). Unused credit amounts may be carried over into subsequent quarterly periods.

(e) **Duration**. Royalties shall be payable under this Section 6.3 on a country-by-country and Product-by-Product basis during the period commencing with First Commercial Sale of the Product in question in the relevant country and continuing until the later of: (i) expiration of the last to expire Valid Claim of a LP Patent Covering such Product in such country, or (ii) ten (10) years after First Commercial Sale of such Product in such country, or (iii) expiration of the last to expire Valid Claim of an OP/MPI Patent Covering such Product together with use of the DRP Biomarker, provided that Product is approved (Regulatory Approval) only for use with DRP Biomarker in such Country, or (iv) on a country-by-country basis, expiration of any FDA (or other foreign equivalent) Regulatory Approval in such country that requires the use of DRP Biomarker as a companion diagnostic for the Product in question in the Field (the latest date hereunder being the "**Royalty Expiration Date**").

6.4 **OV Payments and Reports.** Within thirty (30) days after the end of each calendar quarter, OV shall provide LP with a statement of (a) the amount of gross sales of Product in the Territory by OV, any Program Acquirer, their Affiliates and sublicensees during the applicable calendar quarter, (b) an itemized calculation of Net Sales showing Net Sales Deductions during such calendar quarter, (c) a calculation of the amount of royalty payment due on such sales for such calendar quarter pursuant to Section 6.3, (d) a calculation of any milestone payments due pursuant to Section 6.2 (provided that the alternative payment structure as per Section 6.2(j) does not apply in respect of the milestone event in question), and (e) other information reasonably requested by LP. OV shall pay to LP the royalty payment for such calendar quarter pursuant to Section 6.3 concurrently with each statement. Milestone payments due pursuant to Section 6.2 shall be paid within thirty (30) days of the occurrence of the applicable milestone event. All amounts payable to LP under this Agreement shall be paid in U.S. dollars, and shall be made by check, unless wire transfer is otherwise specified in writing by LP.

6.5 **Taxes.** All payments required to be paid under this Agreement shall be paid without deduction or withholding of any taxes, except as set forth in this Section 6.5. The Parties agree to cooperate with one another and use reasonable efforts to minimize obligations for any and all income or other taxes required by Applicable Law to be withheld or deducted from any of the royalty and other payments made by or on behalf of a Party hereunder ("**Withholding Taxes**"). The applicable paying Party under this Agreement (the "**Paying Party**") shall, if required by Applicable Law, deduct from any amounts that it is required to pay to the recipient Party hereunder (the "**Recipient Party**") an amount equal to such Withholding Taxes, provided that the Paying Party shall give the Recipient Party reasonable notice prior to paying any such Withholding Taxes. Such Withholding Taxes shall be paid to the proper taxing authority for the Recipient Party's account and, if available, evidence of such payment shall be secured and sent to the Recipient Party within one (1) month of such payment. The Paying Party shall, at the Recipient Party's cost and expense, do all such lawful acts and things and sign all such lawful deeds and documents as the Recipient Party may reasonably request to enable the Paying Party to avail itself of any applicable legal provision or any double taxation treaties with the goal of paying the sums due to the Recipient Party hereunder without deducting any Withholding Taxes. For the sake of clarity, in no event shall the Paying Party be required to pay any additional amounts, whether in the nature of a "gross up" payment or otherwise, to the Recipient Party on account of such Withholding Taxes.

6.6 **No Setoff**. Except as provided in Section 6.2(j) and Section 6.3, all payments due to LP under this Agreement shall be made without setoff or deduction of any kind, provided that this Section 6.6 shall not apply to any money damages awarded to OV in a final, non-appealable judgment (or judgment from which no appeal was taken within the allowable time period) awarded against LP.

6.7 **Late Payments.** If a Party does not receive payment of any sum due to it on or before the due date, simple interest shall thereafter accrue on the sum due to such Party from the due date until the date of payment at the prime rate published by the U.S. Federal Reserve plus five percent (5%) per annum or the maximum rate allowable by Applicable Law, whichever is less.

6.8 **Records; Audits.** OV shall maintain complete and accurate books and records in accordance with GAAP or IAP (to the extent appropriate) in sufficient detail to permit LP or its designee (subject to confidentiality and non-use obligations no less stringent than those set forth in ARTICLE 10) to confirm the accuracy of milestones, royalty payments and other compensation payable under this Agreement, and OV's compliance with the terms of this Agreement, for a period of five (5) years following expiration of the Term. At LP's request, such records shall be available for review, by an independent Third Party auditor selected by LP and approved by OV (such approval not to be unreasonably withheld, conditioned, or delayed) not more than once each calendar year (during normal business hours on a mutually agreed date with reasonable advance notice), for the sole purpose of verifying for LP the accuracy of the financial reports and payments furnished by OV and OV's compliance with its payment obligations pursuant to this Agreement. Any amounts shown to be owed but unpaid or overpaid and in need of reimbursement shall be paid or refunded (as the case may be) within thirty (30) days after the accountant's report, plus interest (as set forth in Section 6.7) from the original due date. LP shall bear the full cost of such audit unless such audit reveals an underpayment by OV of more than five percent (5%) during the applicable audit period, in which case OV shall bear the full cost of such audit.

6.9 **Equity Investment by OV**. Within ninety (90) days following the Effective Date OV shall purchase from LP, and LP shall issue to OV, [***] dollars ($ [***]) worth of shares (the aggregate of nominal value and any premium) of LP Common Stock (the "LP Shares") at the pre-money, per share price offered to any other investor participating in LP's Series A funding round (the " **LP Share Price**"). LP and OV shall enter into a Registration Rights and Stockholder Agreement pertaining to such stock purchase and issuance, which agreement shall ensure the shares issued to OV are subject to the terms and conditions generally applicable to LP's Series A Preferred Stockholders with regard to Common Stock and that OV receives such further financial rights and rights with regard to protection of its investment as offered to such other investors in respect of the shares in LP subscribed for in connection with its most recent investment in LP prior to the Effective Date, to the extent such further financial rights and rights with regard to protection of its investment are applicable to Common Stock. In no event shall the LP Share Price exceed $ [***]per share. The total number of outstanding shares in LP (total nominal share capital) post OV's investment and upon closing of the aforementioned Series A funding will be between [***] and [***]. Subject to the subscription, OV will hold between [***] (percent ([***]%) and [***] ([***]%) of the outstanding shares in LP (as calculated on a fully-diluted basis) and voting rights generally associated with Common Stock. Any fractional shares shall be rounded up or down to the nearest whole share. OV's shares of Common Stock shall be adjusted from time-to-time on and after the Effective Date for any stock splits, stock dividends and other similar adjustments, as may affect any other holders of Common Stock. As used herein, "**Common Stock**" means shares of LP common stock, $0.01 par value per share. If any of the following events occur prior to the issuance of the LP Common Stock, namely (i) any consolidation, merger or combination of LP with another entity as a result of which holders of Common Stock shall be entitled to receive stock, securities or other property or assets (including cash) with respect to or in exchange for such Common Stock, (ii) any statutory exchange, as a result of which holders of Common Stock generally shall be entitled to receive stock, securities or other property or assets (including cash) with respect to or in exchange for such Common Stock (such transaction, a "**Statutory Exchange**"), or (iii) any sale or conveyance of the properties and assets of LP as, or substantially as, an entirety to any other person as a result of which holders of Common Stock shall be entitled to receive stock, securities or other property or assets (including cash) with respect to or in exchange for such Common Stock (each of the foregoing events described in clauses (i), (ii) and (iii), a "**Pre-Purchase Transaction**"), then LP shall (or cause any successor or purchasing person, as the case may be, to) hold and set aside in an unencumbered fund (free of liens) and, upon satisfaction of the condition described in the first sentence of this Section 6.9, issue all of the kind and amount of shares of stock and other securities or property or assets (including cash) receivable upon such Pre-Purchase Transaction by a holder of a number of shares of Common Stock equal to the number of LP Shares immediately prior to such Pre-Purchase Transaction, assuming such holder of Common Stock did not exercise his rights of election, if any, that holders of Common Stock who were entitled to vote or consent to such transaction had as to the kind or amount of securities, cash or other property receivable upon such Pre-Purchase Transaction (provided that, if the kind or amount of securities, cash or other property receivable upon such Pre-Purchase Transaction is not the same for each share of Common Stock in respect of which such rights of election shall not have been exercised ("**non-electing share**"), then for the purposes of this Section 6.9 the kind and amount of securities, cash or other property receivable upon such Pre-Purchase Transaction for each non-electing share shall be deemed to be the kind and amount so receivable per share by a plurality of the non-electing shares). The above provisions of this Section 6.9 shall similarly apply to successive Pre-Purchase Transactions.

ARTICLE 7
INTELLECTUAL PROPERTY

7.1 **Ownership of Inventions.** Except as otherwise provided in this Section 7.1, (i) each Party shall own all inventions and Information made solely by the respective employees, agents, and independent contractors of it and its Affiliates in the course of conducting such Party's activities under this Agreement (collectively, "**Sole Inventions**"), and (ii) all inventions and Information that are conceived, reduced to practice, authored or otherwise made jointly by employees, Affiliates, agents, or independent contractors of both Parties in the course of performing activities under this Agreement (collectively, " **Joint Inventions**") shall be owned jointly by the Parties in accordance with joint ownership interests of co-inventors under the U.S. patent laws. Notwithstanding the foregoing, the Parties acknowledge that AFC (the Third Party licensor of certain of the LP Patents), pursuant to its license agreement with LP, entered into prior to the Effective Date in respect of certain LP Patents, may have certain claims to exclusive ownership rights to all inventions, discoveries, improvements, and modifications, as well as all methods, processes, know-how and/or trade secrets arising from, conceived or reduced to practice by either Party in the course of performing its obligations under this Agreement (relating to the research, development, formulation, marketing and sale of the Products and Compounds), regardless of whether generated by LP or OV, or an employee of either Party, where such performance is based on utilization of rights under the LP Patent(s) covered by the license agreement between LP and AFC (the "**Product-Related Inventions**"). Pursuant to Section 13.16(c) below, LP shall as condition subsequent obtain written confirmation from AFC (to be attached as Exhibit F hereto) that OV's intended Development of Product(s) together with DRP Biomarker as a companion diagnostic in the Field is not subject to any assignment of rights to AFC nor will AFC assert such rights. The contents of the confirmation from AFC shall be satisfactory to OV and OV shall pre-approve the confirmation.

7.2 **Disclosure of Inventions.** Each Party shall promptly disclose to the other all Product-Related Inventions (if applicable), Sole Inventions, and Joint Inventions, including all invention disclosures or other similar documents submitted to such Party by its or its Affiliates' employees, agents or independent contractors describing such Product-Related Inventions, Sole Inventions, and Joint Inventions. Such Party shall also respond promptly to reasonable requests from the other Party for more Information relating to such inventions.

7.3 **Prosecution of Patents.**

(a) **OV/MPI Patents.** Except as otherwise provided in this Section 7.3, OV and/or MPI shall have the sole right and authority to prepare, file, prosecute (including any interferences, reissue proceedings and reexaminations) and maintain, in OV's and/or MPI's name, the OV/MPI Patents and Patent Rights of OV with regard to its Sole Inventions in the Territory and to retain counsel in their reasonable discretion in connection therewith, all at OV's and/or MPI's expense. OV shall keep LP reasonably informed with respect to the preparation and prosecution of the OV/MPI Patents and Patent Rights of OV with regard to its Sole Inventions in the Territory, via the JDC meetings. In the event that OV and MPI determine that they are no longer interested in supporting the continued prosecution or maintenance of a OV/MPI Patent relating to a Sole Invention or other Patent Rights of OV with regard to a Sole Invention, OV shall provide LP with written notice of such determination at least thirty (30) days before any deadline for taking action to avoid abandonment and shall provide LP with the opportunity to have the interests of OV and MPI in such OV/MPI Patent/other Patent Rights of OV with regard to a Sole Invention in such country or jurisdiction assigned to LP, at no cost to LP; provided that OV shall retain a non-exclusive, nontransferable, except to any Affiliate or subject to a permitted assignment under Section 13.5 of this Agreement, license to practice the subject invention.

(b) **LP Patents.** Except as otherwise provided in this Section 7.3, LP or its Third Party licensor shall have the sole right and authority to prepare, file, prosecute (including any interferences, reissue proceedings and reexaminations) and maintain, in LP's name, the LP Patents in the Territory and to retain counsel in its reasonable discretion in connection therewith, all at LP's expense. To the extent practicable under the circumstances, LP shall keep OV reasonably informed with respect to the preparation and prosecution of the LP Patents in the Territory, via the JDC meetings. In the event that LP determines that it is no longer interested in supporting the continued prosecution or maintenance of a LP Patent relating to a Sole Invention, LP shall provide OV with written notice of such determination at least thirty (30) days before any deadline for taking action to avoid abandonment and shall provide OV with the opportunity to have the interests of LP in such LP Patent in such country or jurisdiction assigned to OV, at no cost to OV; provided that LP shall retain a non-exclusive, nontransferable, except to any Affiliate or subject to a permitted assignment under Section 13.5 of this Agreement, license to practice the subject invention.

(c) **Joint Patents.** With respect to any potentially patentable Joint Invention (other than a Product-Related Invention (if applicable)), the Parties shall meet and agree upon which Party, if any, shall prepare, file, prosecute (including any interferences, reissue proceedings and reexaminations) and maintain patent applications covering such Joint Invention (any such Patent Rights a "**Joint Patent**") in any jurisdictions throughout the world, as well as the manner in which patent expense for such Joint Patent will be shared by the Parties.

The Party that prosecutes a patent application in the Joint Patents (the "**Prosecuting Party**") shall provide the other Party reasonable opportunity to review and comment on such prosecution efforts regarding the applicable Joint Patents in the particular jurisdictions, and such other Party shall provide the Prosecuting Party reasonable assistance in such efforts. The Prosecuting Party shall provide the other Party with a copy of all material communications from any patent authority in the applicable jurisdictions regarding the Joint Patent being prosecuted by such Party, and shall provide drafts of any material filings or responses to be made to such patent authorities a reasonable amount of time in advance of submitting such filings or responses. In particular, each Party agrees to provide the other Party with all information necessary or desirable to enable the other Party to comply with the duty of candor/duty of disclosure requirements of any patent authority. The prosecuting Party shall consider comments by the non-prosecuting Party.

Either Party may determine that it is no longer interested in supporting the continued prosecution or maintenance of a particular Joint Patent in a country or jurisdiction, in which case the disclaiming Party shall provide the other Party with written notice of such determination at least thirty (30) days before any deadline for taking action to avoid abandonment and shall provide the other Party with the opportunity to have the disclaiming Party's interest in such Joint Patent in such country or jurisdiction assigned to the other Party, at no cost to the other Party; provided that the disclaiming Party shall retain a non-exclusive, nontransferable, except to any Affiliate or subject to a permitted assignment under Section 13.5 of this Agreement, license to practice the Joint Patent solely for internal research purposes including clinical development of Compound.

7.4 **Cooperation in Prosecution.** Each Party shall provide the other Party all reasonable assistance and cooperation in the patent prosecution efforts provided above in this Section 7.4, including providing any necessary powers of attorney and executing any other required documents or instruments for such prosecution.

7.5 **Enforcement of LP Technology and OV Technology.**

(a) **Notification**. If there is any infringement, threatened infringement, or alleged infringement of the LP Technology and/or OV/MPI Technology and/or OV's rights in Sole Inventions on account of a Third Party's manufacture, use, sale or other commercialization of a product, Product and/or DRP Biomarker in the Territory (in each case, a "**Product Infringement**"), then each Party shall promptly notify the other Party in writing of any such Product Infringement of which it becomes aware, and shall provide evidence in such Party's possession demonstrating such Product Infringement. Each Party shall immediately, but in no case more than five (5) Business Days, give written notice to the other Party of any certification of which it becomes aware filed pursuant to 21 U.S.C. Sections 355(b)(2)(A)(iv) or 355(j)(2)(A)(vii)(IV) claiming any LP Patent or OV/MPI Patent Covering Product and/or DRP Biomarker is invalid or unenforceable, or that infringement will not arise from the development, registration, manufacture, use distribution, offer for sale, sale or other exploitation or commercialization of a product by a Third Party.

(b) **Enforcement Rights**.

(i) Except as provided in Section 7.5(d) and subject to the remainder of this Section 7.5(b), during the Term, OV shall have the first right, but not the obligation, to bring an appropriate suit or other action against any Person engaged in such Product Infringement of the LP Technology and/or OV/MPI Technology and/or OV's rights in Sole Inventions in the Territory, at OV's expense. If OV has not brought suit to enforce such LP Technology against such Person within thirty (30) days after OV's receipt or delivery (as applicable) of notice and information under Section 7.5(a), then LP shall have the right, but not the obligation, to commence a suit or take action to enforce the applicable LP Technology with respect to such Product Infringement in the Territory, at LP's expense. Notwithstanding the foregoing, LP shall not, and shall not permit any other licensee of LP under the LP Patents in the Territory to, proceed against an alleged infringer of the LP Patents in the Territory (1) unless significant damages are reasonably expected to be recovered from the infringer in such proceeding, and (2) without first consulting with OV regarding the strategy for such proceeding and considering in good faith OV's comments regarding such proceeding.

Each Party shall provide to the Party enforcing any such rights under this Section 7.5(b) reasonable assistance in such enforcement, including using best efforts if required to establish and maintain standing to join such action as a party plaintiff if necessary to bring such an action under Applicable Law. The enforcing Party shall keep the other Party regularly informed of the status and progress of such enforcement efforts, and shall reasonably consider the other Party's comments on any such efforts.

(ii) Any recovery obtained by any enforcing Party as a result of any proceeding described in this Section 7.5, by settlement or otherwise, shall be applied in the following order of priority: (1) first, to reimburse each Party for all litigation costs in connection with such proceeding paid by that Party and not otherwise recovered (on a pro rata basis based on each Party's respective litigation costs, to the extent the recovery was less than all such litigation costs); and (2) second, (A) as to recoveries based on lost profits, LP will receive an amount commensurate with the royalty and milestone payments it would have received if OV had earned such profits and booked the applicable sales through the sale of Products in the Territory and OV shall retain the balance; and (B) as to recoveries based on other than lost profits, seventy-five percent (75%) to the enforcing Party and twenty-five percent (25%) to the non-enforcing Party.

(c) **Settlement**. Without the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned or delayed, neither Party shall settle any claim, suit or action that it brought under this Section 7.5 involving LP Technology and/or OV/MPI Technology and/or OV's rights in Sole Inventions in any manner that would negatively impact such intellectual property or that would limit or restrict the ability of OV or its Affiliates or sublicensees, including Program Acquirer(s), to sell Products in the Territory.

(d) **LP Technology Licensed from Third Parties.** OV's rights under this Section 7.5 with respect to any LP Technology licensed to LP by a Third Party shall be subject and subordinated to the rights of such Third Party preemptive rights to enforce such LP Technology and/or defend against any claims that such LP Technology is invalid or unenforceable, and the rights of such Third Party to share in any recoveries.

7.6 **Patent Marking**. Both Parties shall, and shall require its Affiliates and sublicensees, including Program Acquirer(s), to mark Products sold by it hereunder with appropriate patent numbers or indicia to the extent permitted by Applicable Law, in those countries in which such markings or such notices impact recoveries of damages or equitable remedies available with respect to infringements of Patent Rights.

7.7 **Trademarks**. OV shall be responsible for, at its sole discretion, the selection, adoption, registration, maintenance and defense of all Compound and Product related trademarks for use in connection with the sale or marketing of Products in the Territory (the "**OV Trademarks**"), as well as all expenses associated therewith. OV shall own all OV Trademarks. All rights arising from the use by OV of the OV Trademarks in the Territory during the Term shall inure to OV's benefit. OV shall have the sole right and discretion to bring infringement or unfair competition proceedings anywhere in the world involving infringement of or unfair competitive activities relating to the OV Trademarks in the Territory.

7.8 **Infringement of Third Party IP.** Each Party shall promptly notify the other in writing of any allegation, claim or suit that the Development, use, or Commercialization of Compound or a Product infringes or misappropriates a Third Party's Patent Rights or other intellectual property rights. Subject to Section 6.3(d), each Party shall have the sole right to control any defense of any such claim involving alleged infringement of Third Party rights by such Party's activities, at its own expense and by counsel of its own choice. OV shall be solely responsible for obtaining, at its sole expense and subject to Section 6.3(d), any agreements with Third Parties required in order to lawfully exercise its rights and responsibilities under this Agreement.

7.9 **The CREATE Act**. Each Party acknowledges and agrees that: (a) the provisions herein are intended to encompass and include a joint research agreement for the performance of experimental, developmental and research work as contemplated by 35 U.S.C. § 103(c)(3), and that any invention made in connection with the activities contemplated in this Agreement, whether made solely by or on behalf of one Party or jointly by or on behalf of both Parties, is intended to and should have the benefit of the rights and protections conferred by Public Law 108-453, the Cooperative Research and Enhancement Act of 2004 as codified in 35 U.S.C. §103(c)(2) (the "**CREATE Act**"); (b) in the event that a Party seeks to rely on the foregoing and invoke the CREATE Act with respect to any invention that is the subject of a patent application filed by or on behalf of such Party, such Party will give prior written notice(s) to the other Party of its intent to invoke the CREATE Act and of each submission or disclosure such Party intends to make to the USPTO pursuant to the CREATE Act, including: (i) any disclosure of or regarding the existence or contents of this Agreement to the USPTO; (ii) the disclosure of any "subject matter developed by the other Party" (as such term is used in the CREATE Act) in, without limitation, an information disclosure statement, or (iii) the filing of any terminal disclaimer over the intellectual property of the other Party, it being agreed that no such submission, disclosure or filing shall be made by such Party without the prior written consent of the other Party, such consent not to be unreasonably withheld, conditioned or delayed; (c) without limiting subsection (b) above (including the obligation to obtain a Party's prior approval), it shall not be a violation of confidentiality obligations hereunder for a Party, as necessary in connection with the invocation of the CREATE Act, to disclose to the USPTO (i) the intellectual property of the other Party in, without limitation, an information disclosure statement or (ii) this Agreement, provided that such Party exercises reasonable efforts to limit the scope of such disclosure as strictly necessary to invoke the CREATE Act, including by reasonably redacting the material terms of this Agreement before any such disclosure; and (d) without limiting subsection (b) above, each Party will provide reasonable cooperation to the other Party in connection with such other Party's efforts to invoke and rely on the CREATE Act.

ARTICLE 8
REPRESENTATIONS, WARRANTIES AND COVENANTS

8.1 **Mutual Representations and Warranties**. Each Party hereby represents, warrants, and covenants (as applicable) to the other Party as follows, as of the Effective Date:

(a) **Corporate Existence and Power**. It is a corporation or limited partnership, as applicable, duly organized, validly existing, and in good standing under the laws of the jurisdiction in which it is incorporated or formed, and has all requisite power and authority and the legal right to own and operate its property and assets and to carry on its business as it is now being conducted and as contemplated in this Agreement, including the right to grant the licenses granted by it hereunder.

(b) **Authority and Binding Agreement**. It has the requisite power and authority and the legal right to enter into this Agreement and perform its obligations hereunder; it has taken all necessary action on its part required to authorize the execution and delivery of this Agreement and the performance of its obligations hereunder; and this Agreement has been duly executed and delivered on its behalf, and constitutes a legal, valid, and binding obligation of such Party that is enforceable against it in accordance with its terms, subject as to enforcement of remedies to applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting generally the enforcement of creditors' rights and subject to a court's discretionary authority with respect to the granting of a decree ordering specific performance or other equitable remedies.

(c) **Consents**. Disregarding such consents, approvals and authorizations contemplated in this Agreement to be obtained during the Term hereof, all necessary consents, approvals and authorizations of all Governmental Authorities and any Third Parties required to be obtained by it in connection with the execution and delivery of this Agreement have been obtained by it.

(d) **No Conflict**. The execution and delivery of this Agreement, the performance of such Party's obligations hereunder and the licenses and sublicenses to be granted pursuant to this Agreement (i) to its knowledge, do not conflict with or violate any requirement of Applicable Law existing as of the Effective Date, (ii) do not conflict with or violate the certificate of incorporation, certificate of formation, by-laws, limited partnership agreement or other organizational documents of such Party, and (iii) do not conflict with, violate, breach or constitute a default under any contractual obligations of such Party or any of its Affiliates existing as of the Effective Date, except as would not reasonably be expected to have a material adverse effect on the transactions contemplated by this Agreement.

(e) **Notice of Infringement or Misappropriation.** Such Party has not received any written notice or threat from any Third Party asserting or alleging that the research, Development, making or using of Compounds or Products by such Party prior to the Effective Date or upon Commercialization, infringed, misappropriated or diluted, or will infringe, misappropriate or dilute the intellectual property rights of such Third Party.

8.2 **LP Technology**. LP hereby represents and warrants to OV as of the Effective Date that:

(a) LP is the sole owner of all right, title and interest in and to, or holds or licenses, with the right to sublicense, the LP Technology, free and clear of any mortgage, pledge, claim, security interest, covenant, easement, encumbrance, lien, lease, sublease, option, or charge of any kind, limitations on transfer or any subordination arrangement in favor of a Third Party (other than Permitted Encumbrances) and, except for the licenses and sublicenses contemplated by ARTICLE 2, as of the Effective Date it has granted no other rights in favor of a Third Party under the LP Technology in the Territory and, except to the extent set out in the license agreement between LP and AFC (signed 15 January 2015), the rights granted to OV under this Agreement will not increase at any time the amount of any payments required under any agreement or arrangement forming part of the LP Technology;

(b) Without limiting the effect of Section 8.1(c)-(d), this Agreement does not conflict with the technology license agreement entered into between LP and AFC (signed 15 January 2015) or any other agreement on which LP's rights to the LP Technology are based. LP's representation and warranty set out in this subsection (b) in respect of the agreement between LP and AFC is on the part of LP conditioned on fulfillment of the condition subsequent set out in Section 13.16(d).

(c) LP is not, as of the Effective Date, developing Irofulven in the Field, specifically excepting Irofulven Analogues;

(d) No Third Party nor employee of LP has asserted or alleged in writing to LP or threatened that it has an ownership interest in the LP Technology, and no Third Party has contested or asserted in writing to LP that the LP Patents are not valid or enforceable in the Territory;

(e) To the knowledge of LP as of the Effective Date, the Development, use and Commercialization of Compound or Product(s) (in its current form) in the Territory does not infringe any valid or enforceable claims of any Third Party issued patent or, if issued, any claims of any Third Party's Patent Rights;

(f) LP has not received written notice of any interference or opposition proceeding relating to the LP Patents in the Territory or any notice with regard to infringement of Third Parties' rights as per subsection (d) above;

(g) LP has made available to OV all data, results or other information derived from or regarding any preclinical or clinical study that would be reasonably expected to be relevant to an evaluation of any material safety risks and/or Development risks associated with the Product, including information provided in the LP Data Package;

8.3 **Compliance with Law**. Each Party shall, and shall ensure that its Affiliates and sublicensees shall, comply in all material respects with all Applicable Laws in exercising their rights and fulfilling their obligations under this Agreement.

8.4 **Representations regarding Debarment.** Each Party represents, warrants and covenants that as of the Effective Date and during the Term, neither it nor its Affiliates nor any of their respective directors, officers, or employees, and, to its knowledge based upon reasonable inquiry, any Third Party (and its directors, officers, employees and consultants), in each case who were responsible for the development of the Product:

(a) are debarred under Section 306(a) or 306(b) of the FD&C Act;

(b) have been charged with, or convicted of, any felony under Applicable Laws related to any of the following: (A) the development or approval of any drug product or the regulation of any drug product under the FD&C Act; (B) a conspiracy to commit, aid or abet the development or approval of any drug product or regulation of any drug product; (C) health care program-related crimes (involving Medicare or any State health care program); (D) patient abuse, controlled substances, bribery, payment of illegal gratuities, fraud, perjury, false statement, racketeering, blackmail, extortion, falsification or destruction of records; (E) interference with, obstruction of an investigation into, or prosecution of, any criminal offense; or (F) a conspiracy to commit, aid or abet any of these listed felonies or misdemeanors; and

(c) is excluded, suspended or debarred from participation, or otherwise ineligible to participate, in any Federal or State health care programs (including convicted of a criminal offense that falls within the scope of 42 U.S.C. §1320a-7 but not yet excluded, debarred, suspended, or otherwise declared ineligible), or excluded, suspended or debarred from participation, or otherwise ineligible to participate, in any Federal procurement or nonprocurement programs;

(d) it will notify the other Party immediately, but in no event later than five (5) days, after knowledge of any exclusion, debarment, suspension or other ineligibility occurring during the Term.

8.5 **Regulatory Matters**. LP hereby represents and warrants the following to OV as of the Effective Date:

(a) LP has provided or made available, when requested by OV to conduct its due diligence review (pursuant to Section 13.16), any and all material documents and communications in its possession from and to the FDA or any other Governmental Authority, or prepared by the FDA or any other Governmental Authority, related to a Product, that may bear on compliance with the requirements of the FDA or any other Governmental Authority in the Territory, including any notice of inspection, inspection report, warning letter, deficiency letter, or similar communication;

(b) Neither LP nor any of its Affiliates has received, with respect to a Product, any oral or written communication (including any warning letter, untitled letter, or similar notices) from the FDA or other Governmental Authority in the Territory and there is no action pending or, to LP's knowledge, threatened (including any prosecution, injunction, seizure, civil fine, suspension or recall), in each case alleging that with respect to Compound or a Product, LP or any of its Affiliates is not currently materially in compliance with any and all Applicable Laws implemented by the FDA or other Governmental Authority in the Territory. Neither LP nor any of its Affiliates has received any written notice from any Governmental Authority in the Territory claiming that the Development, use or Commercialization of Compound or a Product is noncompliant with any Applicable Laws;

(c) To LP's knowledge, none of LP, any of its Affiliates or any of their respective officers, employees or agents has made, with respect to Compound or a Product, an untrue statement of a material fact to the FDA or other Governmental Authority in the Territory or failed to disclose a material fact required to be disclosed to the FDA or other Governmental Authority in the Territory;

(d) To LP's knowledge, all Development, use and Commercialization of Compound or Products by or on behalf of LP and its Affiliates has been conducted in compliance with all Applicable Laws as applicable and required at the time such activity was performed; and

(e) There is no material matter known to LP as of the Effective Date that has not been disclosed by LP to OV concerning the safety or efficacy of Compound or any Product.

8.6 **OV Technology**. OV hereby represents and warrants to LP as of the Effective Date that:

(a) OV is the sole owner of all right, title and interest in and to, or holds or licenses, with the right to sublicense, the OV/MPI Technology, free and clear of any mortgage, pledge, claim, security interest, covenant, easement, encumbrance, lien, lease, sublease, option, or charge of any kind, limitations on transfer or any subordination arrangement in favor of a Third Party (other than Permitted Encumbrances) and, except for the licenses and sublicenses contemplated by ARTICLE 2, as of the Effective Date it has granted no other rights pertaining to DRP Biomarker in favor of a Third Party under the OV/MPI Technology in the Territory that would conflict with the conduct and purpose of the Program;

(b) OV is not, as of the Effective Date, developing any product directly competitive with Irofulven for Primary Indication in the Field;

(c) No Third Party, other than MPI, nor employee of OV has asserted or alleged in writing to OV or threatened that it has an ownership interest in the OV/MPI Technology, and no Third Party has contested or asserted in writing to OV that the OV/MPI Patents are not valid or enforceable in the Territory;

(d) To the knowledge of OV as of the Effective Date, the development, manufacture, use, and sublicensing of DRP Biomarker in the Territory does not infringe any valid or enforceable claims of any Third Party's issued patent or, if issued, any claims of any Third Party's pending patent applications;

8.7 **Representations regarding LP Shares**. OV hereby represents and warrants the following to LP as of each of the Effective Date and the issuance date of LP shares to OV:

(a) **Investment Intent**. OV is acquiring the LP shares for its own account for investment purposes only and not with a view to or for distributing or reselling such securities or any part thereof, without prejudice, however, to its right at all times to sell or otherwise dispose of all or any part of such securities in compliance with applicable federal and state securities laws and with such other restrictions as may apply, including the restrictions set forth in the Registration Rights and Stockholder Agreement. OV does not have any agreement or understanding, directly or indirectly, with any Person to distribute any of the OV shares in LP.

(b) **Purchaser Status**. OV meets one or more of the standards for an "accredited investor" as defined in Rule 501(a) under the Securities Act of 1933, as amended (the "**Securities Act**").

(c) **Access to Information**. OV has been afforded (i) the opportunity to ask such questions as it has deemed necessary of, and to receive answers from, representatives of LP concerning the terms and conditions of the issuance of the LP shares to OV and the merits and risks of investing in such securities; (ii) access to information about LP and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that is necessary to make an informed investment decision with respect to the shares purchased by OV.

(d) **Restrictions on Resale**. OV understands that the LP shares to be issued upon the conditions outlined under Section 6.9 have not been and will not be registered under the Securities Act upon issuance and must be held indefinitely unless or until a subsequent disposition thereof is registered under the Securities Act (including under the registration statement contemplated by the Registration Rights and Stockholder Agreement) or is exempt from such registration, that the purchased LP shares will also be subject to the restrictions on transfer set out in the Registration Rights and Stockholder Agreement, and that the share certificate for such LP shares purchased by OV will contain a restrictive legend substantially as set forth in the Registration Rights and Stockholder Agreement.

8.8 **No Broker**. No broker, finder, agent or similar intermediary has acted for or on behalf of a Party or its Affiliates in connection with this Agreement or the transactions contemplated hereby, and no broker, finder, agent or similar intermediary is entitled to any broker's, finder's or similar fee or other commission in connection therewith based on any agreement, arrangement or understanding with a Party or its Affiliates or any action taken by a Party or its Affiliates; provided that a Party shall bear all liabilities associated with claims by any broker, finder, agent or similar intermediary that it is entitled to any broker's, finder's or similar fee or other commission in connection with this Agreement or the transactions contemplated hereby asserted against such Party or its Affiliates.

8.9 **No Other Representations or Warranties**. EXCEPT AS EXPRESSLY STATED IN THIS ARTICLE 8, NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR NON-MISAPPROPRIATION OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS, IS MADE OR GIVEN BY OR ON BEHALF OF A PARTY. ALL OTHER REPRESENTATIONS AND WARRANTIES, WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE, ARE HEREBY EXPRESSLY EXCLUDED.

ARTICLE 9
INDEMNIFICATION

9.1 **General Indemnification by LP.** LP shall defend, indemnify, and hold harmless OV, its Affiliates, and their respective officers, directors, employees, consultants and authorized agents and their respective successors and assigns or heirs, as the case may be (the "**OV Indemnitees**") from and against any and all claims, damages, liabilities, losses, costs (including reasonable attorneys' fees and expenses) and expenses (collectively "**Losses**") to the extent resulting from any claim of a Third Party against such OV Indemnitee based on or arising out of:

(a) any misrepresentation or breach of any of LP's representations, warranties, covenants or obligations under this Agreement;

(b) the gross negligence or willful misconduct of, or violation of Applicable Law by, LP, its Affiliates, licensees, contractors, distributors, or their respective officers, directors, employees, consultants or authorized agents under this Agreement;

(c) Product Liability claims under Section 9.3(b).

The foregoing indemnity obligations shall not apply to the extent that the Losses of such OV Indemnitee were caused by: (i) a breach of any of OV's representations, warranties, covenants, or obligations under this Agreement; or (ii) the gross negligence or willful misconduct of, or violation of Applicable Law by, such OV Indemnitee.

9.2 **General Indemnification by OV.** OV shall defend, indemnify and hold harmless LP, its Affiliates, and their respective officers, directors, employees, consultants and authorized agents and their respective successors and assigns or heirs, as the case may be (the "**LP Indemnitees**") from and against any and all Losses to the extent resulting from any claim of a Third Party against such LP Indemnitee based on or arising out of:

(a) any misrepresentation or breach of any of OV's representations, warranties, covenants or obligations under this Agreement;

(b) the gross negligence or willful misconduct of, or violation of Applicable Law by, OV, its Affiliates, licensees, distributors or their respective officers, directors, employees, consultants or authorized agents under this Agreement; or

(c) Product Liability claims under Section 9.3(a).

The foregoing indemnity obligation shall not apply to the extent that the Losses of such LP Indemnitee were caused by: (i) a breach of any of LP's representations, warranties, covenants, or obligations under the Agreement; or (ii) the gross negligence or willful misconduct of, or violation of Applicable Law by, such LP Indemnitee.

9.3 **Product Liability Indemnification**

(a) Notwithstanding anything to the contrary herein, OV shall be solely responsible for all Losses from Product Liability claims brought in the Territory, other than to the extent covered in clause (b) below, resulting directly from (i) OV's breach of its warranties, covenants or agreements contained in this Agreement, (ii) the violation of any Applicable Laws by OV, its Affiliates, distributors or sublicensees (other than LP, its Affiliates, licensees or contractors), (iii) Development activities by OV, its Affiliates or sublicensees (other than LP, its Affiliates, licensees or contractors), (iv) the Development, use and Commercialization of Compound and Product(s) by or on behalf of OV or its Affiliates, licensees or sublicensees (other than LP, its Affiliates, licensees or contractors), (v) the conduct of clinical trials for the Product anywhere by OV, its Affiliates, licensees or sublicensees (other than LP, its Affiliates, licensees or contractors) and/or (vi) inaccurate or misleading content of any sales or promotional literature in connection with the marketing, promotion and sale of the Product in the Territory.

(b) Notwithstanding anything to the contrary herein, LP shall be solely responsible for all Losses from Product Liability claims, other than to the extent covered in clause (a) above, resulting directly from (i) LP's breach of its warranties, covenants or agreements contained in this Agreement, (ii) the violation of any Applicable Laws by LP, its Affiliates or licensees (other than OV, its Affiliates, licensees or contractors), (iii) Development activities by LP, its Affiliates or licensees or contractors (other than OV, its Affiliates, licensees or contractors), (iv) the Development, use, and Commercialization of Compound and Product(s) by or on behalf of LP or its Affiliates, licensees or sublicensees (other than OV, its Affiliates, licensees or contractors) inside or outside the Territory prior to the Effective Date or during the Term, and (v) the conduct of clinical trials for the Product anywhere by LP, its Affiliates, licensees or sublicensees (other than OV, its Affiliates, licensees or contractors). For the avoidance of doubt, OV shall have no liability with regard to Irofulven Analogues pursued by LP.

9.4 **Indemnification Procedures.**

(a) **Notice of Claim**. All indemnification claims in respect of any indemnitee seeking indemnity under this Agreement will be made solely by the corresponding Party seeking indemnity under this ARTICLE 9 (the "**Indemnified Party**"). The Indemnified Party will give the indemnifying Party (the "**Indemnifying Party**") prompt written notice (an "**Indemnification Claim Notice**") of any Losses or the discovery of any fact upon which such Indemnified Party intends to base a request for indemnification under this ARTICLE 9, as applicable. The failure to give such prompt written notice shall not, however, relieve the Indemnifying Party of its indemnification obligations, except and only to the extent that the Indemnifying Party forfeits rights or defenses by reason of such failure. Each Indemnification Claim Notice must contain a description of the claim and the nature and amount of such Loss (to the extent that the nature and amount of such Loss are known at such time). Together with the Indemnification Claim Notice, the Indemnified Party will furnish promptly to the Indemnifying Party copies of all notices and documents (including court papers) received by the Indemnified Party in connection with the Third Party claim.

Oncology Venture-Lantern Pharma Irofulven License.

(b) **Control of Defense**. At its option, the Indemnifying Party may at its own cost assume the defense of any Third Party claim subject to indemnification as provided for in this ARTICLE 9 by giving written notice to the Indemnified Party within thirty (30) days after the Indemnifying Party's receipt of an Indemnification Claim Notice, provided however that (i) the claim solely seeks monetary damages and (ii) the Indemnifying Party expressly agrees in writing that as between the Indemnifying Party and the Indemnified Party, the Indemnifying Party shall be solely obligated to satisfy and discharge the claim in full (the matters described in (i) and (ii), the "**Litigation Conditions**"). The Indemnified Party may, at any time, assume all such defense if the Litigation Conditions are not satisfied at any time. Upon assuming the defense of a Third Party claim in accordance with this Section 9.4, the Indemnifying Party shall be entitled to appoint lead counsel in the defense of the Third Party claim. Should the Indemnifying Party assume the defense of a Third Party claim, except as otherwise set forth in this Section 9.4(b), the Indemnifying Party will not be liable to the Indemnified Party for any legal expenses subsequently incurred by such Indemnified Party in connection with the analysis, defense or settlement of the Third Party claim.

(c) **Right to Participate in Defense**. Without limiting Section 9.4(b), any Indemnified Party will be entitled to participate in, but not control, the defense of a Third Party claim for which it has sought indemnification hereunder and to employ counsel of its choice for such purpose; provided, however, that such employment will be at the Indemnified Party's own expense unless (i) the employment thereof has been specifically authorized by the Indemnifying Party in writing, (ii) the Indemnifying Party has failed to assume and actively further the defense and employ counsel in accordance with Section 9.4(b) (in which case the Indemnified Party will control the defense), or (iii) the Indemnifying Party no longer satisfies the Litigation Conditions.

(d) **Settlement**. Notwithstanding any other provision of this Agreement, the Indemnifying Party shall not enter into settlement of any Third Party claim without the prior written consent of the Indemnified Party, except as provided in this Section 9.4(d). If a firm offer is made to settle a Third Party claim without leading to liability or the creation of a financial or other obligation on the part of the Indemnified Party and provides, in customary form, for the unconditional release of each Indemnified Party from all liabilities and obligations in connection with such Third Party claim and the Indemnifying Party desires to accept and agree to such offer, the Indemnifying Party shall give written notice to that effect to the Indemnified Party. If the Indemnified Party fails to consent to such firm offer within ten (10) days after its receipt of such notice, the Indemnified Party may continue to contest or defend such Third Party claim and in such event, the maximum liability of the Indemnifying Party as to such Third Party claim shall not exceed the amount of such settlement offer. If the Indemnified Party fails to consent to such firm offer and also fails to assume defense of such Third Party claim, the Indemnifying Party may settle the Third Party claim upon the terms set forth in such firm offer to settle such Third Party claim. If the Indemnified Party has assumed the defense pursuant to Section 9.4(c), it shall not agree to any settlement without the written consent of the Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

(e) **Cooperation**. If the Indemnifying Party chooses to defend or prosecute any Third Party claim, the Indemnified Party will at its own cost cooperate in the defense or prosecution thereof and will furnish such records, information and testimony, provide such witnesses and attend such conferences, discovery proceedings, hearings, trials and appeals as may be reasonably requested in connection with such Third Party claim. Such cooperation will include access during normal business hours afforded to the Indemnifying Party to, and reasonable retention by the Indemnified Party of, records and information that are reasonably relevant to such Third Party claim, and making employees and agents available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder.

9.5 **Limitation of Liability.** NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY EXEMPLARY, SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES, COSTS OR EXPENSES (INCLUDING LOST PROFITS, LOST REVENUES AND/OR LOST SAVINGS) ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE

POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 9.5 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OR OBLIGATIONS OF ANY PARTY IN CONNECTION WITH (A) THIRD PARTY CLAIMS UNDER SECTION 9.1 OR 9.2, (B) DAMAGES AVAILABLE FOR A PARTY'S BREACH OF ARTICLE 10, OR (C) DAMAGES TO THE EXTENT ARISING FROM OR RELATING TO WILLFUL MISCONDUCT OR FRAUDULENT ACTS OR OMISSIONS OF A PARTY.

9.6 **Insurance.**

(a) **Comprehensive General Liability**. Each Party shall maintain at such Party's sole expense, comprehensive general liability insurance coverage in amounts reasonably determined by the Parties from time to time but at least appropriate to the risk involved in Developing, manufacturing, transporting, selling or marketing the Products, and listing the other Party as an additional insured; provided, however, that unless agreed to by the Parties, in no event shall a Party maintain less than five million U.S. dollars ($5,000,000.00) of such liability insurance following the commencement of the Phase 2 Clinical Trial(s) in the U.S or other development or distribution activity with respect to the Products in the U.S, which can include a combination of general liability insurance and an umbrella policy. Such insurance shall be in effect as of the Effective Date; provided that each Party reserves the right to satisfy its obligations under this Section 9.6(a) through self-insurance (as reasonably acceptable to the other Party) and provided that if a Party chooses not to be self-insured, the obligation of the Party to institute and maintain the specific minimum coverage amount set out in the before-mentioned shall only apply at the time such activities as mentioned herein are engaged in the U.S. The liability insurance to be taken out by OV with regard to Phase 2 Clinical Trial(s) conducted in Denmark provides for insurance coverage which in the reasonable opinion of OV is sufficient and appropriate taking the potential risk of liability for OV in Denmark into consideration.

(b) **Product Liability**. As of the Effective Date, OV and LP shall each establish and maintain product liability (including clinical trial liability) or other appropriate insurance, which in case that the Phase 2 Clinical Trial(s) is conducted in the U.S. shall be in the minimum amount of [***] U.S. dollars ($ [***]) per occurrence, and [***] U.S. dollars ($ [***]) in the aggregate, and shall specify the other Party as an additional insured. Regardless of the location of the Phase 2 Clinical Trials, the foregoing coverage levels shall be instituted and maintained by a Program Acquirer at the time it chooses to commence Phase 3 Clinical Trials in the U.S. Before commencing other development or distribution activities subsequent to Phase 3 Clinical Trials in the U.S, a Program Acquirer shall institute and maintain customary product liability insurance with regard to such activities.

ARTICLE 10
CONFIDENTIALITY

10.1 **Confidentiality.** Except to the extent expressly authorized by this Agreement or otherwise agreed in writing by the Parties, each Party agrees that, for the Term and for five (5) years thereafter, it shall keep confidential and shall not publish or otherwise disclose and shall not use for any purpose other than as provided for in this Agreement any Confidential Information of the other Party except for that portion of such information or materials that the receiving Party can demonstrate by competent proof:

(a) was already known to the receiving Party or its Affiliate, other than under an obligation of confidentiality, at the time of disclosure by the other Party, as established by written records;

(b) was generally available to the public or otherwise part of the public domain at the time of its disclosure to the receiving Party;

(c) became generally available to the public or otherwise part of the public domain after its disclosure and other than through any act or omission of the receiving Party in breach of this Agreement;

(d) is subsequently disclosed to the receiving Party or its Affiliate by a Third Party who is not bound by an obligation of confidentiality to the disclosing Party with respect to such information; or

(e) is subsequently independently discovered or developed by the receiving Party or its Affiliate without the aid, application, or use of Confidential Information, as established by written records.

Notwithstanding the foregoing, the receiving Party may disclose without violation of this Agreement such portion of the Confidential Information as is required or permitted to be disclosed if, on the advice of counsel, it is required under Applicable Law or pursuant to legal process to disclose such Confidential Information of the other Party; provided that unless otherwise prohibited by Applicable Law, the receiving Party first advises the disclosing Party of such intended disclosure and provides the disclosing Party with the opportunity to seek appropriate judicial or administrative relief to avoid, or obtain confidential treatment of, such disclosure at the disclosing Party's sole cost and expense.

The confidentiality provisions set forth herein shall supersede and replace OV's and LP's rights and obligations under the Existing Confidentiality Agreement (between OV, LP, MPI, and Bruce Pratt)(effective September 23, 2014) and shall be deemed to cover all Confidential Information (as defined in the Existing Confidentiality Agreement) disclosed or obtained by OV and LP under the Existing Confidentiality Agreement.

Unless otherwise specified in writing, all documents, record bearing media and materials containing or embodying Confidential Information provided by the disclosing Party shall remain the property of the disclosing Party. Upon the written request of the disclosing Party, and if not causing any limitations to the receiving Party's compliance with obligations or exercise of rights under this Agreement, the receiving Party agrees to return all such Confidential Information or destroy all documents, record bearing media and materials created by the receiving Party that contain or embody any Confidential Information of the disclosing Party, as well as any copies thereof, except for one copy which may be retained by the receiving Party's legal counsel for purposes of complying with such Party's obligations under this ARTICLE 10.

Each Party shall use reasonable efforts to mark disclosed proprietary information as "Confidential". If such proprietary information is disclosed orally, the disclosing Party shall use reasonable efforts to indicate such information as "Confidential" at the time of oral disclosure, and confirm the same in subsequent confirmatory writing. However, any failure to mark or indicate disclosed information as being "Confidential" shall not in itself omit the information from being considered Confidential Information or being subject to the confidentiality obligation set out in this ARTICLE 10.

10.2 **Authorized Disclosure.** Notwithstanding Section 10.1, each Party may disclose Confidential Information belonging to the other Party solely to the extent such Party determines such disclosure is reasonably necessary in the following situations:

(a) prosecuting or defending litigation relating to this Agreement;

(b) disclosure to its and its Affiliates respective directors, officers, employees, consultants, professional advisors, lenders, insurers, sublicensees and potential Program Acquirer(s) only on a need-to-know basis and solely as necessary in connection with this Agreement, provided that each disclosee must be bound by obligations of confidentiality and non-use no less stringent than those set forth in Sections 10.1 and 10.2 prior to any such disclosure; and

(c) solely with respect to the material terms of this Agreement, disclosure to any bona fide potential or actual investor, investment banker, acquirer, merger partner, or other potential or actual financial partner; provided that each disclosee must be bound by obligations of confidentiality and non-use no less stringent than those set forth in Sections 10.1 and 10.2 prior to any such disclosure. The receiving Party shall be liable for any breach of such confidentiality and non-use obligations by any such Third Party.

10.3 **Publicity; Terms of Agreement.**

(a) The Parties shall make a joint public announcement of the execution of this Agreement on or after the Effective Date. OV shall be responsible for preparing a draft of such press release and providing the same to LP, for review and comment, no later than three (3) Business Days following the Effective Date, but may do so prior to the Effective Date. LP shall provide its written comments and suggested edits to the draft press release to OV no later than three (3) Business Day following receipt from OV of the draft. Failure by LP to respond to OV in the required time period shall be deemed consent by LP to the draft press release provided by OV. The Parties agree that the material terms of this Agreement are the Confidential Information of both Parties, subject to the authorized disclosure provisions set forth in Section 10.2 and this Section 10.3. Each Party may publicly disclose without violation of this Agreement, such terms of this Agreement as are, on the advice of counsel, required by the rules and regulations of the United States Securities and Exchange Commission or any successor ("**SEC**"), The NASDAQ Stock Market, Inc. the NASDAQ OMX Group, Inc. NASDAQ OMX Nordic, NASDAQ OMX Copenhagen A/S (Copenhagen stock exchange), First North and/or Stockholm Stock Exchange; provided that such Party shall advise the other Party of such intended disclosures and provide the other Party with reasonable opportunity to request that such Party seek (at such Party's expense) confidential treatment of such disclosures to be filed with the relevant securities exchange. Subject to the immediately preceding sentence, each Party shall consult with the other Party, and the other Party shall have the right to review and comment with respect to the redaction of the terms of this Agreement or Confidential Information as part of the confidential treatment request to the SEC or other securities exchange.

(b) After release of the press release announcing this Agreement and excluding any public disclosures of the terms of this Agreement that are authorized by Section 10.3(a), if either Party desires to make a public announcement concerning the material terms of this Agreement, milestones achieved under this Agreement or other Confidential Information of the other Party, such Party shall give reasonable prior advance notice of the proposed text of such announcement to the other Party for its prior review and approval (except as otherwise provided herein), such approval not to be unreasonably withheld, conditioned or delayed. A Party commenting on such a proposed press release under this subsection (b) shall provide its comments, if any, within five (5) Business Days after receiving the press release for review. In relation to each Party's review of such an announcement, such Party may make specific, reasonable comments on such proposed press release or other public disclosure within the prescribed time for commentary and the other Party shall make reasonable efforts to adopt such comments. Neither Party shall be required to seek the permission of the other Party to disclose any information already disclosed or otherwise in the public domain, provided such information remains accurate.

10.4 **Publications**. Neither Party shall publicly present or publish results of studies, clinical or otherwise, carried out under this Agreement (each such presentation or publication, a "**Publication**") without the prior approval of the other Party, which shall not be unreasonably withheld. The submitting Party shall provide the other Party with the opportunity to review any proposed Publication at least thirty (30) days prior to the earlier of its presentation or intended submission for publication. Notwithstanding the foregoing, OV shall not have the right to publish or present LP's Confidential Information without LP's prior written consent, and LP shall not have the right to publish or present OV's Confidential Information without OV's prior written consent.

10.5 **Clinical Trial Registries.** In connection with any data or other information generated by a Party hereunder, each Party shall have the right to publish such data and information without further approval from the other on ClinicalTrials.gov or other public web based data entry system in accordance with the International Committee of Medical Journal Editors (ICMJE). The Party that conducts the clinical study in accordance with this Agreement shall be exclusively responsible for registering the study in accordance with, the Food and Drug Administration Amendments Act (FDAAA) of 2007 (if conduced in the U.S.), updating and/or amending such clinical trial registration as appropriate, and publishing the results of such trial in accordance with Applicable Laws.

ARTICLE 11
TERM AND TERMINATION

11.1 **Term.** This Agreement shall become effective on the Effective Date and, unless earlier terminated pursuant to this ARTICLE 11, shall remain in effect for an initial period of three (3) years (together with any extensions or renewals thereof, the "**Term**").

(a) Upon successful conclusion of the Phase 2 Clinical Trial for Primary Indication (or Replacement Secondary Indication), OV shall, irrespective of whether a Program Acquirer has been identified or not, be entitled to extend the Term of the Agreement by a written notice to LP, provided that OV continues to comply with ARTICLE 5. The extension shall be for such additional period of time which in OV's reasonable opinion would be appropriate in order to conclude a Program Acquirer Agreement with a Program Acquirer in the Territory. If OV has not been able to conclude a Program Acquirer Agreement within the extension period, OV may by a written notice to LP extent the Agreement by a further and final period of time which in the reasonable opinion of OV is appropriate for the described purpose. Where OV as per Sections 5.4, 5.5 and this Section 11.1(a) decides that it itself will pursue and advance the development of Product past Phase 2 Clinical Trial and Commercialize Product as contemplated in this Agreement, and notifies LP hereof, the Term of the Agreement shall be automatically extended through the Royalty Expiration Date. For purposes of this Section 11.1(a), successful conclusion of the Phase 2 Clinical Trial for Primary Indication (or Replacement Secondary Indication) shall be determined by the JDC.

(b) Upon Technical Failure of the Phase 2 Clinical Trial for Primary Indication (or Replacement Secondary Indication), OV shall have the right, upon at least sixty (60) days' advance written notice to LP prior to the expiration of the Term, to renew this Agreement, on its existing terms and conditions, for additional period of three (3) years, upon payment to LP of a renewal fee of [***] dollars ($ [***]). For purposes of this Section 11.1(b), any Technical Failure shall be determined by the JDC.

(c) Irrespective of what is set out in Section 11.1(a), upon the expiration of the Term (including any extension as per subsection (a) above and/or any renewal period under subsection (b) above), and provided that the Phase 2 Clinical Trial for Primary Indication (or a Secondary Indication) is successful and OV has successfully engaged a Program Acquirer, the Term of this Agreement shall be automatically extended through the Royalty Expiration Date. For purposes of this Section 11.1(c), successful conclusion of the Phase 2 Clinical Trial for Primary Indication (or a Secondary Indication) shall be determined by the JDC.

11.2 **Termination at Will.**

(a) OV shall have the right to terminate this Agreement in its entirety and in its sole discretion upon one hundred twenty (120) days written notice to LP.

(b) A Party may terminate this Agreement by a (30) thirty days' written notice in the event the other Party is affected by Force Majeure and the affected Party is unable to meet its obligations hereunder as a result of a Force Majeure condition having lasted for more than sixty (60) days. For the avoidance of doubt, LP shall not be entitled to terminate this Agreement due to Force Majeure affecting OV where OV has a pending right to extend deadlines for performance of its obligations, irrespective that the reason why the initial deadlines are not met is due to Force Majeure affecting OV.

(c) Notwithstanding subsections (a)-(b) above, OV shall have the right to terminate this Agreement upon written notice effective immediately in the event that:

(i) the FDA prohibits the further clinical use of the Product or terminates the IND under 21 CFR 312.44 on grounds of safety (or equivalent grounds with respect to any part of the Territory outside of the U.S. Territory). This termination excludes failure of OV to comply with any applicable requirement of regulations 21 CFR 312.50 or 21 CFR 312.56; or

(ii) a clinical hold imposed by the FDA or other Governmental Authority is definitively converted to "inactive status" under 21 CFR 312.45 on grounds of safety (or equivalent grounds with respect to such other part of the Territory).

(d) LP may have the right to terminate certain rights and obligations of OV/Program Acquirer(s) under this Agreement as per Section 5.6. In the event of LP's exercise of such termination rights, Section 11.7 (Effect of Termination of the Agreement) shall not apply.

11.3 **Termination by OV for Breach by LP.** In the event that LP, after receiving written notice from OV identifying a material breach by LP of its obligations under this Agreement, fails to cure such material breach within sixty (60) days from the date of such notice, then OV may elect to terminate this Agreement, in which case the licenses granted to OV under Section 2.1 shall terminate, and OV shall be entitled to claim from LP all damages which would be due to OV, and to seek all other remedies available to OV, for such breach as permitted by this Agreement or at law.

Notwithstanding the foregoing, if LP is alleged to be in material breach and disputes such termination through the dispute resolution procedures set forth in this Agreement, then OV's right to terminate this Agreement shall be tolled for up to one hundred and twenty (120) days; provided that LP may move for a preliminary determination as to whether LP is likely to prevail with respect to the issue of whether LP is in breach and, if the arbitrators make a preliminary determination that LP is likely to prevail with respect to such issue, then OV's right to terminate this Agreement shall be tolled for so long as the dispute resolution procedures are being pursued by LP in good faith or until it is determined by the arbitrators that LP is in material breach. Following a determination that LP is in material breach (whether preliminary or otherwise), LP shall have the right to cure such breach within the cure period provided above in this Section 11.3 prior to any termination becoming effective or any remedies being enforced.

11.4 **Termination by LP due to breach by OV**. In the event that OV materially breaches this Agreement, and fails to cure such breach within sixty (60) days of receipt of written notice identifying such breach from LP (or, in the case of payment obligations, thirty (30) days from the date of such notice), then LP may terminate this Agreement upon written notice to OV effective immediately, in which case the licenses granted to OV under Section 2.1 shall terminate, except as necessary for OV to exercise its continuing rights and fulfill its continuing obligations (and exercise of rights) under Section 11.7(d), and LP shall be entitled to claim from OV all damages which would otherwise be due to LP and to seek all other remedies otherwise available to LP for such breach as permitted by this Agreement. The Parties agree that, without limitation, the following shall constitute a material breach of this Agreement: (a) OV does not engage in Development activities under the Clinical Development Plan for a consecutive period of twelve (12) months, except to the extent that Section 4.3(d) exempts such inactivity from being a breach of OVs obligations), (b) OV fails to complete the target patient enrollment in the Phase 2 Clinical Trial for Primary Indication (or Replacement Secondary Indication) in the Territory within twenty-four (24) months following the Effective Date, except to the extent that Section 4.3(d) exempts such enrollment failure from being a breach of OVs obligations, and (c) in case OV in respect of disputed milestone or royalty payment(s) fails to pay any undisputed part of such milestone, or royalty payment(s) by the date when such undisputed amount is required to be paid pursuant to this Agreement, and such payment failure is not cured within thirty (30) days of LP's written notice thereof or within thirty (30) days of resolution of any such dispute.

Notwithstanding the foregoing, if OV is alleged to be in material breach and disputes such termination through the dispute resolution procedures set forth in this Agreement, then LP's right to terminate this Agreement shall be tolled for up to one hundred and twenty (120) days; provided that OV may move for a preliminary determination as to whether OV is likely to prevail with respect to the issue of whether OV is in breach and, if the arbitrators make a preliminary determination that OV is likely to prevail with respect to such issue, then LP's right to terminate this Agreement shall be tolled for so long as the dispute resolution procedures are being pursued by OV in good faith or until it is determined by the arbitrators that OV is in material breach. Following a determination that OV is in material breach (whether preliminary or otherwise), OV shall have the right to cure such breach within the cure period provided above in this Section 11.4 prior to any termination becoming effective or any remedies being enforced.

11.5 **Termination for Failure of Conditions Subsequent**. (i) OV may terminate this Agreement by written notice with immediate effect upon the failure of any of the Conditions Subsequent required in Section 13.16, and (ii) LP may terminate this Agreement by written notice with immediate effect upon the failure of the Conditions Subsequent required in Section 13.16 subsections (a) and (d).

11.6 **Termination Upon Bankruptcy**. Either Party shall have the right to terminate this Agreement immediately by providing written notice, if the other Party: (a) applies for or consents to the appointment of a receiver, trustee, liquidator or custodian of itself or of all or a substantial part of its assets, (b) makes a general assignment for the benefit of its creditors, (c) is dissolved or liquidated in full or in substantial part, (d) commences a voluntary case under Chapter 7 (or "**Chapter 7 Case**") of the United States Bankruptcy Code or consents to any such relief or to the appointment of or taking possession of its property by any official in such an involuntary case or such other proceeding commenced against it, (e) takes any corporate action for the purpose of effecting any of the foregoing, (f) a case under Chapter 11 of the Bankruptcy Code in respect of such Party is converted to a Chapter 7 Case, or (g) becomes the subject of an involuntary Chapter 7 Case or other proceeding seeking liquidation with respect to itself or its debts under any bankruptcy, insolvency or other similar law now or hereafter in effect that is not dismissed within sixty (60) days after commencement. Irrespective of what is set out in this Section 11.6, a Party shall not be entitled to terminate the Agreement as per this Section 11.6 if the Party exercises rights under Section 11.9.

11.7 **Effect of Termination of the Agreement.** Upon termination of this Agreement, the following shall apply (in addition to any other rights and obligations under Section 11.8 or otherwise under this Agreement with respect to such termination):

(a) **Licenses; Covenant to Negotiate.** In the event of termination of this Agreement by either Party (other than as provided in Section 11.1), the licenses granted to OV under Section 2.1 and any other licenses and rights granted to OV under this Agreement shall terminate and all rights in the LP Technology shall return to LP. Upon termination of this Agreement prior to the completion of a Phase 2 Clinical Trial, except in the case of termination by OV under Sections 11.3, 11.5 or 11.6, OV agrees to negotiate in good faith with LP the terms and conditions for a non-exclusive, royalty-bearing, worldwide license under the OV/MPI Technology to the extent necessary to continue conducting research, Development and, for the purpose of research and Development, manufacturing activities in the Territory solely in support of obtaining Regulatory Approval worldwide of Products in the Territory. For purposes of clarity, such non-exclusive license, if granted to LP, shall not include any right to market, distribute, sell, or offer for sale the DRP Biomarker alone or in connection with Compound or Products, which rights remain at all times solely with OV. OV will accept as part of such terms and conditions for license (i) that the payments shall be based on a mechanism operating with a royalty payment by LP to OV of a percentage of LP's and its Affiliates' income from commercialization of any kind, such percentage to be in line with the royalty percentage generally applicable in license agreement(s) under which OV has granted license to DRP biomarkers to Third Parties, or, where such licenses have not been granted, the royalty percentage payable by OV to MPI under the Biomarker Agreement plus a reasonable margin, (ii) that LP shall have the right to sublicense any license granted to it by OV under this Section 11.7(a) to its Affiliates without OV's consent and (iii) that, subject to the forgoing, the terms and conditions shall otherwise reflect market terms and conditions at the time of negotiation.

(b) **Trademarks and Domain Names.** With the exception of termination of this Agreement by OV under Sections 11.3, 11.5 or 11.6, OV agrees to negotiate in good faith with LP for the sale, assignment, and transfer by OV to LP of any OV trademarks and domain names acquired by OV under this Agreement relating to the promotion and sale of Product(s).

(c) **Regulatory Materials and Information**. Upon termination of this Agreement prior to the completion of a Phase 2 Clinical Trial, except in the case of termination of this Agreement by OV under Section 11.3, 11.5 or 11.6, OV agrees on the terms and conditions to be negotiated in good faith by the Parties to provide LP with access to, and copies of all Regulatory Materials, Information, and Regulatory Approvals for Products in the Territory that are held or licensed by OV or its Affiliates or sublicensees, to the extent such Regulatory Materials, Information, and Regulatory Approvals were developed and obtained by OV in connection with this Agreement. For purposes of clarity, all information and materials contained within the LP Data Package provided to OV shall be returned to, and exclusively owned by, LP upon termination of this Agreement as provided in subsection (a) above.

(d) **Clinical Inventory**. Upon Termination of this Agreement, LP may upon request, except in case of termination by OV under Section 11.3, 11.5 or 11.6, purchase at cost plus a five percent (5%) margin all of the clinical inventory of bulk or finished Products held or controlled by OV as of the date of termination (including raw materials, intermediates, and finished, unfinished, or partially finished goods). LP shall notify OV within ten (10) days after the date of termination whether LP wishes to purchase such clinical inventory. In the event LP does not purchase such inventory, then OV and its Affiliates shall be permitted to sell such inventory; provided that such sales occur within six (6) months after termination.

(e) **Sublicense Agreements**. Except as otherwise provided in Section 11.1(c), the Parties agree that upon termination of this Agreement for any reason, all sublicenses granted by OV to Affiliates or Third Parties under the LP Technology shall immediately terminate. OV shall be responsible for ensuring that the terms of any such sublicenses provide for such immediate termination.

11.8 **Accrued Liabilities; Other Remedies.** Termination or expiration of this Agreement for any reason shall not release either Party from any liability or obligation that already has accrued prior to such expiration or termination (including any milestone or other payment that has been triggered by an event occurring prior to the effective date of termination or expiration - however if the triggering event occurs after the date of a breach of the Agreement by LP, OV may abstain from making the payment until such time where the Parties agree or the arbitration court rules that LP was not in breach), nor affect the survival of any provision hereof to the extent it is expressly stated to survive such termination. Termination or expiration of this Agreement for any reason shall not constitute a waiver or release of, or otherwise be deemed to prejudice or adversely affect, any rights, remedies or claims, whether for damages or otherwise, that a Party may have hereunder or that may arise out of or in connection with such termination or expiration.

11.9 **Rights in Bankruptcy.** All rights and licenses granted under or pursuant to this Agreement by LP and OV are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101 of the United States Bankruptcy Code. The Parties agree that each Party, as licensee of certain rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the United States Bankruptcy Code. The Parties further agree that, in the event of the commencement of a bankruptcy proceeding by or against a Party (such Party, the "**Bankrupt Party**") under the United States Bankruptcy Code, the other Party shall be entitled to a complete duplicate of (or complete access to, as appropriate) any intellectual property licensed to such other Party and all embodiments of such intellectual property, which, if not already in such other Party's possession, shall be promptly delivered to it (a) upon any such commencement of a bankruptcy proceeding upon such other Party's written request therefor, unless the Bankrupt Party elects to continue to perform all of its obligations under this Agreement or (b) if not delivered under clause (a), following the rejection of this Agreement by the Bankrupt Party upon written request therefor by the other Party. The Parties acknowledge and agree that the provisions of this Section 11.9 shall not apply to the extent that (1) the bankruptcy proceeding contemplated hereunder is initiated by the other Party or (2) OV terminates this Agreement pursuant to Section 11.6.

11.10 **Survival.** Provisions of this Agreement that, according to their nature, shall continue to apply also after the termination or expiration of this Agreement shall survive any expiration or termination of this Agreement. For the avoidance of any doubt the the following provisions shall survive any expiration or termination of this Agreement, where applicable for the period of time specified: ARTICLE 2, Sections 4.5-4.8, 4.10, and 5.7, Sections 6.4-6.8, ARTICLE 7, ARTICLE 8, ARTICLE 9, ARTICLE 10, ARTICLE 11, ARTICLE 12 and ARTICLE 13.

ARTICLE 12
DISPUTE RESOLUTION

12.1 **Disputes**. The Parties recognize that disputes as to certain matters may from time to time arise during the Term which relate to either Party's rights and/or obligations hereunder. It is the objective of the Parties to establish procedures to facilitate the resolution of disputes arising under this Agreement in an expedient manner by mutual cooperation. To accomplish this objective, the Parties agree to follow the procedures set forth in this ARTICLE 12 if and when a dispute arises under this Agreement.

(a) **Referred From JDC.** Any dispute, controversy or difference arising from the JDC pursuant to ARTICLE 3 shall be resolved in accordance with Section 3.6.

(b) **Arising Between the Parties.** Other than any dispute, controversy or difference which may arise from the JDC, any disputes, controversies or differences which may arise between the Parties out of or in relation to or in connection with this Agreement, including any alleged failure to perform, or breach, of this Agreement, or any issue relating to the interpretation or application of this Agreement, then upon the request of either Party, the Parties agree to meet and discuss in good faith a possible resolution thereof, which good faith efforts shall include at least one in-person meeting between the chief executive officers of each Party (and, if mutually agreed, a member of the Board of Directors of each party). If the matter is not resolved within thirty (30) days following the request for discussions, such matter shall be submitted to arbitration in accordance with the Arbitration Rules of the International Chamber of Commerce ("**ICC**")(http://www.iccwbo.org). The decision of the arbitrators shall be final and binding upon the Parties and enforceable in any court of competent jurisdiction, and the Parties expressly exclude any right to appeal from such decision. The location of arbitration will be New York City, State of New York, U.S.A., unless otherwise agreed to in writing by the Parties. The arbitration will be heard and determined by one (1) arbitrator, who will be jointly selected by OV and LP. If, within thirty (30) days following the date upon which a claim is received by the respondent, the Parties cannot agree on a single arbitrator, the arbitration will be heard and determined by three (3) arbitrators, with one arbitrator being appointed by each Party and the third arbitrator being selected by the two Party-appointed arbitrators. If either Party fails to select an arbitrator, or if the Party-appointed arbitrators cannot agree on a third arbitrator within sixty (60) days of the respondent receiving the claim, such arbitrator will be appointed by ICC. The arbitration award shall be accompanied by a reasoned opinion in writing (in English).

Each Party will bear its own costs and expenses (including its attorney's fees) associated with any arbitration initiated under this Section; provided that the arbitrator may assess against the Party losing the arbitration all of the arbitrator(s)' and administrative fees associated with the arbitration and the costs and expenses (including reasonable attorney's fees) of both Parties, unless the arbitrator(s) believes that neither Party is the clear loser, in which case the arbitrator(s) shall, in its/their sole discretion, divide arbitrator(s)' and administrative fees and the Parties' costs and expenses between the Parties. The language of the arbitration proceeding will be English.

12.2 **Injunctive Relief.** Nothing in this ARTICLE 12 will preclude either Party from seeking equitable relief or interim or provisional relief from a court of competent jurisdiction (pursuant to Section 13.7), including a temporary restraining order, preliminary injunction or other interim equitable relief, concerning a dispute if necessary to protect the interests of such Party or to preserve the status quo.

ARTICLE 13
MISCELLANEOUS

13.1 **Entire Agreement; Amendment** . This Agreement, including the Exhibits hereto, sets forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto with respect to the subject matter hereof and supersedes, as of the Effective Date, all prior agreements and understandings between the Parties with respect to the subject matter hereof, including, the Existing Confidentiality Agreement to the extent as set out in Section 10.1. The foregoing shall not be interpreted as a waiver of any remedies available to either Party as a result of any breach, prior to the Effective Date, by the other Party of its obligations pursuant the Existing Confidentiality Agreement. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as are set forth herein and therein. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party. All Exhibits shall be subject to the terms and conditions of this Agreement. In the event of any conflict or inconsistency between the terms of this Agreement and the terms of any Exhibit, the terms of this Agreement shall govern.

13.2 **Force Majeure**. Both Parties shall be excused from the performance of their obligations under this Agreement to the extent that such performance is prevented by Force Majeure and the nonperforming Party promptly provides notice of the prevention to the other Party. Such excuse shall be continued so long as the condition constituting Force Majeure continues and the nonperforming Party takes reasonable efforts to remove the condition. For purposes of this Agreement, "**Force Majeure**" shall mean conditions beyond the control of the Parties, including an act of God (natural disaster), war, civil commotion, terrorist act, labor strike or lock-out, epidemic, failure or default of public utilities or common carriers, and destruction of production facilities or materials by fire, earthquake, storm or like catastrophe, and failure of plant or machinery, provided that such failure could not have been prevented by the exercise of skill, diligence, and prudence that would be reasonably and ordinarily expected from a skilled and experienced person engaged in the same type of undertaking under the same or similar circumstances and provided further that such condition is not the result of negligence or misconduct by the nonperforming Party.

13.3 **Notices.** Any notice required or permitted to be given under this Agreement shall be in writing, shall specifically refer to this Agreement, and shall be addressed to the appropriate Party at the address specified below or such other address as may be specified by such Party in writing in accordance with this Section 13.3, and shall be deemed to have been given for all purposes when received, if hand-delivered or by means of facsimile or other electronic transmission, or one Business Day after being sent by a reputable overnight delivery service.

If to OV: Oncology Venture A/S
Venlighedsvej 1
DK-2970 Hørsholm
Denmark
Attention: Dr. Peter Buhl Jensen, M.D.
Chief Executive Officer

With a copy to: Dechert LLP
1775 I Street, NW
Washington, D.C. 20006-2401
The United States of America
Attention: David E. Schulman, Esq.

And Plesner Law Firm
Amerika Plads 37
DK-2100 Copenhagen
Denmark
Attention: Thomas Holst Laursen, Esq.

If to LP: Lantern Pharma, Inc.
211 N Ervay St, Suite 404
Dallas, TX 75201
The United States of America
Attn: Dr. Arunkumar Asaithambi, Ph.D.
Chief Executive Officer

With a copy to: McGuireWoods LLP
2000 McKinney Ave., Suite 1400
Dallas, TX 75201
The United States of America
Attention: Darren Collins, Esq.

13.4 **No Strict Construction; Headings; Interpretation.** This Agreement has been prepared jointly and shall not be strictly construed against either Party. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision. The headings of each Article and Section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular Article or Section. The definitions of the terms herein apply equally to the singular and plural forms of the terms defined. Whenever the context may require, any pronoun will include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" will be deemed to be followed by the phrase "without limitation." Unless the context requires otherwise, (a) any definition of or reference to any agreement, instrument or other document herein will be construed as referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any restrictions on such amendments, supplements or modifications set forth herein or therein), (b) any reference to any laws herein will be construed as referring to such laws and any rules or regulations promulgated thereunder as from time to time enacted, repealed or amended, (c) any reference herein to any person will be construed to include the person's successors and assigns, (d) the words "herein", "hereof" and "hereunder", and words of similar import, will be construed to refer to this Agreement in its entirety and not to any particular provision hereof, (e) any reference herein to the words "mutually agree" or "mutual written agreement" will not impose any obligation on either Party to agree to any terms relating thereto or to engage in discussions relating to such terms except as such Party may determine in such Party's sole discretion, except as expressly provided in this Agreement, (f) as applied to a Party, the word "will" shall be construed to have the same meaning and effect as the word "shall," and (g) all references herein without a reference to any other agreement to Articles, Sections, or Exhibits will be construed to refer to Articles, Sections, and Exhibits of or to this Agreement.

13.5 **Assignment and Succession**. Except as expressly stated herein, neither Party may assign or transfer this Agreement or any rights or obligations hereunder without the prior written consent of the other, except that a Party may make such an assignment without the other Party's consent to such Party's Affiliate or to a successor (including Program Acquirer) in connection with the transfer of (a) all or substantially all of the business of such Party relating to this Agreement, and/or (b) in the case of OV, that portion of OV's business to which this Agreement pertains (including OV's rights and obligations under this Agreement), whether by way of merger, sale of stock, sale of assets or other transaction. Any permitted successor or assignee of an assigning Party's rights and obligations hereunder shall, in writing to the other Party, expressly assume performance of all of the assigning Party's rights and obligations, see, however, Section 5.3 with regard to OV's assignment to a Program Acquirer. The LP Technology shall exclude any intellectual property held or developed by a permitted successor of LP prior to the transaction in which it became a successor of such Party. This Agreement shall be binding on, and inure to the benefit of, the respective successors-in-interest of the Parties and any permitted assignment shall be binding on the successors of the assigning Party. Any assignment or attempted assignment by either Party in violation of the terms of this Section 13.5 shall be null, void and of no legal effect.

13.6 **Records Retention**. Each of LP and OV will maintain complete and accurate records pertaining to its activities under this Agreement, including records pertaining to Development or Commercialization of any Products and reports and information provided to any Governmental Authority or Regulatory Authority, in accordance with Applicable Law. Each of LP and OV will retain such records for a duration prescribed by Applicable Law, but not in any event for less than five (5) years from creation (or longer if a Party is notified, ordered or otherwise required to maintain such records for a longer period in connection with a legal proceeding or government investigation).

13.7 **Governing Law; Venue.** Subject to the requirements of ARTICLE 12, resolution of any other disputes arising out of or related to this Agreement or the validity, construction, interpretation, enforcement, breach, performance, application or termination of this Agreement and any remedies relating thereto, shall be governed by and construed under the substantive laws of the State of New York, USA excluding any conflicts or choice of law rule or principle that might otherwise refer construction or interpretation of this Agreement to the substantive law of another jurisdiction and without regard to the United Nations Convention on Contracts for the International Sale of Goods. Subject to Section 12.1(b), each of LP and OV hereby consents the exclusive jurisdiction of Federal District Courts in the State of New York, USA.

13.8 **No Third Party Beneficiaries**. This Agreement will be binding upon and inure solely to the benefit of the Parties and their successors and permitted assigns and no provision of this Agreement, express or implied, is intended to or will be deemed to confer upon Third Parties any right, benefit, remedy, claim, liability, reimbursement, claim of action or other right of any nature whatsoever under or by reason of this Agreement other than the Parties and, to the extent provided in Sections 9.1 and 9.2, the Indemnified Parties. Without limitation, this Agreement will not be construed so as to grant employees of either party in any country any rights against the other Party pursuant to the laws of such country.

13.9 **Performance by Affiliates**. Any obligation of OV under or pursuant to this Agreement may be satisfied, met or fulfilled, in whole or in part, at OV's sole and exclusive option, either by OV directly or by any Affiliate of OV that OV causes to satisfy, meet or fulfill such obligation, in whole or in part. Any obligation of LP under or pursuant to this Agreement may be satisfied, met or fulfilled, in whole or in part, at LP's sole and exclusive option, either by LP directly or by any Affiliate of LP that LP causes to satisfy, meet or fulfill such obligation, in whole or in part. With respect to any particular action, the use of the words "OV will" also means "OV will cause" the particular action to be performed, and the use of the words "LP will" also means "LP will cause" the particular action to be performed. Each of the Parties guarantees the performance of all actions, agreements and obligations to be performed by any Affiliates of such Party under the terms and conditions of this Agreement, and shall cause its Affiliates to comply with the provisions of this Agreement in connection with such performance. Any breach by a Party's Affiliate of any of such Party's obligations under this Agreement shall be deemed a breach by such Party, and the other Party may proceed directly against such Party without any obligation to first proceed against such Party's Affiliate.

13.10 **Further Assurances and Actions**. Each Party, upon the request of the other Party, without further consideration, will do, execute, acknowledge, and deliver or cause to be done, executed, acknowledged or delivered all such further acts, deeds, documents, assignments, transfers, conveyances, powers of attorney, instruments and assurances as may be reasonably necessary to effect complete consummation of the transactions contemplated by this Agreement, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement. The Parties agree to execute and deliver such other documents, certificates, agreements and other writings and to take such other actions as may be reasonably necessary in order to consummate or implement expeditiously the transactions contemplated by this Agreement.

13.11 **Compliance with Applicable Law.** Each Party shall comply with all Applicable Laws in the course of performing its obligations or exercising its rights pursuant to this Agreement.

13.12 **Severability**. If any one or more of the provisions of this Agreement is held to be invalid or unenforceable by any court of competent jurisdiction from which no appeal can be or is taken, the provision shall be considered severed from this Agreement and shall not serve to invalidate any remaining provisions hereof. The Parties shall make a good faith effort to replace any invalid or unenforceable provision with a valid and enforceable one such that the objectives contemplated by the Parties when entering this Agreement may be realized.

13.13 **No Waiver**. Any delay in enforcing a Party's rights under this Agreement or any waiver as to a particular default or other matter shall not constitute a waiver of such Party's rights to the future enforcement of its rights under this Agreement, except with respect to an express written and signed waiver relating to a particular matter for a particular period of time.

13.14 **Independent Contractors.** Each Party shall act solely as an independent contractor, and nothing in this Agreement shall be construed to give either Party the power or authority to act for, bind, or commit the other Party in any way. Nothing herein shall be construed to create the relationship of partners, principal and agent, or joint-venture partners between the Parties.

13.15 **Counterparts**. This Agreement may be executed in one (1) or more counterparts, including by facsimile or other electronic transmission, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

13.16 **Conditions Subsequent**. Unless satisfactory completion of the following Conditions Subsequent has taken place no later than sixty (60) days following the Effective Date, the individual Party shall be entitle to terminate the Agreement as per Section 11.5:

(a) Execution of any required sub-contractor agreement between OV and MPI for the development and provision by MPI to OV of the DRP Biomarker required for conduct of the Program.

(b) Satisfactory completion by OV of its due diligence on the LP Data Package (and other LP Technology relevant to Irofulven and the conduct of the Program), which due diligence may include on-site inspection, by OV or its designees, of the LP Data Package at LP's facilities and/or offsite document storage facilities, and discussions with the FDA and/or other Regulatory Authorities as necessary and/or desirable to OV.

(c) LP has obtained and presented to OV an original copy of a written confirmation from AFC to LP and OV, the contents of which having been prepared or pre-approved by OV, according to which (i) LP is not precluded, under a pre-existing and in-force technology license agreement between AFC and LP relating to Irofulven (signed on 15 January 2015), from granting the rights to OV contemplated under this Agreement and (ii) OV's Development of Product(s) together with DRP Biomarker as a companion diagnostic in the Field is not subject to any assignment of rights to AFC nor will AFC assert such rights. Further, where necessary to ensure continuity of OV's rights in respect of the intellectual property, including Patent Rights, of AFC granted in sublicense by LP to OV under this Agreement, e.g. in case of LP's breach of its obligations under the license agreement with AFC, undertakings satisfactory to OV are rendered by AFC to OV in writing. A copy of the written confirmation and such further undertakings from AFC shall be attached as Exhibit F hereto. LP has reviewed the general terms of this Agreement with representatives of AFC and such representatives have indicated that they will accept reasonable concessions in view of the obligations of LP under this Agreement that relate to the AFC license. LP therefore has a good faith belief that AFC will provide the required consent.

(d) LP has obtained and presented to OV an original copy of a written confirmation from AFC to LP according to which LP is not precluded, under a pre-existing and in-force technology license agreement between AFC and LP relating to Irofulven (signed on 15 January 2015), from granting the rights to OV contemplated under this Agreement. LP has reviewed the general terms of this Agreement with representatives of AFC and such representatives have indicated that they will accept reasonable concessions in view of the obligations of LP under this Agreement that relate to the AFC license. LP therefore has a good faith belief that AFC will provide the required consent. A copy of the written confirmation shall be attached as Exhibit G hereto.

The Parties will discuss and coordinate the preparation of the confirmations and undertakings requested to be rendered by AFC as per subsections (c) and (d) above.

Signature Page to Follow

In Witness Whereof, the Parties have executed this Agreement in duplicate originals by the following signatures of their duly authorized officers as of the Effective Date.

Oncology Venture, A/S

By: /s/ Peter Buhl Jensen
Peter Buhl Jensen, M.D., Ph.D.
Chief Executive Officer

Date: _____

By: _____
Name:
Title:

Date: _____

Lantern Pharma, INC.

By: /s/ Arunkumar Asaithambi
Arunkumar Asaithambi, Ph.D.
Chief Executive Officer

Date: _____

By: _____
Name:
Title:

Date: _____

Oncology Venture-Lantern Pharma Irofulven License.

EXHIBITS

Exhibit A	**Initial Clinical Development Plan**
Exhibit B	**Biomarker Agreement**
Exhibit C	**LP Patents**
Exhibit D	**IP Plan**
Exhibit E	**Permitted Encumbrances**
Exhibit F	**Confirmation Letter and, where applicable, undertakings from AFC (re Section 13.16(c))**
Exhibit G	**Confirmation Letter from AFC (re Section 13.16(d))**

CONFIDENTIAL

Exhibit A
Initial Clinical Development Plan

[to be appended post-execution]

CONFIDENTIAL

Exhibit B
Biomarker Agreement

[OV to append pre-execution]

CONFIDENTIAL

Exhibit C
LP Patents

Case Title	Lead Inv	App No	Filing Dt	Pat No
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	Germany (DE) 1909783
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	Great Britain (GB) 1909783
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	6800754.1	08/03/2006	France (FR) 1909783
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	2008-525225	08/03/2006	Japanese 4989648
HYDROXYUREA DERIVATIVES OF IROFULVEN WITH HIGH ANTITUMOR ACTIVITY	McMorris, Trevor	11/997,432	01/31/2008	7,655,695
ANTITUMOR AGENTS	Kelner, Michael	11/600,375	11/16/2006	7,629,380
ANTITUMOR AGENTS	Kelner, Michael	11/151,013	06/13/2005	7,141,603
ANTITUMOR AGENTS	Kelner, Michael	10/013,009	11/05/2001	6,855,696
ANTITUMOR AGENTS	Kelner, Michael	09/641,191	08/17/2000	6,548,679
ANTITUMOR AGENTS	Kelner, Michael	09/386,555	08/31/1999	6,323,181
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	11/955,247	12/12/2007	7,713,939
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	10/694,533	10/27/2003	6,987,193
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	10/134,260	04/29/2002	6,639,105
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	09/501,151	02/09/2000	6,380,403
SYNTHESIS OF NEW ACYLFULVENE ANALOGS	McMorris, Trevor	08/683,687	07/18/1996	5,932,553

CONFIDENTIAL

Exhibit D
IP Plan

[to be appended post-execution]

EXECUTION VERSION

CONFIDENTIAL

Exhibit E
Permitted Encumbrances

Assessments and other governmental charges not yet incurred, due or payable under the Internal Revenue Code of 1986, as amended, and other comparable state, local and foreign Applicable Laws.

Exhibit F
Confirmation Letter and, where applicable, undertakings from AFC (re Section 13.16(c))

[to be appended post-execution]

EXECUTION VERSION

CONFIDENTIAL

Exhibit G
Confirmation Letter from AFC (re Section 13.16(d))

[to be appended post-execution]

Exhibit 10.9

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

FINAL VERSION 2/8/16
CONFIDENTIAL

ADDENDUM TO

DRUG LICENSE AND DEVELOPMENT AGREEMENT

by and between

LANTERN PHARMA, INC.

and

ONCOLOGY VENTURE, APS

ADDENDUM TO DRUG LICENSE AND DEVELOPMENT AGREEMENT

This Addendum is attached to and forms part of the DRUG LICENSE AND DEVELOPMENT AGREEMENT dated May 23, 2015 (hereinafter the "Addendum"), between Oncology Venture APS (Company Registration no. 34 62 35 62), a Danish corporation having its principal offices at Venlighedesvej 1, 2970 Hørsholm, Denmark (hereinafter "OV"), and Lantern Pharma, Inc, (Company Registration no. _____) a Texas corporation having its principal place of business at 211 N Ervay Street, Suite 404, Dallas, TX 75201 U.S.A. (hereinafter "LP") as of February 8, 2016 (the "EFFECTIVE DATE") (hereinafter the "Addendum"). LP and OV are sometimes referred to herein individually as a "Party" and collectively as the "Parties". To the extent that any of the terms or conditions contained in this Addendum may contradict or conflict with any of the terms or conditions of the Drug License and Development Agreement dated May 23, 2015, it is expressly understood and agreed that the terms of this Addendum shall take precedence and supersede the Drug License and Development Agreement.

Recitals

LP licenses certain intellectual property rights in and to the cancer drug Irofulven, which rights include the LP Data Package under theTechnology License Agreement from AF Chemicals, LLC, a Californian limited liability company having its principal office at 5545 Coral Reef, La Jolla, CA 92037, U.S.A. (hereinafter "AFC").

OV controls certain intellectual property rights in and to a DRP Biomarker which is useful for selecting likely responder patients;

OV and LP have previously entered into the DRUG LICENSE AND DEVELOPMENT AGREEMENT (effective May 23, 2015) (hereinafter the "Agreement"), attached hereto as Exhibit J.

OV and LP now agree to this Addendum.

Now Therefore, in consideration of the foregoing premises and the mutual promises, covenants and conditions contained in this Addendum, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE 1
DEFINITIONS

In this Addendum, sections that are numbered using the same section number as employed in the Agreement replace the corresponding section in the Agreement. Sections in the Agreement in which no corresponding numbered section is present in the Addendum are unchanged but shall be read in light of the Addendum as a whole. Subsections in the Agreement in which no corresponding numbered section is present in the Addendum remain unchanged but shall be read in light of the Addendum as a whole. As used in this Addendum, capitalized terms, whether used in the singular or plural form, shall have the meanings set forth in the Agreement, except that the following initially capitalized terms, whether used in the singular or plural form, shall have the meanings set forth in this ARTICLE 1.

1.15 "**Compound**" means Irofulven and/or any pharmaceutically-active formulations of Irofulven except Irofulven when bound directly or via a linker to all of the following conjugates: an antibody, antibody fragment, peptide, growth factor, receptor proteins, receptor binding entity, lipids, liposomal particles, nanoparticles, PEG carriers, steroids, proteins, toxins, or another drug conjugate (hereinafter "Conjugates") or Irofulven Analogues whether or not bound directly or via a linker to a Conjugate. For clarity Compound does not include illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analog bound directly or via a linker to a Conjugate, or acylfulvene analog bound directly or via a linker to a Conjugate.

1.43 "**Irofulven**" means (i) irofulven or 6-hydroxymethylacylfulvene (also known as HMAF or MGI-114 or IUPAC name, (6'R)-6'-hydroxy-3'-(hydroxymethyl)-2',4',6'- trimethylspiro[cyclopropane-1,5'-inden]-7'(6'H)-one or (5'R)-5'-hydroxy-1'- (hydroxymethyl)-2',5',7'-trimethylspiro[cyclopropane-1,6'-indene]-4'-one) (CAS No. 158440-71-2 and/or CAS 187277-46-9) (FDA UNII 6B799IH05A http://fdasis.nlm.nih.gov/srs/ProxyServlet?mergeData=true&objectHandle=DBMaint&APPLICATION_NAME=fdasrs&actionHandle=default&nextPage=jsp/srs/ResultScreen.jsp&TXTSUPERLISTID=6B799IH05A), an alkylating DNA damage repair inhibitor, having molecular formula $C_{15}H_{18}O_3$, and/or (ii) any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, complex or mixture of any of the foregoing with respect to Irofulven that has the same mechanism of action as Irofulven. For clarity, Irofulven includes the active pharmaceutical ingredient known as irofulven, together with any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, complex or mixture thereof. For the purposes of the Agreement and this Addendum, Irofulven does not include Irofulven bound directly or via a linker to a Conjugate, Irofulven Analogues irrespective of whether bound directly or via a linker to a Conjugate or illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analogue bound directly or via a linker to a Conjugate, or acylfulvene analogue bound directly or via a linker to a Conjugate.

1.44 "**Irofulven Analogues**" means any analogues and/or derivatives of Irofulven owned and/or controlled by LP either prior to or during the Term of the Agreement, which analogues and/or derivatives have the same or similar mechanism-of-action as Irofulven but are characterized by substantially different and/or superior anti-tumor activity and/or safety/toxicity profile as compared to Irofulven (e.g. by IC50 and other standard cellular and animal testing models), including analogue LP-184, currently under development by LP, but excluding all of the following: illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analogue bound directly or via a linker to a Conjugate, acylfulvene analogue bound directly or via a linker to a Conjugate, Irofulven bound directly or via a linker to a Conjugate or Irofulven Analogue bound directly or via a linker to a Conjugate.

Oncology Venture-Lantern Pharma Irofulven License.

1.100 "**AFC License**" means the Technology License Agreement between AFC and LP, having an effective date of January 15, 2015 attached asExhibit H and as may be amended from time to time (the "Technology License Agreement").

1.101 "Other Excluded Rights" means all rights to (i) research, develop, make, have made, use, distribute, import, offer for sale and sell all of the following: illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analogue bound directly or via a linker to a Conjugate, acylfulvene analogue bound directly or via a linker to a Conjugate, Irofulven bound directly or via a linker to a Conjugate or Irofulven Analogue bound directly or via a linker to a Conjugate and (ii) access, possess, and utilize LP Data Package for the purpose of exercising rights in illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate including an illudin analogue bound directly or via a linker to a Conjugate, acylfulvene analogue bound directly or via a linker to a Conjugate, Irofulven bound directly or via a linker to a Conjugate or Irofulven Analogue bound directly or via a linker to a Conjugate.

1.102 "First Program Acquirer" means the first entity with respect to time entering into a Program Acquirer Agreement with OV. Any Program Acquirer who is not a First Program Acquirer is a subsequent Program Acquirer.

ARTICLE 2
GRANT OF RIGHTS

2.1(a) License under LP Technology. Subject to the terms and conditions of this Agreement and for the Term, LP hereby grants to OV an exclusive, royalty-bearing license, with the right to sublicense (subject to Section 2.2) and assignment (subject to Section 13.5), under the LP Technology and LP's rights and interest in the Product-Related Inventions, Joint Patents and Joint Inventions, in each case excluding the Excluded Rights and Other Excluded Rights, to (i) Develop, have Developed, use and Commercialize the Compound and Products in the Territory in the Field, and (ii) access, possess, and utilize LP Data Package in the exercise of the rights granted in subsection (i) above (and as further provided in this Agreement). The Parties acknowledge and agree that the foregoing license grant shall be considered a sublicense with respect to any LP Technology that is licensed by LP from a Third Party.

2.1(c) For purposes of clarity, the Excluded Rights are expressly reserved to LP, the license granted by LP to OV in this ARTICLE 2 excludes Irofulven Analogues currently under development by LP or otherwise developed by LP during the Term hereof, and nothing herein shall be construed as limiting the ability of LP to develop and commercialized such Irofulven Analogues. For purposes of clarity, the Other Excluded Rights are expressly reserved to third parties. The license granted by LP to OV in this ARTICLE 2 excludes any right to Develop, have Developed, use and/or Commercialize all of the following: illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analogue bound directly or via a linker to a Conjugate, acylfulvene analogue bound directly or via a linker to a Conjugate, Irofulven bound directly or via a linker to a Conjugate or Irofulven Analogue bound directly or via a linker to a Conjugate.

Oncology Venture-Lantern Pharma Irofulven License.

2.3 Nothing in this Agreement shall be construed as restricting the right of (i) each Party to research, develop and commercialize one or more products with pharmaceutically-active ingredients having the same or similar mechanism of action as Irofulven (other than Compounds or Products) outside the Field; and/or (ii) the right of LP to research, develop and commercialize one or more Irofulven Analogues; and/or (iii) the right of third party licensees or sub-licensees of AFC to research, develop and commercialize all of the foregoing: illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analogue bound directly or via a linker to a Conjugate, acylfulvene analogue bound directly or via a linker to a Conjugate, Irofulven bound directly or via a linker to a Conjugate or Irofulven Analogue bound directly or via a linker to a Conjugate.

ARTICLE 3
GOVERNANCE

3.9 **Obligations of OV**.

(a) Upon entering into an agreement to transfer to a Program Acquirer, OV shall deliver to AFC an unredacted copy of all contracts and documents governing the transfer to the Program Acquirer.

(b) Upon entering into a license or a sublicense, OV shall deliver to AFC an unredacted copy of all contracts and documents governing the license to the licensee or sublicensee.

(c) OV acknowledges that AFC is a third party beneficiary of the Agreement as per this Addendum.

(d) OV agrees that as the promisor, OV will make the payments to AFC as provided in Exhibit L.

(e) OV agrees to require any assignee including a Program Acquirer to agree to (i) the terms of the Agreement as per this Addendum and to be bound by the Letter Agreement (hereinafter the "Letter Agreement"), attached hereto as Exhibit K; (ii) following Technical Failure under Section 1.93 of the Agreement and/or termination of OV's rights under Section 5.6 of the Agreement, to transfer to AFC all Regulatory Materials, Regulatory Approvals for Product(s), records and data related to any clinical trials including ongoing, previously conducted, pending, prohibited or suspended trials, and (iii) assume the responsibilities of OV as promisor to make payments on behalf of LP as provided in Exhibit L, according to the terms of this Addendum and the Letter Agreement.

(f) OV agrees to require any licensee or sublicensee to agree to the terms of the Agreement as per this Addendum, and following Technical Failure under Section 1.93 of the Agreement and/or termination of OV's rights under Section 5.6 of the Agreement, to transfer to AFC all Regulatory Materials, Regulatory Approvals for Product(s), records and data related to any clinical trials including ongoing, previously conducted, pending, prohibited or suspended trials.

(g) If AFC repays, restores, or returns, in whole or in part, any payment previously paid to AFC in full or partial satisfaction of any obligation based on the responsibilities of OV or any of its successors or assigns, because the payment or transfer, or the incurrence of the obligation so satisfied, is declared to be void, voidable, or otherwise recoverable under any state or federal law (collectively, a "Voidable Transfer"), or because AFC elects to do so on the reasonable advice of its counsel in connection with an assertion that the payment, transfer, or incurrence is a Voidable Transfer, then, as to any such Voidable Transfer, or the amount thereof that AFC repays, restores, or returns, and as to all reasonable costs, expenses, and attorney's fees of AFC related thereto, the liability of OV or any of its successors or assigns will automatically and immediately be revived, reinstated, and restored and will exist as though the Voidable Transfer had never been made.

(h) Upon termination of the Agreement, OV agrees to transfer to AFC all Regulatory Materials, Regulatory Approvals for Product(s), records and data related to any clinical trials including ongoing, previously conducted, pending, prohibited or suspended trials.

(i) OV confirms that the Drug License and Development Agreement remains in full force and effect and OV has not given any notice of termination to LP or of any notice of default by LP under the Drug License and Development Agreement.

3.10 **Obligations of LP**.

(a) LP expressly designates AFC as a third party beneficiary of the Agreement as per this Addendum.

(b) LP as the promisee, acknowledges and agrees that OV, as the promisor, shall make payments directly to AFC the intended beneficiary of the Agreement as per this Addendum, as provided in Exhibit L.

(c) LP confirms that the Drug License and Development Agreement remains in full force and effect and LP has not given any notice of termination to OV or of any notice of default by OV under the Drug License and Development Agreement.

(d) LP hereby grants to OV all rights and licenses granted to LP on the same terms and conditions such rights and licenses were granted to LP under the Technology License Agreement, as modified by the terms of the AFC-OV Stand-by License Agreement; it being understood and agreed that the Drug License and Development Agreement shall be subordinate to the Technology License Agreement.

ARTICLE 4
DEVELOPMENT; REGULATORY

4.12 (e) Prior to concluding any final Program Acquirer Agreement with a potential Program Acquirer, OV shall disclose such potential Program Acquirer to LP and AFC including supplying an unredacted copy of all proposed contracts and documents governing the transfer to the potential Program Acquirer (the ability to withhold such consent being the "Veto Right"). Such consent shall not be unreasonably withheld, conditioned, or delayed; provided that the Program Acquirer is not insolvent and/or has not filed for bankruptcy within any state, province, country or territory within the Territory and has at least [***] dollars ($ [***]) in cumulative proven sales of a pharmaceutical product. See Section 5.3 with regard to OV's obligations towards LP in the negotiation of Program Acquirer Agreement(s)

ARTICLE 5
PROGRAM EXIT; ACQUISITION

ARTICLE 6
FINANCIALS

6.2 (j) **Alternative Payment Structure**. Prior to the entering into by OV of a Program Acquirer Agreement for the Territory or a specific part of the Territory, OV shall provide LP with information about the payments, other than royalty payments (as LP's rights in respect of such are regulated by Section 6.3 below), to be made by the Program Acquirer to OV for the rights granted under the Program Acquirer Agreement in question, e.g. milestone payments and other lump sum payments, such as upfront payments. LP shall within fifteen (15) days of receipt of this information inform OV by a written notice whether LP in respect of the Program Acquirer Agreement in question chooses to receive payments, where relevant, according to the milestone payment principles set out in Section 6.2(a)-(h) above or whether LP chooses to receive alternative payments as per this Section 6.2(j). LP shall not elect to receive alternative payments without AFC's consent in writing. If LP elects to receive alternative payments, the following provisions shall apply, to the extent applicable, in lieu of payments which would otherwise have to be made under 6.2(a)-(h):

(i) The alternative payment structure entitles LP to receive (i) if LP has not exercised its Opt-In Rights, [***] percent [***](%), or (ii) if LP has exercised its Opt-In Rights, [***] percent [***]%), of all amounts, other than royalty payments, received by or on behalf of OV from the [***] Program Acquirer, or from a Third Party paying on behalf of the Program Acquirer, in consideration of the Program Acquirer Agreement after subtraction of any amounts paid or payable by OV on the basis of the Program Acquirer Agreement (including in respect of receipt of payments thereunder) for VAT, other taxes (including income taxes), and other fees and payments to Governmental Authorities, including in respect of the development or distribution of the Products, and payments made by the Program Acquirer to compensate OV's documented reasonable costs of any kind, including Regulatory Costs (the "Alternative Payment Basis").

(ii) Payments to LP as per the alternative payment structure shall be made by OV within thirty (30) days of OV's receipt on account of any subject payment(s) from the Program Acquirer.

(iii) LP's choice with regard to the application of the alternative payment structure is binding and irrevocable.

(iv) If LP chooses to receive payment as per the alternative payment structure, LP shall, with regard to the Program Acquirer Agreement in question and any clinical trials, research, Development, filings, etc. carried out by the Program Acquirer under the agreement, have no right or claim against OV or the Program Acquirer in respect of any payment as per Section 6.2(a)-(h), irrespective that the Program Acquirer Agreement in question may comprise the EU and/or the U.S. and irrespective that the Program Acquirer Agreement may contain an obligation for the Program Acquirer to pay milestone payments in respect of milestone events identical or similar to those set out in Section 6.2(a)-(h). This has the implication that LP will not have a right to receive, for example, payment as per Section 6.2(c) if LP has elected to receive alternative payments. Notwithstanding the foregoing, LP shall, subject to Section 6.2(j)(vi), retain the option to receive alternative payments in respect of any Program Acquirer Agreement presented as per the above after the receipt of a milestone payment from OV.

(v) If LP does not provide written notice to OV of its election to receive alternative payments within the aforementioned fifteen (15) Business Days period or if LP notifies OV that it for the Program Acquirer Agreement in question chooses to opt for application of the payment principles set out in Section 6.2(a)-(h), the principles set out in Section 6.2(a)-(h) shall, where relevant, apply in respect of the Program Acquirer Agreement in question and LP shall, in respect of the Program Acquirer Agreement in question, have no right or claim for alternative payment as per this Section 6.2(j).

(vi) In the event a Program Acquirer Agreement is presented after payment of one or more milestone payments under 6.2(a)-(e), the alternative payment amount(s) otherwise payable to LP in respect of the Program Acquirer Agreement in question (calculated as per subsection (iv) above) shall prior to payment to LP be reduced to the extent of any milestone payments already paid to LP by OV. For example, if a Program Acquirer Agreement (having the U.S. as its applicable jurisdiction or part of its applicable jurisdiction) is presented in accordance with this Section after OV has paid a milestone payment as per Section 6.2(a) for treatment of first patient in a Phase 3 Clinical Trial, whether in the U.S. or in another jurisdiction, and OV has not yet filed for Regulatory Approval in the U.S., and assuming LP has not exercised its Opt-In Rights, the calculated alternative payment amount shall be reduced by [***] U.S dollars ($[***]) before payment to LP and LP shall only be entitled to receive the reduced amount. 6.10 **Undertake Payments**. As consideration for AFC entering into the Letter Agreement and AFC's modification of the Technology License Agreement with LP, OV as promisor agrees to make the direct payments to AFC on behalf of LP as outlined in Exhibit L, solely to the extent that OV is responsible to make the specified payments thereon to LANTERN under this Addendum (as this Addendum supersedes the Drug License and Development Agreement). LANTERN acknowledges and agrees that such direct payments to AFC (or any designee) shall reduce, dollar-for-dollar, the amounts which OV owes to LANTERN with respect to each such payment obligation specified in Exhibit L.

Oncology Venture-Lantern Pharma Irofulven License.

6.10 LANTERN hereby confirms that, on the EFFECTIVE DATE, it will make the following payments directly to AFC:

1) $[***] in connection with OV's obligation to pay a signing fee ($[***]) to Lantern (based on the [***]% royalty).

2) $[***] in connection with LP's commitment of a $[***] license fee for Irofulven in 2016.

3) $[***] in connection with LP's commitment of a $[***] license fee for Irofulven Analogues in 2016

4) $[***] in connection with Lantern's ongoing commitment to pay the legal fees of AFC in negotiating (i) the Letter Agreement; (ii) Proprietary Information Agreement; (iii) addendum to Lantern Pharma-OV License Agreement; (iv) addendum to Technology License Agreement; and (v) Material Transfer Agreement.

5) $[***] in connection with Lantern's ongoing commitment to pay the costs and fees of AFC supplying access to the LP Data Package this amount is to cover the January 25-26 inspection of the LP Data Package.

6.11 **Authorization for Payments**. LP as promisee contracts with OV to make payments directly to AFC as a third party beneficiary of this Addendum as outlined in Exhibit L. LP authorizes OV to make payments to AFC as outlined in Exhibit L to the extent that OV is responsible to make payments to LP. For clarity LP authorizes OV to make the payment 1 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for entry into Phase 3 trials. For clarity LP authorizes OV to make the payment 2 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for U.S. NDA filing. For clarity LP authorizes OV to make the payment 3 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for a U.S. FDA approval. For clarity LP authorizes OV to make the payment 4 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for a European NDA filing. For clarity LP authorizes OV to make the payment 5 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for European approval. For clarity LP authorizes OV to make the payment 6 listed in Exhibit L in total directly to AFC before OV makes any payment to LP for appointment of a First Program Acquirer and in the event that total payment is not fulfilled and subsequent Program Acquirer.

ARTICLE 7
INTELLECTUAL PROPERTY

7.1 **Ownership of Inventions.** Except as otherwise provided in this Section 7.1, (i) each Party shall own all inventions and Information made solely by the respective employees, agents, and independent contractors of it and its Affiliates in the course of conducting such Party's activities under this Agreement (collectively, "**Sole Inventions**"), and (ii) all inventions and Information that are conceived, reduced to practice, authored or otherwise made jointly by employees, Affiliates, agents, or independent contractors of both Parties in the course of performing activities under this Agreement (collectively, "**Joint Inventions**") shall be owned jointly by the Parties in accordance with joint ownership interests of co-inventors under the U.S. patent laws. Notwithstanding the foregoing, the Parties acknowledge that AFC (the Third Party licensor of certain of the LP Patents), pursuant to its license agreement with LP, entered into prior to the Effective Date in respect of certain LP Patents, may have certain claims to exclusive ownership rights to all inventions, discoveries, improvements, and modifications, as well as all methods, processes, know-how and/or trade secrets arising from, conceived or reduced to practice by either Party in the course of performing its obligations under this Agreement (relating to the research, development, formulation, marketing and sale of the Products and Compounds), regardless of whether generated by LP or OV, or an employee of either Party, where such performance is based on utilization of rights under the LP Patent(s) covered by the license agreement between LP and AFC (the "**Product-Related Inventions**").

ARTICLE 8
REPRESENTATIONS, WARRANTIES AND COVENANTS

ARTICLE 9
INDEMNIFICATION

ARTICLE 10
CONFIDENTIALITY

ARTICLE 11
TERM AND TERMINATION

ARTICLE 12
DISPUTE RESOLUTION

ARTICLE 13
MISCELLANEOUS

13.1 Entire Agreement; Amendment . The Agreement, including the Exhibits thereto, and this Addendum , including the Exhibits hereto set forth the complete, final and exclusive agreement and all the covenants, promises, agreements, warranties, representations, conditions and understandings between the Parties hereto with respect to the subject matter hereof and supersedes, as of the Effective Date, all prior agreements and understandings between the Parties including the Agreement with respect to the subject matter hereof, including, the Existing Confidentiality Agreement to the extent as set out in Section 10.1. The foregoing shall not be interpreted as a waiver of any remedies available to either Party as a result of any breach, prior to the Effective Date, by the other Party of its obligations pursuant the Agreement or the Existing Confidentiality Agreement. There are no covenants, promises, agreements, warranties, representations, conditions or understandings, either oral or written, between the Parties other than as are set forth herein and therein. No subsequent alteration, amendment, change or addition to this Agreement shall be binding upon the Parties unless reduced to writing and signed by an authorized officer of each Party. All Exhibits shall be subject to the terms and conditions of this Agreement. In the event of any conflict or inconsistency between the terms of this Agreement and the terms of any Exhibit, the terms of this Agreement shall govern. Any amendment of the Agreement and/or this Addendum that restricts, impairs or diminishes AFC's rights in any manner is expressly prohibited including any amendment that alters AFC's status and/or rights as a third party beneficiary under Sections 3.9 and 3.10 of this Addendum and/or AFC's right to direct payment by OV under Section 6.10 as authorized by LP under Section 6.11 of this Addendum and other entitlements under Section 7.1 of this Addendum.

13.3 **Notices.** Any notice required or permitted to be given under the Agreement shall be in writing, shall specifically refer to the Agreement, and shall be addressed to the appropriate Party at the address specified below or such other address as may be specified by such Party in writing in accordance with this Section 0, and shall be deemed to have been given for all purposes when received, if hand-delivered or by means of facsimile or other electronic transmission, or one Business Day after being sent by a reputable overnight delivery service.

If to OV:
Oncology Venture A/S
Venlighedsvej 1
DK-2970 Hørsholm
Denmark
Attention: Dr. Peter Buhl Jensen, M.D.
Chief Executive Officer

With a copy to:
Dechert LLP
1900 K Street, NW
Washington, D.C. 20006-2401
The United States of America
Attention: David E. Schulman, Esq.

And
Plesner Law Firm
Amerika Plads 37
DK-2100 Copenhagen
Denmark
Attention: Thomas Holst Laursen, Esq.

If to LP:
Lantern Pharma, Inc.
211 N Ervay St, Suite 404
Dallas, TX 75201
The United States of America
Attn: Dr. Arunkumar Asaithambi, Ph.D.
Chief Executive Officer

With a copy to:
McGuireWoods LLP
2000 McKinney Ave., Suite 1400
Dallas, TX 75201
The United States of America
Attention: Darren Collins, Esq.

If to: AFC: AF Chemicals LLC
5545 Coral Reef,
La Jolla, CA 92037

AFC Payment to:
P.O. BOX 99213,
San Diego, CA 92169

13.5 **Assignment and Succession.** Except as expressly stated herein, neither Party may assign or transfer this Agreement or any rights or obligations hereunder without the prior written consent of the other, except that a Party may make such an assignment without the other Party's consent to such Party's Affiliate or to a successor (including Program Acquirer) in connection with the transfer of (a) all or substantially all of the business of such Party relating to this Agreement, and/or (b) in the case of OV, that portion of OV's business to which this Agreement pertains (including OV's rights and obligations under this Agreement), whether by way of merger, sale of stock, sale of assets or other transaction. Any permitted successor or assignee of an assigning Party's rights and obligations hereunder shall, in writing to the other Party, expressly assume performance of all of the assigning Party's rights and obligations, see, however, Section 5.3 with regard to OV's assignment to a Program Acquirer. The LP Technology shall exclude any intellectual property held or developed by a permitted successor of LP prior to the transaction in which it became a successor of such Party. This Agreement shall be binding on, and inure to the benefit of, the respective successors-in-interest of the Parties and any permitted assignment shall be binding on the successors of the assigning Party. Any assignment or attempted assignment by either Party in violation of the terms of this Section 0 shall be null, void and of no legal effect. For purposes of clarity, this clause will not apply to AFC in the event that the Letter Agreement becomes effective.

13.8 **Third Party Beneficiaries.** The Agreement will be binding upon and inure solely to the benefit of the Parties and their successors and permitted assigns and no provision of this Agreement, express or implied, is intended to or will be deemed to confer upon Third Parties any right, benefit, remedy, claim, liability, reimbursement, claim of action or other right of any nature whatsoever under or by reason of this Agreement other than the Parties and, to the extent provided in Sections 9.1 and 9.2, the Indemnified Parties, except that AFC is a third party beneficiary as per Section 3.9 and 3.10 with respect to payments under 6.10, 6.11 and 7.1. Without limitation, this Agreement will not be construed so as to grant employees of either party in any country any rights against the other Party pursuant to the laws of such country.

13.16 **Conditions Subsequent.** Unless satisfactory completion of the following Conditions Subsequent has taken place no later than sixty (60) days following the Effective Date, the individual Party shall be entitle to terminate the Agreement as per Section 11.5:

(a) Execution of any required sub-contractor agreement between OV and MPI for the development and provision by MPI to OV of the DRP Biomarker required for conduct of the Program.

(b) Satisfactory completion by OV of its due diligence on the LP Data Package (and other LP Technology relevant to Irofulven and the conduct of the Program), which due diligence may include on-site inspection, by OV or its designees, of the LP Data Package at LP's facilities and/or offsite document storage facilities, and discussions with the FDA and/or other Regulatory Authorities as necessary and/or desirable to OV.

(c) This Section is intentionally left blank.

(d) This Section is intentionally left blank.

(e) The Parties agree that Lantern's obligations under Sections 13.16 (c) and (d) of this Agreement are extinguished or have been met by virtue of the execution of (i) the Letter Agreement, (ii) this Addendum, and (iii) the addendum to the Technology License Agreement dated February 8, 2016, and that any grounds for alleging breach of the agreement for which a Party currently has knowledge have been fully resolved by virtue of the execution of the foregoing agreements and addenda .

Signature Page to Follow

In Witness Whereof, the Parties have executed this Addendum in duplicate originals by the following signatures of their duly authorized officers as of the Effective Date.

On Cology Venture, A/S

By: /s/ Peter Buhl Jensen
Peter Buhl Jensen, M.D., Ph.D.
Chief Executive Officer

Date:

Lantern Pharma, Inc.

By: /s/ Arunkumar Asaithambi
Arunkumar Asaithambi, Ph.D,
Chief Executive Officer

Date: 02-10-2016

Oncology Venture-Lantern Pharma Irofulven License.

EXHIBITS

Exhibit H	TECHNOLOGY LICENSE AGREEMENT signed January 15, 2015
Exhibit I	Addendum to TECHNOLOGY LICENSE AGREEMENT signed February 8, 2016
Exhibit J	DRUG LICENSE AND DEVELOPMENT AGREEMENT signed May 23, 2015
Exhibit K	Letter Agreement signed February 8, 2016
Exhibit L	Schedule of Payments

Exhibit H
Technology License Agreement
By and between LANTERN PHARMA, INC.

and

AF CHEMICALS, LLC
January 15, 2015

[to be appended pre-execution]

Exhibit I
Addendum to Technology License Agreement
By and between LANTERN PHARMA, INC.

and

AF CHEMICALS, LLC

[to be appended pre-execution]

Oncology Venture-Lantern Pharma Irofulven License.

Exhibit J
DRUG LICENSE AND DEVELOPMENT AGREEMENT

By and between LANTERN PHARMA, INC.

and

ONCOLOGY VENTURE, APS

Dated May 23, 2015

[to be appended pre-execution]

Exhibit K
Letter Agreement

By and between AF CHEMICALS, LLC

and

ONCOLOGY VENTURE, APS

Dated February 8, 2016

[to be appended pre-execution]

[***]

[***]

[***]

[***]

[***]

[***]

[***]

[***]

Appendix C

The following is a list of ONCOLOGY VENTURE, APS (OV) payments to be made directly and in preference to AF Chemicals LLC (AFC) on behalf of Lantern Pharma, Inc. (LP) at the time of the applicable payment to LP under the relevant sections of the Drug License and Development Agreement by and between LP and OV, dated as of May 23, 2015, as amended February 8, 2016 and as further amended from time to time, as enumerated below:

1) $[***] prior to any payment by OV to Lantern upon treatment of the first patient in a Phase 3 Clinical Trial of a Product under 6.2(a) ($[***] plus [***]% of $[***] payment plus an additional $[***] payment - portion of the $[***]).

2) $[***] prior to any payment by OV to Lantern upon first Filing of Regulatory Approval in the U.S. of a Product under 6.2(c) ($[***] plus [***]% of $[***] payment plus an additional $[***] payment -portion of the $[***]).

3) $[***] prior to any payment by OV to Lantern upon Regulatory Approval in the U.S. of a Product under 6.2(e) ($[***] plus [***]% of $[***] plus an additional $[***] payment to AFC - portion of the $[***]).

4) $[***] prior to any payment by OV to Lantern for the first Filing of Regulatory Approval in the EU under 6.2(b) ([***]% of $[***] payment plus an additional $[***] payment - portion of the $[***]).

5) $[***] prior to any payment by OV to Lantern for Regulatory Approval in the EU of a Product under 6.2(d) ($[***] (for Germany, France, UK) plus[***] % of $[***] payment plus an additional payment of $[***] - portion of the $[***]).

6) $[***] prior to any payment by OV to Lantern for the conclusion of a First Program Acquirer Agreement under Section 6.2(g) ([***]% of the $ [***] payment).

Note that LP remains responsible for the 2017 and subsequent yearly licensing payments to AFC for Irofulven and Irofulven Analogues.

Exhibit L
SCHEDULE OF PAYMENTS

The following is a list of ONCOLOGY VENTURE, APS (OV) payments to be made directly and in preference to AF Chemicals LLC (AFC) on behalf of Lantern Pharma, Inc. (LP) at the time of the applicable payment to LP under the relevant sections of the Drug License and Development Agreement by and between LP and OV, dated as of May 23, 2015, as amended February 8, 2016 and as further amended from time to time, as enumerated below:

1) $[***] prior to any payment by OV to Lantern upon treatment of the first patient in a Phase 3 Clinical Trial of a Product under 6.2(a) ($[***] plus [***] % of $[***] payment plus an additional $[***] payment - portion of the $[***]).

2) $[***] prior to any payment by OV to Lantern upon first Filing of Regulatory Approval in the U.S. of a Product under 6.2(c) ($[***] plus [***]% of $[***] payment plus an additional $ [***] payment - portion of the $[***]).

3) $ [***] prior to any payment by OV to Lantern upon Regulatory Approval in the U.S. of a Product under 6.2(e) ($[***] plus [***]% of $[***] plus an additional $[***] payment to AFC - portion of the $[***]).

4) $ [***] prior to any payment by OV to Lantern for the first Filing of Regulatory Approval in the EU under 6.2(b) ([***]% of $[***] payment plus an additional $[***] payment - portion of the $[***]).

5) $[***] prior to any payment by OV to Lantern for Regulatory Approval in the EU of a Product under 6.2(d) ($[***] (for Germany, France, UK) plus [***]% of $[***] payment plus an additional payment of $[***] - portion of the $[***]).

6) $[***] prior to any payment by OV to Lantern for the conclusion of a First Program Acquirer Agreement under Section 6.2(g) ([***]% of the $[***] payment).

Note that LP remains responsible for the 2017 and subsequent yearly licensing payments for Irofulven and Irofulven Analogues.

Exhibit 10.10

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

EXECUTION VERSION

AMENDMENT NO. 2 TO
DRUG LICENSE AND DEVELOPMENT AGREEMENT

This **Amendment Number Two ("Amendment No. 2")**, to the existing and in-force Drug License And Development Agreement (the "**Agreement**") between the parties hereto (effective as of May 23, 2015), is entered into by and between **Oncology Venture A/S**, a Danish corporation having its principal offices at Venlighedesvej 1, 2970 Hørsholm, Denmark ("**OV**"), and **Lantern Pharma, Inc**., a Texas corporation having its principal place of business at 211 N Ervay Street, Suite 404, Dallas, TX 75201 U.S.A. ("**LP**") as of February 11, 2016 (the "Effective Date"). LP and OV are sometimes referred to herein individually as a "Party" and collectively as the "Parties".

Background

The Parties have previously been awarded an International Collaborative Industry Program (ICIP) grant administered, in part, by the Massachusetts Life Sciences Center (MLSC), and awarded to support the Parties' planned clinical development of the cancer drug Irofulven (the "Project").

In order to ensure that the Parties' receipt and use of the ICIP grant funds from MLSC comply with the requirements of the ICIP grant program and the terms of their grant award to support the Project, the parties jointly desire to amend certain paragraphs of the existing Agreement.

Now Therefore, in consideration of the foregoing premises and the mutual promises, covenants and conditions contained in this Amendment No. 2, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

In **Section 4.4 (a)** ("Development Activities and Development Costs") of the Agreement, the last sentence is hereby replaced in its entirety with the following sentence:

"Any ICIP grant funds received by LP shall be solely and entirely applied towards, and offset, OV's payment of Compound manufacturing costs in support of the Program, provided that such manufacturing (and resulting costs) is conducted within Massachusetts."

In **Section 6.1** ("License Fee; Grant Fee") of the Agreement, subsection **(b)** is hereby replaced in its entirety by the following new paragraph:

"(b) OV shall pay to LP a one-time fee of [***] dollars ($[***]) within ten (10) Business Days of the first-to-occur of the following events: (i) receipt (on account) by OV of at least a [***] dollar ($[***]) grant award under the Danish/Massachusetts Life Sciences International Collaborative Industry Program (ICIP); or (ii) if no such grant payment is received, three (3) out of the first eight (8) patients enrolled in the Phase 2 Clinical Trial for Primary Indication being observed to achieve the therapeutic endpoint benefit defined in the Clinical Development Plan and/or IND for the Phase 2 Clinical Trial for Primary Indication. Provided that, the payment by OV to LP under the ICIP grant event (i) above shall be paid and deducted from any ICIP grant funds awarded directly to LP in reimbursement solely for Compound manufacturing activities and expenses incurred within Massachusetts by Massachusetts entities, with OV then paying LP for any difference between the [***] dollars ($ [***]) payment required in this subsection (b) and a lessor amount of ICIP grants funds received directly by LP.

In Witness Whereof, the Parties have executed this Amendment No. 2 in duplicate originals by the following signatures of their duly authorized officers as of the Effective Date.

Oncology Venture, A/S

By: /s/ Peter Buhl Jensen
Peter Buhl Jensen, M.D., Ph.D.
Chief Executive Officer

Date: _____

Lantern Pharma, Inc.

By: /s/ Arun Asaithambi
Arun K. Asaithambi, Ph.D.
Chief Executive Officer

Date: 02-16-2016

Exhibit 10.11

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

CONFIDENTIAL

ASSIGNMENT AGREEMENT

THIS ASSIGNMENT AGREEMENT (the "Agreement") is made and entered into, as of the Effective Date, by and between Lantern Pharma, Inc. (hereinafter referred to as "Lantern") and BioNumerik Pharmaceuticals, Inc. (hereinafter referred to as "BioNumerik"), with regard to the assignment of rights to the Compound (defined below) in the Field (defined below) in the Territory (defined below).

WHEREAS, BioNumerik is the originator and innovator of certain technology and pharmaceutical uses regarding the Compound;

WHEREAS, BioNumerik previously entered into a License Agreement, dated as of May 31, 2016, with Lantern; and

WHEREAS, BioNumerik desires to assign rights to the Compound in the Field in the Territory to Lantern, and Lantern desires to obtain BioNumerik's assignment of such rights to the Compound.

NOW, THEREFORE, the parties hereto agree as follows:

Article 1 (Definitions)

As used in this Agreement, the following terms have the following meanings:

(1) "**Affiliate**" means, with respect to any Party, any corporation, entity, or person that directly or indirectly controls, or is controlled by or is under common control with, such Party, but only for so long as such control exists. For purposes of this definition, "control" means (a) in the case of corporate entities, direct or indirect ownership of fifty percent (50%) or more of the stock or shares entitled to vote for the election of directors; and (b) in the case of non-corporate entities, direct or indirect ownership of fifty percent (50%) or more of the equity interest with the power to direct the management and policies of such non-corporate entities.

(2) "**Agreement Term**" means a period that starts as of the Effective Date and, unless this Agreement is otherwise terminated as set forth herein, continues (on a country-by-country and Product-by-Product basis) until the later to occur of (i) five (5) years after the expiration of the last to expire Patent Rights in an applicable country in the Territory, and (ii) if no Patent Rights exist in such country, fifteen (15) years after May 31, 2016.

(3) "**Application for Marketing Approval**" means any act of submission of materials, information, data, documents, etc. to a Regulatory Authority required to obtain a Marketing Approval for the Product in the Territory, such as NDA in the US and MAA in the EU. "Initial Application for Marketing Approval" means the initial application submitted to a Regulatory Authority to obtain a Marketing Approval for the Product in the Territory.

(4) "**Closing Date**" means the third business day after which the following has occurred: BioNumerik obtaining all necessary approvals by BioNumerik's shareholders of this Agreement and of the assignment to Lantern of rights to the Compound pursuant to this Agreement.

(5) "**Commercially Diligent Efforts**" means, with respect to the evaluation, development, manufacture, supply, delivery, marketing, sale and promotion of the Product or the conduct of other activities referred to herein as requiring Commercially Diligent Efforts, such reasonable efforts and resources commonly used by a similarly situated company in the research-based pharmaceutical industry for a product owned or licensed by it of similar commercial potential at a similar stage in its lifecycle, taking into consideration such factors as its safety and efficacy, product profile, cost to develop, the time required to complete development, the competitiveness of alternative products, its proprietary position, the likelihood of regulatory approval, its profitability, sharing of revenues, its labeling, the regulatory environment, competitive market conditions and all other reasonably relevant factors, all as measured by the facts and circumstances at the time such efforts are due.

(6) "**Compound**" means the compound identified as disodium 2,2'-dithio-bis-ethane sulfonate (also known as: Tavocept; generic name: dimesna; BioNumerik's development code: BNP7787), and shall also include all analogs, follow-on compounds and related compounds that are included in the claimed subject matter of the Patent Rights, and including salt form, base form, pro-drug, ester, isomer, metabolite, crystalline polymorph, and hydrate or solvate of any foregoing compound.

(7) "**Confidential Information**" of a Party means any and all non-public and proprietary information (including, without limitation, trade secrets, inventions and unpatented know-how and related technology) that is disclosed by such Party to the other Party under this Agreement on or after the Closing Date. All information disclosed by a Party to the other Party under the License Agreement or the Evaluation Agreement regarding the Compound shall be deemed to be such disclosing Party's Confidential Information under this Agreement. In addition, effective as of the Closing Date, all unpublished Patent Rights, Information and BioNumerik Improvements that are assigned to Lantern under Section 2.1 shall be deemed Confidential Information of Lantern.

(8) "**Control**" means, with respect to any patent, information or other intellectual property rights, that a Party or its Affiliate owns (or has a license to) such patent, information or other intellectual property rights, and has the right to grant the other Party a license (or sublicense) or other rights on the terms and conditions set forth herein.

(9) "**Development**" means clinical and non-clinical studies in the Field in the Territory, and any other developmental activities in the Territory required to obtain Marketing Approvals of the Product in the Field in the Territory, and clinical and non-clinical studies relating to the Product to be conducted in the Field in the Territory after any initiation of commercial sales of Product in the Field in the Territory.

(10) "**Effective Date**" means January 5, 2018.

(11) "**Existing BNPI Payment Recipients**" means the shareholders of BioNumerik existing immediately prior to the Closing Date, and such transferees or successors of such shareholders as may from time to time be designated in writing to Lantern by or on behalf of the particular Existing BNPI Payment Recipient to which such a transfer or assignment relates.

(12) "**Evaluation Agreement**" means that certain Evaluation Agreement, dated as of May 31, 2016, between Lantern and BioNumerik, as amended by the Amendment and License Continuation Confirmation Agreement, dated as of February 27, 2017, between BioNumerik and Lantern.

(13) "**Field**" means uses of a compound or product in the Territory for therapeutic treatment indications in humans.

(14) "**Generic Product**" means with respect to sales of the Product in the Field in a particular country or regulatory jurisdiction, a pharmaceutical product (other than the Product) being sold in the Field in such country or jurisdiction by a third party that is not Lantern or a sublicensee or Affiliate of Lantern, where such product (other than the Product) meets each of the following conditions: (a) the product contains the same active pharmaceutical ingredients (or salts or esters thereof) as the Product; (b) the product has obtained regulatory approval in such country or jurisdiction on an expedited or abbreviated basis in a manner that relied on the Marketing Approval of the Product or incorporated data submitted by Lantern, its Affiliates or sublicensees for the Marketing Approval of the Product in the Field; and (c) the product was not acquired directly or indirectly from Lantern or a sublicensee or Affiliate of Lantern.

(15) "**Improvements**" means any and all inventions (including patents and patent applications, divisional applications and patent term extensions thereof, and the like that claim such inventions), developments, discoveries and improvements (including, without limitation, chemical and physical data, clinical data, information concerning formulae, compounds, specifications, designs, synthesis, processes, formulations, applications, toxicity, operations, regulatory affairs and marketing) that are developed or obtained by or for the Parties with respect to the Compound or Product, whether in the Development or the manufacture or sale of the Product or otherwise, during the Agreement Term. Improvements Controlled by BioNumerik shall be referred to herein as "BioNumerik Improvements" and Improvements Controlled by Lantern shall be referred to herein as "Lantern Improvements".

(16) **"Information**" means any data, know-how, or other information (whether or not patentable and regardless of the location where such information is obtained, and including, without limitation, information or data submitted to or obtained from any Regulatory Authority) relating to the Compound or Product that are Controlled by BioNumerik immediately prior to the Closing Date.

(17) **"License Agreement**" means that certain License Agreement, dated as of May 31, 2016, between BioNumerik and Lantern, as amended by the Amendment and License Continuation Confirmation Agreement (the "Amendment Agreement"), dated as of February 27, 2017, between BioNumerik and Lantern.

(18) **"Majority of the Existing BNPI Payment Recipients**" means the majority vote of the Existing BNPI Payment Recipients, with each such recipient entitled to (i) one vote for each share of BioNumerik Common Stock held by such recipient (or their predecessor or transferor) immediately prior to the Closing Date, and (ii) a number of votes equal to the number of full shares of BioNumerik Common Stock into which the shares of BioNumerik Preferred Stock held by such recipient (or their predecessor or transferor) immediately prior to the Closing Date were convertible.

(19) "**Marketing Approval**" means all authorizations, licenses, approvals, etc. (including any import permit and marketing authorization) granted by a Regulatory Authority or required by law or regulation in order to manufacture, sell or import the Product in the Field in the Territory. "**Initial Marketing Approval**" means the first approval granted by a Regulatory Authority in order to allow the sale of the Product in the Field in the Territory.

(20) "**Net Revenue**" means all revenue recognized or received by Lantern or its Affiliates during the applicable measurement period through the sale or license of Products as determined in accordance with GAAP as consistently applied by Lantern in the preparation of its financial statements. With respect to Product sales made by Lantern or its Affiliates in the Territory, Net Revenue shall include the recorded gross sales of each manufactured unit of Product or Compound, less the following deductions with respect to such unit as determined in accordance with GAAP: (a) sales and excise taxes, duties, and any other governmental charges imposed upon the use or sale of the Product; (b) trade, quantity and cash discounts allowed on a Product to third party wholesalers or other third parties to whom the Product is sold and shipped directly; (c) provisions for actual credits to customers on account of rejection or return of a Product or on account of price reductions affecting a Product; (d) Product rebates and Product charge-backs and other customary price reduction programs granted to managed care entities and pharmaceutical benefit management service entities; (e) freight, postage, shipping, transportation and insurance charges, in each case actually allowed or paid for delivery of Product; and (f) provisions for actual write-offs of uncollectible customer accounts for previously recorded sales. Net Revenue with respect to any combination product shall be reasonably allocated between the Product and other active ingredients or medicaments. With respect to licenses and sublicenses by (or at the direction of) Lantern in the Territory, Net Revenue shall include revenue and payments received by Lantern or its Affiliates pursuant to any such license or sublicense relating to the Product or Compound net of direct fees and expenses paid by Lantern (and not otherwise reimbursed by the licensee or sublicensee or pursuant to another provision of this Agreement) with respect to the applicable license or sublicense, provided that payments received by Lantern or its Affiliates from a transaction where a payment is made to BioNumerik in accordance with Section 3.5 shall not be included in the calculation of Net Revenues. For avoidance of doubt, (i) Net Revenue shall not include any Upfront, Milestone & Royalty Amounts (as defined in Section 3.5 below) if BioNumerik has been paid the applicable sharing percentage of such amounts as provided in Section 3.5, and (ii) Net Revenue also shall not include any amounts received in exchange for capital investment in Lantern, except to the extent such investment is reasonably attributable to a license, assignment or comparable transaction with respect to the Product.

Sales between Lantern and its Affiliates or other entities under Lantern's control shall not be structured or conducted with the objective, purpose or result of reducing or avoiding royalty amounts payable to BioNumerik. Accordingly, sales of Product by Lantern Affiliates or other entities under Lantern's control shall be included as sales of Product for purposes of calculating Net Revenues.

(21) "**Outside the Field**" means uses of the Compound and/or Product in the Territory for uses in animal (non-human) species.

(22) "**Party**" means either Lantern or BioNumerik when referred to herein individually, and the term "Parties" means both of Lantern and BioNumerik, collectively.

(23) "**Patent Costs**" means all reasonable, preapproved costs for payment of maintenance fees, filing and patent prosecution fees, grant and issue fees, and reasonable fees of patent counsel and patent agents paid or incurred by or on behalf of BioNumerik for the maintenance and advancement of the Patent Rights in the Territory prior to the Closing Date.

(24) "**Patent Rights**" means (a) the patents and patent applications listed on **Exhibit (1)** hereto, as amended from time to time by agreement of the Parties, (b) any reissue, reexamination, continuation, divisional, continuation-in-part of any of the foregoing, including any other patent applications claiming priority to any of the foregoing, (c) all patents, including utility model, that issue from any of the foregoing, including foreign equivalents, and (d) any other patent or patent application Controlled by BioNumerik immediately prior to the Closing Date or thereafter by Lantern whose claimed subject matter covers the Compound or Product, processes to make the Compound or Product, uses of the Compound or Product, or methods of administration or treatment with respect to the Compound or Product in the Territory. The Patent Rights on the Effective Date of this Agreement are as stated in **Exhibit (1)** attached hereto.

(25) "**Product**" means any and all formulations, salts and dosage forms containing the Compound, including any salt forms thereof and with or without any pharmaceutically acceptable carriers, excipients, preservatives, bacteriostatic components, and adjuvants, and including, but not limited to, any improvements to which BioNumerik or Lantern has licensable or assignable rights that are made to the Product after the execution of the Agreement, and any combination products or therapies to which BioNumerik or Lantern has licensable or assignable rights where the Product is administered with one or more active ingredients alone or in combination with other medicaments, regardless of the respective timing and mode of administration of each active ingredient.

(26) "**Regulatory Authority**" means any regulatory authority having jurisdiction over pharmaceutical agents in the Territory, including, without limitation, the U.S. Food and Drug Administration ("FDA"), the European Medicines Agency ("EMA"), the Japanese Pharmaceuticals and Medical Devices Agency, and the China Food and Drug Administration.

(27) "**Schedule A**" means that certain schedule attached to this Agreement and designated as Schedule A, as such Schedule A may be amended from time to time by BioNumerik or by vote of a Majority of the Existing BNPI Payment Recipients, with written notice of such amendment given to Lantern.

(28) **Schedule A Parties**" means the payment recipients listed on Schedule A to this Agreement, with all payments to such recipients to be made in the order and manner provided on such Schedule A.

(29) "**Territory**" means the entire world.

(30) **"Trademark Rights**" means the trademark corresponding to "TAVOCEPT" owned by BioNumerik with respect to particular jurisdictions in the Territory. Registration information regarding the Trademark Rights as of the Effective Date is set forth in **Exhibit (2)** attached hereto.

Article 2 (Assignment)

2.1 Assignment. Effective as of the Closing Date, BioNumerik hereby assigns to Lantern (subject to the retention and reservation of rights as described in Section 2.2 below) (i) all right, title and interest of BioNumerik in and to the Patent Rights, Information and BioNumerik Improvements, and (ii) all right, title and interest of BioNumerik in and to the Trademark Rights.

2.2 Retention and Reservation of Rights. BioNumerik will retain the right for itself and its Affiliates to use the Patent Rights, Information, BioNumerik Improvements and Trademark Rights in the Territory without cost as necessary to carry out BioNumerik's obligations under this Agreement. In addition, BioNumerik will retain the right for itself and its Affiliates, licensees, sublicensees, assignees and contract-manufacturers to use the Patent Rights, Information, BioNumerik Improvements and Trademark Rights Outside the Field in the Territory for purposes of conducting and having conducted research and development (including studies and clinical trials) of the Compound and Product throughout the Territory for the purpose of obtaining regulatory approvals and label expansions or other medical indications for the Product or Compound Outside the Field and commercializing and marketing the Product and Compound Outside the Field. Notwithstanding Section 2.1 or other provisions of this Agreement, no assignments, licenses or other rights are granted to Lantern or its Affiliates under this Agreement with respect to (i) uses conducted in animal (non-human) species, and (ii) uses of 2,2'-dithio-bis-ethane sulfonate (also known as Tavocept) or any other compound or product in combination with (a) 7-[(2'-trimethylsilyl)ethyl]-20(*S*) camptothecin (also known as Karenitecin), or (b) any other compound in the camptothecin class of pharmaceutical agents with respect to which BioNumerik has previously licensed, assigned, granted or committed to license, assign, or grant rights to a third party or parties. Lantern agrees that it will make reasonable efforts to prevent its licensees and distributors from distributing the Product Outside the Field, such reasonable efforts including terminating the license of any such sublicensee or distributor that continues to provide Product for distribution Outside the Field within ninety (90) days of receiving notice from Lantern that its Products are being distributed Outside the Field.

2.3 Covenant Not to Develop. BioNumerik covenants that, during the Agreement Term, it will not take any action to develop the Compound or Product in the Field in the Territory except as authorized in writing by Lantern.

Article 3 (Payments, Milestones and Royalties)

3.1 Initial Upfront Payment. Concurrently with the execution of this Agreement, Lantern will pay BioNumerik an upfront payment of U.S. $ [***] ([***] dollars), to assist with payment of BioNumerik mailing, copying, legal and consulting costs.

3.2 Closing Date Payment. On the Closing Date, Lantern will pay BioNumerik an additional[***] payment of U.S. $ [***] ([***] (dollars).

3.3 Lantern Recovery of Section 3.1 and 3.2 Payment Amounts. The entire amount of payments made by Lantern pursuant to Section 3.1 and Section 3.2 of this Agreement shall be recoverable by Lantern from future Net Revenue and future payments received by Lantern or its Affiliates from Third Party Transactions (defined below), prior to making any royalty or sharing payments pursuant to Section 3.4 or Section 3.5.

3.4 Internal Development by Lantern

(a) In the event Lantern develops and commercializes the Compound or Product itself or through its Affiliates, then Lantern will make cash royalty payments to the Schedule A Parties based on the percentages of Net Revenue set forth in the following table, to be applied as a percentage of Net Revenue amounts actually received by Lantern or its Affiliates (subject to reductions as permitted by Sections 3.3, 3.6, 4.2, 4.3 and 5.2):

Cumulative Net Revenue (in U.S. Dollars)	Incremental Royalty Rate
$0-100 Million	[***]%
$100 Million-250 Million	[***]%
$250 Million-500 Million	[***]%
$500 Million-1.0 Billion	[***]%
$1.0 Billion and above	[***]%

(b) The royalty payments under this Section 3.4 shall be paid on a quarterly basis within sixty (60) days after the end of each calendar quarter, and the payment shall be accompanied with a report containing Net Revenue with respect to sales of the Products on a country-by-country and Product-by-Product basis.

(c) If, with respect to a particular country in the Territory, either (i) the Product is generating Net Revenue in such country at a time when a Generic Product is being sold in such country, or (ii) the Product is generating Net Revenue in such country at a time when no patents or patent applications Controlled by Lantern or any direct or indirect successor, assignee, licensee, sublicensee or Affiliate of Lantern are then in force in such particular country with claimed subject matter covering the Compound or Product, processes to make the Compound or Product, uses of the Compound or Product, or methods of administration or treatment with respect to the Compound or Product, then the royalty rate applicable to Net Revenue of the Product in such country shall be reduced by [***] percent ([***]%); it being understood that the remaining royalties payable with respect to such country shall be for the assignment in such country of non-patented Information and BioNumerik Improvements.

(d) In the event the development, use or commercialization of Compound or Product in the Field in the Territory by Lantern, its Affiliates or licensees or sublicensees in accordance with terms of this Agreement would infringe the intellectual property rights of any third party absent a license thereunder, which manufacturing, use or sale activity necessitates Lantern to reasonably obtain a license under such third party intellectual property rights, then Lantern may deduct from the royalties that would otherwise be due to the Schedule A Parties pursuant to this Section 3.4 [***] percent ([***]%) of any payments actually paid to any such third party as consideration solely for any such license to such third party intellectual property rights to the extent such license relates to the otherwise infringing development, use or commercialization of Compound or Product in the Field in the Territory.

3.5 Sharing of Payments from Third Party License or Transaction

(a) In the event Lantern or its Affiliates enters into a license, assignment or other transaction that involves the license and/or assignment and/or development and/or commercialization of the Compound or Product (referred to as a "Third Party Transaction") (including, without limitation, a license, sublicense, strategic alliance transaction, assignment, or a sale of all or a portion of Lantern's business or assets related to the Compound or Product) with a third party or parties (each referred to herein as a "Transaction Party"), then (i) if such Third Party Transaction is entered into on or before May 31, 2018, Lantern will pay to the Schedule A Parties (in the manner designated on Schedule A to this Agreement)[***]% of whatever payments are received by Lantern or its Affiliates from such Third Party Transaction with respect to upfront, milestone, royalty, profit sharing, acquisition payments or other similar payments with respect to the Compound or Product ("Upfront, Milestone & Royalty Amounts"), whether such payments are paid in cash, stock or any other form of consideration, provided that Lantern may first recover from the total payments paid by the Transaction Party the direct costs incurred by Lantern (and not otherwise reimbursed by the Transaction Party) after May 31, 2016 with respect to the Development of the Compound up to the time of entry into such Third Party Transaction, with [***]% of all remaining Upfront, Milestone & Royalty Amounts to be paid to the Schedule A Parties (in the manner designated on Schedule A to this Agreement), with such payments to the Schedule A Parties to be made within thirty (30) days after payments from such Third Party Transaction are received by Lantern or its Affiliates, and (ii) if such Third Party Transaction is entered into after May 31, 2018, Lantern will pay to the Schedule A Parties (in the manner designated on Schedule A to this Agreement)[***]% of whatever Upfront, Milestone & Royalty Amounts payments are received by Lantern or its Affiliates from such Third Party Transaction, whether such payments are paid in cash, stock or any other form of consideration, provided that Lantern may first recover from the total payments paid by the Transaction Party the direct costs incurred by Lantern (and not otherwise reimbursed by the Transaction Party) after May 31, 2016 with respect to the Development of the Compound up to the time of entry into such Third Party Transaction, with [***]% of all remaining Upfront, Milestone & Royalty Amounts to be paid to the Schedule A Parties (in the manner designated on Schedule A to this Agreement), with such payments to the Schedule A Parties to be made within thirty (30) days after payments from such Third Party Transaction are received by Lantern or its Affiliates.

As described in Article 1(20) above, Net Revenue shall not include any Upfront, Milestone & Royalty Amounts (as defined above in this Section 3.5) if BioNumerik has been paid the applicable sharing percentage of such amounts as provided in this Section 3.5.

3.6 Reimbursement for Patent Costs; Cost Recovery by Lantern

(a) During the period of time from the Effective Date to the Closing Date, as reasonably requested by Lantern, Lantern and BioNumerik shall confer to (1) review the portion of the BioNumerik patent portfolio that relates to the Product or Compound and (2) identify those patent assets that Lantern desires to develop or maintain (the "Covered Patents"), on a matter and country basis. Lantern shall have sole discretion to determine whether a patent is a Covered Patent solely for purposes of calculating Lantern's payment obligations for Patent Costs as described in this Section 3.6(b) below. Patent Costs associated with Covered Patents shall be deemed preapproved by Lantern.

(b) During the period of time from the Effective Date to the Closing Date, Lantern shall pay to BioNumerik (or its designee), on a monthly basis 100% of all reasonable costs for payment of Patent Costs associated with the Covered Patents. BioNumerik shall, on a monthly basis, issue to Lantern an invoice for such Patent Costs, accompanied by details of such costs, and Lantern shall pay such costs within thirty (30) days after the receipt of such invoice.

(c) Lantern shall have the right to recover all prior Patent Costs paid by Lantern under this Agreement or under the License Agreement out of Net Revenue of the Product, with the repayment to Lantern for such prior Patent Costs to be paid out of and at the time of receipt of Net Revenue, with up to the first 50% of the amount of Net Revenue received from time to time (prior to the calculation of the royalty as set forth in Section 3.4) to be applied towards repayment of such prior Patent Cost amounts paid by Lantern until such time as such then existing prior Patent Cost amounts paid by Lantern have been recovered.

3.7 Taxes.

(a) Taxes on Income. Each Party shall be solely responsible for the payment of all applicable taxes imposed on income received or attributable to such Party that arises directly or indirectly from the efforts of the Parties under this Agreement.

(b) Tax Cooperation. The Parties agree to cooperate with one another and use reasonable efforts to reduce or eliminate tax withholding or similar obligations in respect of royalties and other payments made by Lantern under this Agreement. To the extent Lantern is required to deduct and withhold taxes on any payment hereunder, Lantern shall pay the amounts of such taxes to the proper tax authority in a timely manner and promptly transmit to the Schedule A Parties an official tax certificate or other evidence of such withholding. Lantern will allow the Schedule A Parties to provide it with any tax forms that may be reasonably necessary in order for Lantern not to withhold tax or to withhold tax at a reduced rate under an applicable bilateral income tax treaty. To the extent similar reasonable assistance is provided to Lantern, Lantern shall provide the Schedule A Parties with reasonable assistance to enable the recovery, as permitted by applicable laws, of withholding taxes, value added taxes, or similar obligations resulting from payments made under this Agreement, such recovery to be for the benefit of the particular party or parties bearing such withholding tax or value added tax.

Article 4 (Assignment Closing)

4.1 Assignment Effective as of Closing Date; Termination of License Agreement. The assignment by BioNumerik pursuant to Section 2.1 shall be effective as of the Closing Date. As of the Closing Date, the License Agreement and the Evaluation Agreement shall terminate. Lantern and BioNumerik agree to execute such additional papers and documents as necessary in order to further reflect such assignment and such termination of the License Agreement and Evaluation Agreement.

4.2 Filings to Record Assignment of Patent Rights and Trademark Rights. Promptly following the Closing Date, BioNumerik will coordinate with Lantern to assist Lantern in executing and recording the necessary documents in order to evidence the assignment to Lantern of (i) the patents and patent applications listed on Exhibit (1) hereto, and (ii) the trademarks listed on Exhibit (2) hereto, with evidence of such assignments to be filed and recorded in the United States and the other countries and jurisdictions where such respective patents, patent applications, and trademarks exist. Lantern will pay all applicable recording and filing fees, patent counsel and patent agent fees, transfer fees, and other costs associated with the filing and recording of such assignments, with all of such costs to be recoverable by Lantern from future Net Revenue and future payments received by Lantern or its Affiliates from Third Party Transactions, prior to making any royalty or sharing payments pursuant to Section 3.4 or Section 3.5.

4.3 Transfer of IND. Promptly following the Closing Date, BioNumerik will transfer the Tavocept Investigational New Drug (IND) application (IND No. 51,014) to Lantern. Lantern and BioNumerik will coordinate in executing and filing with FDA the documents necessary to evidence such transfer, including documentation from BioNumerik stating that all rights to the IND application have been transferred to Lantern, and documentation from Lantern stating that Lantern has assumed the obligations under the IND application and is committing to the agreements and conditions contained in the IND application. In addition, Lantern agrees to prepare and file clinical study reports relating to Tavocept clinical trials conducted prior to the Effective Date, as may be required to be filed from time to time pursuant to FDA or other Regulatory Authority requirements. All costs relating to the preparation and filing of such clinical study reports shall be recoverable by Lantern from future Net Revenue and future payments received by Lantern or its Affiliates from Third Party Transactions, prior to making any royalty or sharing payments pursuant to Section 3.4 or Section 3.5.

4.4 Assignment of TriviumVet License Agreement.

(a) It is the intention of BioNumerik that, effective as of the Closing Date and subject to obtaining necessary approvals by BioNumerik's shareholders and by TriviumVet DAC ("TriviumVet"), BioNumerik intends to assign to TriviumVet certain rights with respect to uses of the Compound and/or Product Outside the Field. In connection with such assignment, BioNumerik and Lantern acknowledge that [***]% of all royalties, sharing payments or other amounts actually available for distribution to BioNumerik or other Schedule A Parties from time to time pursuant to such an assignment to TriviumVet will be paid to such Schedule A Parties, with the remaining [***]% of such amounts that are actually available for distribution from or at the direction of TriviumVet to be paid to Lantern.

(b) Upon such an assignment by BioNumerik to TriviumVet, Lantern shall provide TriviumVet (and its Affiliates and sublicensees) with (i) all data and information generated by Lantern or its Affiliates with respect to the Compound or Product that may be useful or necessary for supporting the development of the Compound or Product Outside the Field in the Territory and in obtaining regulatory and marketing approvals Outside the Field in the Territory, and (ii) an exclusive license to use the Patent Rights, Trademark Rights, Improvements, Information, and new intellectual property generated jointly by TriviumVet and Lantern for the purpose of supporting the development of the Compound or Product Outside the Field in the Territory (including the right to make, have made, use, sell, offer for sale, import and market the Compound and Product Outside the Field in the Territory), all on the condition that TriviumVet will make a similar agreement to provide Lantern (and its Affiliates and sublicensees) with (x) similar data and information for the purpose of supporting the development of the Compound or Product in the Field in the Territory, and (y) an exclusive license to use both (I) inventions, developments, discoveries and improvements developed or obtained by or for TriviumVet with respect to the Compound or Product, and (II) new intellectual property generated jointly by TriviumVet and Lantern, all for the purpose of supporting the development of the Compound or Product in the Field in the Territory.

(c) In addition, upon such an assignment by BioNumerik to TriviumVet, Lantern agrees to cooperate with TriviumVet to establish reasonable procedures regarding enforcement of the Patent Rights and Trademark Rights and for Lantern and TriviumVet to cooperate with respect to any third party infringement of the Patent Rights or Trademark Rights. Lantern agrees, from time to time, to reasonably discuss and coordinate the use of the Trademark Rights with TriviumVet, with the objective of assuring that there is not confusion between uses of the Compound and Product in the Field and uses of the Compound and Product Outside the Field. If Lantern decides to cease the prosecution or maintenance of any Patent Rights or Trademark Rights in any country, it shall notify TriviumVet in writing sufficiently in advance so that TriviumVet may, at its discretion, have the opportunity to assume the responsibility for the prosecution or maintenance of such applicable Patent Rights or Trademark Rights, at TriviumVet's cost.

(d) Lantern agrees to execute such additional papers and documents and to take and to cause its Affiliates to take all additional actions as are necessary to evidence TriviumVet's rights to use the Patent Rights, Trademarks, Improvements and Information for the purpose of supporting the development of the Compound and Product Outside the Field in the Territory.

Article 5 (Development Efforts; Information Sharing)

5.1 Development and Commercialization.

(a) Prior to the Closing Date, Lantern will conduct evaluation and development efforts in accordance with the terms of the License Agreement. Following the Closing Date, Lantern agrees to use Commercially Diligent Efforts to commercialize or cause to be commercialized the Compound and Product in the Field in the Territory as soon as reasonably practicable.

(b) Following the Closing Date, Lantern will use Commercially Diligent Efforts in connection with obtaining and maintaining the development, required governmental approvals, manufacturing and sale of the Product in the Field in the Territory, taking into account the objective of maintaining the safety, effectiveness and quality of the Product and compliance with all applicable governmental regulations in the Territory. In the event a Marketing Approval is obtained for the Product or Compound in the Field, Lantern and its Affiliates will use Commercially Diligent Efforts to promote and market the Product in the Field in the Territory.

(c) Lantern will be responsible for effecting all clinical efficacy studies, bioavailability and safety studies required to achieve product registration for the Product in the Territory, and obtaining all registrations for the Product in the Field in the Territory. BioNumerik shall have no obligation to pay any costs with respect to evaluation and development of the Compound and Product. All product registrations obtained in the Field in according with this Section 5.1(c) shall be owned by Lantern.

(d) Lantern will be responsible for completion of the evaluation and development of the Compound and Product in the Field in the Territory.

(e) Lantern shall apply for and hold all clinical trial notification forms or permits necessary for the Development in the Field in the Territory, and thereafter Lantern shall handle matters with Regulatory Authorities as an applicant and holder of such clinical trial application forms or permits under its own responsibility. Lantern will prepare and file clinical study reports relating to previously conducted Tavocept trials as described in Section 4.3. During the Agreement Term, Lantern shall pay all registration costs for the Product in the Field in the Territory and shall maintain all Marketing Approvals under its own responsibility and at its own expense.

(f) The Development shall be conducted by Lantern in compliance with all applicable laws and regulations (including, without limitation, current Good Laboratory Practices ("GLP"), current Good Manufacturing Practices ("GMP"), and current Good Clinical Practices ("GCP").

(g) In conducting the Development following the Closing Date, Lantern shall take such actions as Lantern in good faith believes is in the best interest of the Development of the Product in the Field in the Territory.

(h) Lantern may contract portions of the Development to a third party or parties, including a contract research organization or a site management organization, recognizing that Lantern shall be responsible for the performance by such third parties of such portions of the Development.

(i) Lantern will provide a summary update with respect to the status of the Development to the Schedule A Parties on at least an annual basis, and will also provide an update with respect to any material changes or developments regarding the Development. Upon request from time to time by a Majority of the Existing BNPI Payment Recipients, Lantern will provide a current summary update with respect to the status of the Development, but shall not be obligated to provide updates more frequently than twice per calendar year.

(j) Following the Closing Date, BioNumerik will provide to Lantern BioNumerik's existing files, records, information and documents relating to the Tavocept Development (including information regarding the supply and manufacture of Compound or Product), provided that BioNumerik may retain a confidential copy of such materials solely for archival purposes. Lantern will pay reasonable costs for shipment and transportation of such files, records, information and documents to Lantern or for storage of such materials at Lantern's expense, as determined in Lantern's discretion.

5.2 Lantern Recovery of Development Costs. Lantern shall have the right to recover from Net Revenue (in the manner described below) all development and regulatory costs incurred by Lantern under this Article 5 (collectively "Development Costs"), with up to the first 5% of the amount of Net Revenue received from time to time (prior to the calculation of the royalty as set forth in Section 3.4) to be applied towards recovery of such Development Costs until such time as they are paid, and provided that recovery of the specified portion of Development Costs shall take precedence over the recovery of the Patent Costs as set forth in Section 3.6, and provided further that any Development Costs that are recovered pursuant to Section 3.5 will not be included as part of the Development Costs to be recovered pursuant to this Section 5.2.

Article 6 (Patent Matters)

6.1 Patent Maintenance and Enforcement of Patents and Proprietary Rights. Following the Closing Date, Lantern will be responsible for prosecuting and maintaining patents and patent applications relating to the Compound, provided that Lantern may, in its discretion and using Commercially Diligent Efforts, determine not to continue to maintain or pursue one or more particular patents or patent applications in one or more territories if Lantern determines that such maintenance or pursuit is not commercially viable in connection with the overall Development of the Compound and Product. To the full extent allowable by law, Lantern, as assignee of the Patent Rights in the Territory, shall have the right, but not the obligation, to institute and prosecute proceedings or suits ("Suits") for infringement of the Patent Rights and/or patents and other proprietary rights regarding the Compound in the Territory. All legal expenses and costs (including attorneys' fee) in such Suits regarding the Compound or Product in the Territory will be borne by Lantern, and all recoveries in any Suit (including attorneys' fee) to enforce the Patent Rights in the Territory shall be retained 100% by Lantern, after payment of all expenses in connection with such Suit.

Article 7 (Trademarks Matters)

7.1 Trademark Maintenance and Quality Control Procedures. Following the Closing Date, Lantern will be responsible for prosecuting and maintaining the Trademark Rights, provided that Lantern may, in its discretion and using Commercially Diligent Efforts, determine not to continue to maintain or pursue one or more trademarks or trademark applications in one or more territories if Lantern determines that such maintenance or pursuit is not commercially viable in connection with the overall Development of the Compound and Product. Lantern will develop and follow reasonable quality control procedures regarding the TAVOCEPT trademark and will perform periodic quality control assessments of any Product bearing the TAVOCEPT trademark, whether the Product originated from Lantern or from a Lantern licensee.

7.2 Lantern Trademarks. In addition, the Parties acknowledge that Lantern may determine to exclusively market the Product and Compound in the Field using trademarks selected and adopted by Lantern (the "Lantern Trademarks") . Lantern shall be responsible for, at its sole discretion, the selection, adoption, registration, maintenance and defense of all such Lantern Trademarks for use in connection with the sale or marketing of Product in the Territory, as well as all expenses associated therewith. Lantern shall own all Lantern Trademarks. All rights arising from the use by Lantern of the Lantern Trademarks in the Territory during the Agreement Term shall inure to Lantern's benefit. Lantern shall have the sole right and discretion to bring infringement or unfair competition proceedings anywhere in the world involving infringement of or unfair competitive activities relating to the Lantern Trademarks in the Territory.

Article 8 (Confidentiality)

8.1. Confidential and Proprietary Information. Each Party hereto acknowledges that in order for the Parties to carry out their respective obligations under this Agreement, it may be necessary for the Parties to disclose to each other certain Confidential Information. Each Party hereto agrees:

8.1.1. To assure that it does not reveal or make available to any third party any Confidential Information of any other Party, except as such disclosure may be expressly authorized by this Agreement or otherwise specifically approved in writing by the Party whose Confidential Information is to be disclosed and to ensure that it will treat such Confidential Information of the other Party in the same manner as it treats its own Confidential Information, such treatment to be at least the degree that a reasonable person would perform under similar circumstances;

8.1.2. To assure that Affiliates, sublicensees, employees, agents, advisors, associates or other persons to whom such disclosure may be made or who may otherwise have access to such Confidential Information of the other Party have agreed in writing to safeguard and maintain such Confidential Information of the other Party in confidence on terms no less stringent than those contained herein;

8.1.3. To assure that Confidential Information of the other Party is not used for the receiving Party's benefit except as such benefits are expressly contemplated under this Agreement;

8.1.4. To prohibit the Confidential Information of the other Party from being duplicated in any manner; except as is reasonably necessary to perform its tasks and obligations or to exercise its rights contemplated under this Agreement; and

8.1.5. To prohibit the Confidential Information of the other Party from being published in any form without the express written consent of the disclosing Party.

8.2. Matters not Included as Confidential Information. Notwithstanding anything herein to the contrary, the defined term "Confidential Information" and the obligations of nondisclosure, nonuse and confidentiality relating thereto shall not include any information or data which:

8.2.1. Is or becomes known to the general public through no action or fault of the receiving Party in breach of the confidentiality obligations set forth herein;

8.2.2. Was already known to the receiving Party without any obligation of confidentiality prior to the date of disclosure hereunder, as evidenced by the written records of that Party;

8.2.3. Is or becomes known to the receiving Party without any obligation of confidentiality from a third party having the right to disclose the same, and not having a confidential relationship with the disclosing Party with respect thereto; or

8.2.4. Is necessary for the receiving Party or its Affiliates to disclose to a governmental authority or any agency thereof on a non-confidential basis, in order to pursue a marketing approval or other regulatory approvals as contemplated by this Agreement or for other purposes related to the intent of this Agreement; provided, however, that the receiving Party shall notify the disclosing Party before disclosing such Confidential Information.

Each Party may disclose the other Party's Confidential Information to the extent that such disclosure is required by applicable law, government regulation or court order, provided that such Party shall promptly notify the other Party of such required disclosure and use reasonable efforts to secure confidential treatment or other protection for such Confidential Information. In addition, BioNumerik may disclose the terms of this Agreement to its shareholders and provide a copy of this Agreement and summary updates to its shareholders in connection with BioNumerik's efforts to obtain the necessary approvals by BioNumerik's shareholders of this Agreement and the assignment to Lantern of rights to the Compound pursuant to this Agreement.

8.3. Survival of Confidentiality. The obligations of this Article 8 with respect to Confidential Information shall continue during the term of this Agreement and for 10 years after the termination or expiration of this Agreement.

8.4 Equitable Relief. Each Party and its Affiliates acknowledges the possibility that a breach of this Article 8 may not reasonably or adequately be compensated in damages in an action at law and that such a breach may cause the other Party irreparable injury and damage. By reason thereof, each Party and its Affiliates agree that the other Party shall be entitled, in addition to any other remedies it may have under this Agreement or otherwise, to seek preliminary and permanent injunctive and other equitable relief to prevent or curtail any breach of the obligations relating to Confidential Information set forth herein by the other Party.

Article 9 (Agreement Term)

9.1 Term. This Agreement will commence on the Effective Date and will remain in effect during the Agreement Term, unless this Agreement is terminated pursuant to Article 9.2.

9.2 Termination if Closing Date Does Not Occur. If the Closing Date does not occur within 6 (six) months after the Effective Date, then this Agreement shall terminate and the rights and obligations of Lantern and BioNumerik with respect to the Compound and Product shall be governed by the License Agreement.

9.3 Offer Right if Development not Pursued. In addition to the general diligence requirements contained in Article 5, if a period of 24 months passes when Lantern or a Transaction Party has not been using its commercially reasonable efforts to actively pursue Development and, following a Marketing Approval, commercial sales of the Compound or Product, then Lantern shall (or shall cause such Transaction Party to) promptly offer the Existing BNPI Payment Recipients (or their designee determined by vote of a Majority of the Existing BNPI Payment Recipients) the right to obtain all right, title, and interest in the Compound and Product (including, without limitation, all right, title, and interest in the BioNumerik Improvements, Lantern Improvements, Joint Improvements, Patent Rights, Information, Trademark Rights, and Lantern Trademark Rights) with no additional charge to be paid in connection with the transfer of such right, title, and interest other than (i) payment of any and all applicable recording and filing fees, patent counsel and patent agent fees, transfer fees, and other costs associated with the filing and recording of the transfer or assignment of such Patent Rights, trademark rights and other rights, and (ii) payment of any and all filing fees and administrative costs associated with transfer of all Marketing Approvals, applications and/or filings and similar approvals and requests for approval of the Product in the Territory that are held by Lantern or such Transaction Party. If a determination to accept such offer and obtain such rights is made by the Existing BNPI Payment Recipients and they notify Lantern of their determination within 90 days after receiving such offer from Lantern, then Lantern will thereafter cooperate in facilitating such transfer.

Article 10 (Dispute Resolution)

10.1 Disputes. Any disputes arising between the Parties relating to, arising out of or in any way connected with this Agreement or any term or condition hereof, or the performance by any Party of its obligations hereunder, whether before or after termination of this Agreement (the "Dispute"), which is not settled by the Parties within thirty (30) days after notice of the Dispute is given by one Party to the other Party in writing will be referred to a senior executive designated by Lantern and a senior executive designated by BioNumerik who are authorized to settle such disputes on behalf of their respective companies ("Senior Executives"). The Senior Executives will meet for at least one (1) business day and negotiate in good faith to resolve such dispute within thirty (30) days of the end of the initial 30-day negotiation period referred to above, at a time and place mutually acceptable to all such Senior Executives.

Article 11 (Additional Terms and Provisions)

11.1 Except as otherwise provided herein, this Agreement or all or any part of the rights and obligations of this Agreement may not be assigned by any Party without the prior written consent of the other Party. Each Party may, however, at its discretion and without consent of the other Party assign this Agreement in whole or in part to one or more of its Affiliates as well as in whole to a new or separate entity acquiring or succeeding to all or a substantial part of the assigning Party's business, assets or intellectual property rights to which this Agreement relates, so long as (i) the assignee will be liable and responsible for the performance and observation of all of the assigning Party's obligations hereunder after such assignment, and (ii) the assigning Party (if such assigning Party is a surviving entity) also remains liable and responsible for the performance and observance of all of the assigning Party's obligations hereunder before such assignment.

11.2 Should any provision of this Agreement be held by a court of competent jurisdiction to be illegal, invalid or unenforceable, the remaining provisions of this Agreement shall not be affected or impaired thereby. In such event, the provision held to be illegal, invalid or unenforceable shall be modified so as to effect the original intent of the parties hereto as closely as possible with respect to such provision and still be legal, valid and enforceable.

11.3 The Parties acknowledge that the assignment to Lantern of rights to the Compound as contemplated by this Agreement is occurring in connection with the contemplated wind down of BioNumerik, and that it is the intention of BioNumerik to wind down and terminate its existence following the Closing Date.

11.4 All notices, communications, reports, etc. that are required hereunder shall be furnished in writing. Such notices, communications, reports, etc. shall be sent to the applicable address of the designated notice recipient set forth below (or to such other address as a particular notice recipient may designate by notice in writing to the other notice recipients) by (1) FedEx, DHL, express mail, or other recognized international courier service, or (2) by facsimile or e-mail at the address designated by each notice recipient.

If to BioNumerik:
8023 Vantage Drive, Suite – Lobby 1, San Antonio, TX 78230
Fax: 210.305.5105; Phone: 210.614.1701

If to Lantern:
We Work, 1920 McKinney Ave., Dallas, TX 75201 Attn.: CEO
Email: arun@lanternpharma.com; Phone: 515.231.2065

If to the Schedule A Parties:
8023 Vantage Drive, Suite – Lobby 1, San Antonio, TX 78230
Attention: Designated Schedule A Information Recipient

11.5 This Agreement and its schedules and attachments contain the entire agreement and understanding of the Parties with respect to the matters contained herein, superseding all prior understandings among the Parties, whether written or oral, concerning the subject matter hereof. In addition to and notwithstanding the foregoing, (i) the License Agreement and the Evaluation Agreement, as amended, modified and supplemented hereby, shall continue in full force and effect in accordance with their specific terms, and (ii) that certain Confidentiality Agreement, dated as of December 8, 2015, between Lantern and BioNumerik and that certain Confidentiality Agreement, dated as of February 14, 2017, between Lantern and BioNumerik (collectively, the "Confidentiality Agreements") shall continue in full force and effect in accordance with their specific terms, provided, however, that the confidentiality obligations contained in Article 8 of this Agreement shall apply with respect to the confidentiality of all information resulting from the activities of the Parties after the Closing Date hereof.

11.6 No Party hereto will be deemed to be in default of any provision of this Agreement as a result of, or for any failure in performance resulting from, acts or events beyond the reasonable control of such Party, such as Acts of God, acts of civil or military authority, acts of terrorism, civil disturbance, war, strikes, fires, substantial power failures, natural catastrophes or other "force majeure" events so long as a Party uses Commercially Diligent Efforts in such performance. An event of the nature described in this Section 11.6 shall be referred to herein as a "Force Majeure Event".

11.7 Lantern shall keep and cause its Affiliates, licensees, sublicensees, assignees and any applicable Transaction Party to keep accurate records and books of accounting regarding the Net Revenue received with respect to the Product and units of Product sold in the Territory for three (3) years after they are prepared, and, upon request by BioNumerik or by vote of a Majority of the Existing BNPI Payment Recipients, allow such books and records regarding the Net Revenue and units of Product sold to be examined by a certified public accountant that is designated by BioNumerik or by vote of a Majority of the Existing BNPI Payment Recipients and consented to by Lantern, which consent shall not be unreasonably withheld. Such examinations shall be conducted with prior notice to Lantern, no more than once a year, and during the normal business hours of Lantern that Lantern reasonably consents to. The cost of the accounting firm will be the responsibility of the requestor of such examination unless the report of the accounting firm shows Lantern to have underpaid the Schedule A Parties by more than five percent (5%), in which case the cost of the accounting firm will be the responsibility of Lantern. If an audit reveals an underpayment or overpayment to the Schedule A Parties, steps will promptly be taken as necessary to rectify the error. Lantern is authorized to make reasonable and appropriate adjustments to rectify such an underpayment or overpayment.

11.8 The Parties may, from time to time during the Agreement Term, modify, vary or alter any of the provisions of this Agreement, but only by a written instrument duly executed by authorized officials of both Parties hereto. Lantern and BioNumerik agree that if the existence of BioNumerik has been terminated following the Closing Date, then this Agreement may be amended by Lantern following obtaining approval of such amendment by vote of a Majority of the Existing BNPI Payment Recipients. In addition, if the existence of BioNumerik has been terminated following the Closing Date, then the listing of payment recipients contained on Schedule A to this Agreement and the order of payment and other payment mechanics contained on such Schedule A may be amended by vote of a Majority of the Existing BNPI Payment Recipients.

11.9 Payments pursuant to this Agreement will be paid in U.S. Dollars. The exchange rate to be used for converting foreign currencies into U.S. dollars will be the average of the exchange rate published in The Wall Street Journal, Eastern U.S. Edition for the purchase of U.S. dollars for the five (5) consecutive business days prior to the date as of which a particular payment amount or other payment item is calculated under this Agreement.

11.10 The Parties agree to abide by all United States and other applicable laws and regulations governing exports of the Compound and Product or any other technology developed or disclosed as a result of this Agreement. The Parties acknowledge that any performance under this Agreement is subject to any restrictions which may be imposed by the United States and other applicable laws and regulations governing exports. Each Party agrees to provide the other Party with any assistance, including written assurances, which may be required by a competent governmental authority and by applicable laws and regulations as a precondition for any disclosure of technology by the other Party under the terms of this Agreement. In addition, the Parties hereto agree to take all actions as may reasonably be required to assure compliance with all applicable requirements of the U.S. Foreign Corrupt Practices Act.

11.12 Expiration or termination of this Agreement shall not affect accrued rights or obligations of the Parties. In addition, the rights and obligations of the Parties set out in the following sections and articles of this Agreement shall survive and continue to be effective in accordance with their terms after the termination or expiration of this Agreement: Article 8 (Confidentiality); Article 9 (Agreement Term); Article 10 (Dispute Resolution); and Article 11 (Additional Terms and Provisions).

11.13 This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, United States of America without regard to its conflict of laws principles. Subject to the dispute resolution procedures contained in Article 10, each Party hereto hereby irrevocably consents and submits to the jurisdiction and venue of both federal and state courts of the United States of America located in Dallas, Texas, United States of America with respect to any dispute, controversy or claim arising out of or in connection with this Agreement.

11.14 Lantern and BioNumerik hereby agree to execute all additional papers and documents and to take and to cause their Affiliates to take all additional actions reasonably requested by either Party hereto in order to further evidence or reflect the agreements contained in this Agreement (but at the expense of the requesting Party as to all reasonable out-of-pocket expenses incurred by the other Party in connection therewith).

11.15 This Agreement may be executed in counterparts, all of which together shall constitute one and the same instrument. Facsimile signatures, or signatures provided or delivered in Adobe PDF format (or similar electronic scanning format), shall be treated as original signatures for purposes of this Agreement. Unless otherwise specifically agreed, the exchange of signatures and signed counterparts may be made through facsimile and/or electronic mail using Adobe PDF (Portable Document Format) or other similar format; and a facsimile or an electronically scanned copy of an original signature on this Agreement thus delivered by facsimile or electronic mail shall be deemed to be an original signature.

11.16 BioNumerik represents and warrants to Lantern as of the Effective Date that:

(a) As of the Effective Date, Exhibit (1) lists all patent applications and patents that are owned or licensed by BioNumerik as of the Effective Date and cover the Compound, process to make Compound, and/or uses of the Compound, except as otherwise expressly noted on such Exhibit (1), and (except as otherwise noted), to the knowledge of BioNumerik, all such patents are valid and all such patents and patent applications are held by BioNumerik free and clear of all encumbrances to the grant of an assignment to Lantern as purported to be granted pursuant to this Agreement;

(b) BioNumerik has sufficient legal and/or beneficial title, ownership or license, free and clear from any mortgages, pledges, liens, security interests, or encumbrances of any kind, of the Patent Rights, Information, BioNumerik Improvements and Trademark Rights to grant the assignment to Lantern as purported to be granted pursuant to this Agreement, subject to the requirement to obtain the necessary approvals by BioNumerik's shareholders in order for the Closing Date to occur;

(c) BioNumerik has not granted and will not grant any assignment, license, right or interest to the Patent Rights, Information, BioNumerik Improvement and Trademark Rights that is in conflict with the assignment granted as of the Closing Date by BioNumerik to Lantern hereunder;

(d) To BioNumerik's knowledge, the development, manufacture and use of the Compound and Product in the Field in the Territory will not infringe or misappropriate any existing intellectual property right of any third party, and BioNumerik has not received any notice from any third party asserting or alleging that any development, manufacture or use of the Compound or Product would infringe or misappropriate the intellectual property rights of such third party;

(e) There is no pending, and to BioNumerik's knowledge, no threatened, adverse action, suit or proceeding in the Territory against BioNumerik involving the Patent Rights, Information, BioNumerik Improvements, Trademark Rights, Compound or Product;

(f) To BioNumerik's knowledge, no third party is infringing or misappropriating or has infringed or misappropriated any Patent Rights, Information, BioNumerik Improvements, or Trademark Rights.

11.17 BOTH PARTIES UNDERSTAND THAT THE COMPOUND AND PRODUCT ARE THE SUBJECT OF ONGOING RESEARCH AND DEVELOPMENT AND THAT NEITHER PARTY CAN ASSURE THE SUCCESSFUL DEVELOPMENT OR COMMERCIALIZATION OF THE COMPOUND OR PRODUCT. EXCEPT AS EXPRESSLY STATED IN THIS AGREEMENT, NO REPRESENTATIONS OR WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR NON-MISAPPROPRIATION OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS, IS MADE OR GIVEN BY OR ON BEHALF OF EITHER PARTY. ALL REPRESENTATIONS AND WARRANTIES, WHETHER ARISING BY OPERATION OF LAW OR OTHERWISE, ARE HEREBY EXPRESSLY EXCLUDED.

11.18 NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES OR LOSS OF PROFITS ARISING FROM OR RELATING TO ANY BREACH OF THIS AGREEMENT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE DAMAGES AVAILABLE FOR A PARTY'S BREACH OF CONFIDENTIALITY OBLIGATIONS IN ARTICLE 8.

11.19 Each Party shall act solely as an independent contractor, and nothing in this Agreement shall be construed to give either Party the power or authority to act for, bind, or commit the other Party in any way. Nothing herein shall be construed to create the relationship of partners, principal and agent, or joint-venture partners between the Parties.

11.20 This Agreement has been prepared jointly and shall not be strictly construed against either Party. Ambiguities, if any, in this Agreement shall not be construed against any Party, irrespective of which Party may be deemed to have authored the ambiguous provision. The headings of each Article and Section in this Agreement have been inserted for convenience of reference only and are not intended to limit or expand on the meaning of the language contained in the particular Article or Section.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands effective as of the Effective Date.

BioNumerik Pharmaceuticals, Inc.

By: /s/ David R. Margrave
Name:
Title:
8023 Vantage Drive, Suite – Lobby 1
San Antonio, TX 78230, USA

By: /s/ Steve Carchedi
Name:
Title:
8023 Vantage Drive, Suite – Lobby 1
San Antonio, TX 78230, USA

Lantern Pharma, Inc.

By: /s/ Arunkumar Asaithambi
Name: Arunkumar Asaithambi, Ph.D.
Title: Chief Executive Officer
1920 McKinney Ave.
Dallas, TX 75201

Schedule A – Schedule A Parties and Payment Instructions

All payment amounts to be paid to the Schedule A Parties (as defined in the attached Assignment Agreement) shall be paid in the following manner:

1. First, to BioNumerik Pharmaceuticals, Inc. ("BioNumerik") if BioNumerik is in existence at the time such payment is to occur;

2. Next, any remaining payment amounts shall be applied to the extent necessary to satisfy any current outstanding tax obligations of BioNumerik;

3. Next, any remaining payment amounts shall be applied (on a pro rata basis to all obligees in this payment category) to the extent necessary to satisfy any current outstanding obligations of BioNumerik for legal fees and services; accounting fees and services; consulting fees and services; patent fees and services; payment obligations of BioNumerik pursuant to agreements with licensees or assignees of BioNumerik product candidates other than Tavocept; banking fees and services; rent; phone and internet service provider costs; mail and shipping fees and services; and other current outstanding BioNumerik debt, service provider or contractual payment obligations;

4. Next, any remaining payment amounts shall be applied towards payment to the holders of BioNumerik Preferred Stock immediately prior to the Closing Date (or to their designated successor or transferee) (collectively, the "BioNumerik Preferred Holders") an amount equal to the respective liquidation preference amount to which each holder of each respective series of such Preferred Stock would be entitled pursuant to the terms of the BioNumerik Preferred Stock as in existence immediately prior to the Closing Date, provided that, if such amounts to be paid pursuant to this Paragraph 4 shall be insufficient to permit the payment to such respective holders of the full respective preferential amounts to which they would be so entitled, then such available remaining payment amounts shall be distributed to the BioNumerik Preferred Holders pro rata up to the respective preferential amount to which they would be so entitled, based on the number of shares of BioNumerik Common Stock held by each such holder immediately prior to the Closing Date, assuming all shares of BioNumerik Preferred Stock were converted into BioNumerik Common Stock immediately prior to the Closing Date;

5. Next, any remaining payment amounts shall be applied towards payment to the holders of BioNumerik Common Stock immediately prior to the Closing Date (or to their designated successor or transferee) (collectively, the "BioNumerik Common Holders") an amount equal to $.01 per share of BioNumerik Common Stock held immediately prior to the Closing Date, provided that, if such amounts to be paid pursuant to this Paragraph 5 shall be insufficient to permit the payment to such respective holders of $.01 per share of BioNumerik Common Stock held immediately prior to the Closing Date, then such available remaining payment amounts shall be distributed to the BioNumerik Common Holders pro rata based on the number of shares of BioNumerik Common Stock held by each such holder immediately prior to the Closing Date; and

6. Next, any remaining payment amounts shall be distributed to the BioNumerik Preferred Holders and BioNumerik Common Holders pro rata based on the number of shares of BioNumerik Common Stock held by each such holder immediately prior to the Closing Date, assuming all shares of BioNumerik Preferred Stock were converted into BioNumerik Common Stock immediately prior to the Closing Date.

Schedule A [continued]

In making the above payments to respective applicable payment recipients, Lantern shall make such payments at the most recent address for such recipients listed in BioNumerik's records, or at such updated address as a particular applicable payment recipient may designate by notice in writing to BioNumerik or to the Designated Schedule A Information Recipient (defined below).

In making such payments pursuant to this Schedule A, Lantern shall be entitled to rely on the Designated Schedule A Information Recipient for guidance with respect to information regarding current outstanding BioNumerik obligations and account balances, and contact and address information regarding respective payment recipients.

For purposes of this Schedule A and the attached Assignment Agreement, the Designated Schedule A Information Recipient shall be the individual or committee specified in writing by BioNumerik to Lantern as the Designated Schedule A Information Recipient concurrently with the execution of the attached Assignment Agreement. The Designated Schedule A Information Recipient may be changed from time to time as specified by written notice from BioNumerik to Lantern, or, if the existence of BioNumerik has terminated following the Closing Date, as directed in writing to Lantern by a Majority of the Existing BNPI Payment Recipients.

It is the intention of this Schedule A that, in the event BioNumerik Preferred Holders have received (by means of payments pursuant to Paragraph 4 of this Schedule A, payments made on behalf of assignees of BioNumerik intellectual property rights other than Lantern, or by means of other distributions made by BioNumerik) an aggregate amount equal to the respective liquidation preference amount to which each applicable holder of each respective series of such Preferred Stock would be entitled pursuant to the terms of the BioNumerik Preferred Stock as in existence immediately prior to the Closing Date, then no further amounts would be paid pursuant to Paragraph 4 of this Schedule A. In addition, it is the intention of this Schedule A that, in the event BioNumerik Common Holders have received (by means of payments pursuant to Paragraph 5 of this Schedule A, payments made on behalf of assignees of BioNumerik intellectual property rights other than Lantern, or by means of other distributions made by BioNumerik) an aggregate amount equal to $.01 per share of BioNumerik Common Stock held immediately prior to the Closing Date, then no further amounts would be paid pursuant to Paragraph 5 of this Schedule A.

For purposes of this Schedule A and the attached Assignment Agreement, (i) the term "BioNumerik Preferred Stock" shall mean the Series A Convertible Preferred Stock, the Series B Convertible Preferred Stock, the Series C Convertible Preferred Stock, the Series D Convertible Preferred Stock, the Series E Convertible Preferred Stock, the Series F Convertible Preferred Stock, the Series G Convertible Preferred Stock, the Series H Convertible Preferred Stock, the Series I Convertible Preferred Stock, the Series J Convertible Preferred Stock, the Series K Convertible Preferred Stock, the Series L Convertible Preferred Stock, the Series M Convertible Preferred Stock, and the Series N Convertible Preferred Stock of BioNumerik; and the term "BioNumerik Common Stock" shall mean the Common Stock of BioNumerik.

Each capitalized term used but not defined in this Schedule A shall have the meaning given to such term in the attached Assignment Agreement.

Exhibit (1)

The Patent Rights as of the Effective Date of this Agreement are stated as follows:

Docket No.: 0265
Title: Contemporaneous, Multiple Protein-Targeted Therapeutic Modification and/or Modulation of Disease by Administration of Sulfur-Containing, Amino Acid-Specific Small Molecules

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		ORD	Pending	14/455,855	08-Aug-2014		

Docket No.: 0263
Title: Increasing Cancer Patient Survival Time by Administration of Dithio-Containing Compounds

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		ORD	Granted	12/807,931	16-Sep-2010	9,023,805	05-May-2015
United States of America	A	DIV	Pending	14/675,607	31-Mar-2015		

Docket No.: 0262
Title: Treatment Methods and Compositions for Lung Cancer, Adenocarcinoma, and Other Medical Conditions

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2008352597	14-Mar-2008	2008352597	21-Jun-2012
Australia	A	PCT	Granted	2008352603	15-Jul-2008	2008352603	13-Sep-2012
Canada		PCT	Granted	2,717,181	14-Mar-2008	2,717,181	15-Oct-2013
China (People's Republic)	A	PCT	Granted	200880128889.4	28-Oct-2010	ZL 200880128889.4	18-Dec-2013
Denmark		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
European Patent Convention		PCT	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
European Patent Convention	A	PCT	Granted	08794507.7	18-Jul-2008		
France		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
France	A	EPP	Granted	08794507.7	18-Jul-2008		
Germany		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
Germany	A	EPP	Granted	08794507.7	18-Jul-2008		
Japan		PCT	Granted	2010-550647	10-Sep-2010	5694782	13-Feb-2015
Japan	A	PCT	Granted	2010-550651	10-Sep-2010	5667886	19-Dec-2014
Netherlands		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
Netherlands	A	EPP	Granted	08794507.7	18-Jul-2008		
Sweden	A	EPP	Granted	08794507.7	18-Jul-2008		
Switzerland		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
Switzerland	A	EPP	Granted	08794507.7	18-Jul-2008		
United Kingdom		EPP	Granted	08726839.7	14-Mar-2008	2 249 825	07-Oct-2015
United Kingdom	A	EPP	Granted	08794507.7	18-Jul-2008		
United States of America	A	CIP	Granted	12/218,470	15-Jul-2008	9,320,760	26-Apr-2016

Docket No.: 0257
Title: Anti-Cancer Activity Augmentation Compounds and Formulations and Methods of Use Thereof

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2007227466	16-Mar-2007	2007227466	01-Mar-2012
China (People's Republic)		PCT	Granted	200780017354.5	16-Mar-2007	ZL200780017354.5	14-Mar-2012

Docket No.: 0256
Title: Chemoprotective Methods and Compositions

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2006326442	13-Dec-2006	2006323442	14-Jun-2012
Australia	A	PCT	Granted	2008352598	14-Mar-2008	2008352598	20-Sep-2012
Canada		PCT	Granted	2,648,945	13-Dec-2006	2,648,945	03-Apr-2012
European Patent Convention		PCT	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
European Patent Convention	A	PCT	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
France		EPP	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
France	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Germany		EPP	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
Germany	A	EPP	Granted	08726840.5	14-Mar-2008	60 2008 032 832.5	18-Jun-2014
Hungary	A	EPP	Granted	08726840.5	14-Mar-2008	E021539	18-Jun-2014
Ireland	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Italy	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Japan	A	PCT	Granted	2010-550648	10-Sep-2010	5667885	12-Feb-2015
Netherlands		EPP	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
Netherlands	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Spain	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Sweden	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
Switzerland		EPP	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
Switzerland	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014
United Kingdom		EPP	Granted	06848549.9	13-Dec-2006	1991237	25-Feb-2015
United Kingdom	A	EPP	Granted	08726840.5	14-Mar-2008	2 252 246	18-Jun-2014

Docket No.: 0243
Title: Medicinal Disulfide Salts

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Canada		PCT	Granted	2,580,802	21-Sep-2005	2,580,802	20-Nov-2012
India		PCT	Published	2350/DELNP/2007	21-Sep-2005		
Japan		PCT	Granted	2007-532635	21-Sep-2005	5015781	15-Jun-2012
Mexico		PCT	Granted	MX/a/2007/003174	21-Sep-2005	271540	05-Nov-2009
United States of America		PRI	Granted	10/945,809	21-Sep-2004	7,282,602	16-Oct-2007

Docket No.: 0239
Title: Process for Synthesizing Disulfides

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2004299131	17-Dec-2004	2004 299131	26-Aug-2010
Canada		PCT	Granted	2548497	17-Dec-2004	2,548,497	09-Jun-2009
China (People's Republic)		PCT	Granted	2004800377657	17-Dec-2004	2004800377657	14-Jan-2009
India		PCT	Granted	3391/DELNP/2006	17-Dec-2004	249478	21-Oct-2011
Japan		PCT	Granted	2006-545498	14-Jun-2006	4936898	02-Mar-2012
Mexico		PCT	Granted	PAa2006006709	17-Dec-2004	267694	22-Jun-2009
South Africa		PCT	Granted	2006/04767	17-Dec-2004	2006/4767	29-Sep-2007
United States of America	US	PRI	Granted	11/016,441	17-Dec-2004	7,053,240	30-May-2006

Docket No.: 0236
Title: Compounds and Methods for Reducing Undesired Toxicity of Chemotherapeutic Agents

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America	A	DIV	Granted	11/985,244	14-Nov-2007	7,829,540	09-Nov-2010
United States of America	B	DIV	Granted	11/985,243	14-Nov-2007	7,829,539	09-Nov-2010
United States of America	C	DIV	Granted	11/985,241	14-Nov-2007	7,829,117	09-Nov-2010
United States of America	D	DIV	Granted	11/985,242	14-Nov-2007	7,829,538	09-Nov-2010
United States of America	E	DIV	Granted	11/985,272	14-Nov-2007	7,829,541	09-Nov-2010

Docket No.: 0234
Title: Method of Treating Patients Undergoing Kidney Dialysis

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
European Patent Convention		PCT	Granted	05 800 321.1	21-Sep-2005	1796682	06-Nov-2013
France		EPP	Granted	05 800 321.1	21-Sep-2005	1796682	06-Nov-2013
United Kingdom		EPP	Granted	05 800 321.1	21-Sep-2005	1796682	06-Nov-2013
United States of America		PRI	Granted	10/945,810	21-Sep-2004	7,235,589	26-Jun-2007

Docket aNo.: 0232
Title: Method For Preparing Disodium 2,2'-Dithiobis(Ethanesulfonate)

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2001276460	17-Jul-2001	2001276460	12-Oct-2006
Belgium		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
China (People's Republic)		PCT	Pending	01814038.6	17-Jul-2001		
European Patent Convention		PCT	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
France		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
Germany		EPP	Granted	01954111.9	17-Jul-2001	60106040	20-Jan-2005
Ireland		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
Italy		EPP	Granted	01954111.9	17-Jul-2001	1301477	19-Nov-2004
Japan		PCT	Granted	2002-512122	17-Jul-2001	4936630	02-Mar-2012
Liechtenstein		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
Sweden		EPC	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
Switzerland		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
United Kingdom		EPP	Granted	01954111.9	17-Jul-2001	1301477	29-Sep-2004
United States of America		ORD	Granted	10/333,422	16-Jun-2003	6,936,733	30-Aug-2005

Docket No.: 0218
Title: Drugs for Prophylaxis or Mitigation of Taxane-Induced Neuropathies

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2003225253	29-Apr-2003	2003225253	18-Dec-2008
European Patent Convention		PCT	Granted	03721972.2	29-Apr-2003	1503748	25-Apr-2012
France		EPP	Granted	03721972.2	29-Apr-2003	1503748	25-Apr-2012
Germany		EPP	Granted	03721972.2	29-Apr-2003	60340723.4	25-Apr-2012
Japan		PCT	Granted	2004-500859	29-Apr-2003	5416327	22-Nov-2013
Spain		EPP	Granted	03721972.2	29-Apr-2003	2381968T3	25-Apr-2012
Sweden		EPP	Granted	03721972.2	29-Apr-2003	1503748	25-Apr-2012
Switzerland		EPP	Granted	03721972.2	29-Apr-2003	1503748	25-Apr-2012
United Kingdom		EPP	Granted	03721972.2	29-Apr-2003	1503748	25-Apr-2012
United States of America		PRI	Granted	10/135,975	30-Apr-2002	8,710,095	29-Apr-2014

Docket No.: 0211
Title: Method for Treating Patients for Radiation Exposure

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	10/002,526	26-Oct-2001	7,176,192	13-Feb-2007

Docket No.: 0197
Title: Method for Treating Cancer Having Greater Efficacy and Reduced Adverse Effects

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		ORD	Granted	10/044,575	11-Jan-2002	6,596,320	22-Jul-2003

Docket No.: 0177
Title: Methods and Formulations for Reducing Toxicity Associated with Diabetes Treatments

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/562,160	01-May-2000	6,468,963	22-Oct-2002

Docket No.: 0167
Title: Method of Inhibiting Angiogenesis

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/756,033	06-Jan-2001	6,255,355	03-Jul-2001

Docket No.: 0162
Title: Method of Treating Acetaminophen Overdose

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/671,792	27-Sep-2000	6,225,295	01-May-2001

Docket No.: 0139
Title: Method of Treating Atherosclerosis and Complications Resulting Therefrom

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/513,540	25-Feb-2000	6,525,037	25-Feb-2003

Docket No.: 0123
Title: Method of Treating Diabetic Nephropathy

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/422,486	21-Oct-1999	6,031,006	29-Feb-2000

Docket No.: 0122
Title: Method of Treating Diabetic Neuropathy

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/422,485	21-Oct-1999	6,100,247	08-Aug-2000

Docket No.: 0110
Title: Method for Reducing Development of Free Radical Induced Malignancies

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/389,520	02-Sep-1999	6,143,796	07-Nov-2000

Docket No.: 0100
Title: Method for Treating Glycol Poisoning

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/317,693	24-May-1999	6,034,126	07-Mar-2000

Docket No.: 0091
Title: Method of Treating Septic Shock

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/247,247	09-Feb-1999	6,197,831	06-Mar-2001

Docket No.: 0090
Title: Method of Treating Acute Renal Failure

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/247,229	09-Feb-1999	6,172,119	09-Jan-2001

Docket No.: 0089
Title: Method of Treating Adult Respiratory Distress Syndrome

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/246,476	09-Feb-1999	5,998,479	07-Dec-1999

Docket No.: 0088
Title: Method of Reducing or Reversing Neuropathy

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/246,471	09-Feb-1999	6,075,053	13-Jun-2000

Docket No.: 0077
Title: Method for Treating Heavy Metal Poisoning

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
United States of America		PRI	Granted	09/247,115	09-Feb-1999	6,177,411	23-Jan-2001

Docket No.: 0063
Title: Formulations and Methods of Reducing the Toxicity of Antineoplastic Agents

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Japan	A	DIV	Pending	2005-294264	16-Oct-1998		

Docket No.: 0035
Title: Mercaptans and Disulfides

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
European Patent Convention		PCT	Granted	99948083.3	30-Aug-1999	1109779	11-Mar-2009
France		EPP	Granted	99948083.3	30-Aug-1999	1109779	11-Mar-2009
United Kingdom		EPP	Granted	99948083.3	30-Aug-1999	1109779	11-Mar-2009
United States of America	A	CIP	Granted	09/145,384	01-Sep-1998	6,160,167	12-Dec-2000

Docket No.: 0028
Title: Process for Synthesizing Pharmaceutically Active Disulfide Salts

Country	Sub Case	Case Type	Status	Application Number	Filing Date	Patent Number	Issue Date
Australia		PCT	Granted	2003231169	29-Apr-2003	2003231169	18-Dec-2008
Austria		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Belgium		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Canada		PCT	Granted	2,483,775	29-Apr-2003	2483775	08-Feb-2011
Denmark		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
European Patent Convention		PCT	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Finland		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
France		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Germany		EPP	Granted	03724301.1	29-Apr-2003	60346952.3	05-Nov-2014
Hungary		EPP	Granted	03724301.1	29-Apr-2003	E024088	05-Nov-2014
Ireland		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Italy		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Japan		PCT	Granted	2004-501366	28-Oct-2004	4478561	19-Mar-2010
Mexico		PCT	Granted	PA/a/2004/010859	29-Apr-2003	265732	06-Apr-2009
Netherlands		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Portugal		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Spain		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Sweden		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
Switzerland		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
United Kingdom		EPP	Granted	03724301.1	29-Apr-2003	1499587	05-Nov-2014
United States of America		PRI	Granted	10/135,756	30-Apr-2002	6,504,049	07-Jan-2003

Exhibit (2)

Registration information for the Trademark Rights as of the Effective Date is stated as follows:

Name	Type	Country	Filing Date	Registration Number	Issue Date
Tavocept	Trademark	U.S.	16-Feb-2010	4,264,896	25-Dec-2012
Tavocept	Trademark	Australia	27-Nov-2002	935844	23-Apr-2003
Tavocept	Trademark	Brazil	26-Nov-2002	825 049 644	26-Feb-2008
Tavocept	Trademark	China	28-Nov-2002	3386005	21-Jul-2004
Tavocept	Trademark	European Community	25-Nov-2002	00 2945921	06-Sep-2004
Tavocept	Trademark	India	27-Nov-2002	1153675	01-Jul-2005
Tavocept	Trademark	Israel	27-Nov-2002	160833	05-May-2004
Tavocept	Trademark	Japan	27-Nov-2002	4683146	20-Jun-2003
Tavocept	Trademark	Russia	27-Nov-2002	260723	25-Dec-2003
Tavocept	Trademark	South Africa	26-Nov-2002	2002/18645	25-Oct-2006
Tavocept	Trademark	Turkey	28-Nov-2002	2002/030716	08-Nov-2004

Exhibit 10.12

CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY [***], HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.

FINAL VERSION 2/8/15

CONFIDENTIAL

ADDENDUM TO

TECHNOLOGY LICENSE AGREEMENT

by and between

AF CHEMICALS LLC

and

LANTERN PHARMA, INC.

FINAL VERSION 2/8/15

CONFIDENTIAL

ADDENDUM TO TECHNOLOGY LICENSE AGREEMENT

This Addendum is attached to and forms part of the Technology License Agreement by and between Lantern Pharmaceuticals Inc., a Texas corporation (hereinafter referred to as "LANTERN") having principal offices at 4287 Beltline Rd., Suite #270, Addison, TX 75001 and AF Chemicals, LLC, a Californian Limited Liability Company having principal offices at 5545 Coral Reef, La Jolla, CA 92037 (hereinafter referred to as "AFC") as of February 8, 2016 (the "EFFECTIVE DATE") (hereinafter the "LANTERN AFC ADDENDUM"). LANTERN and AFC are sometimes each individually referred to hereinafter as a "Party" and collectively referred to hereinafter as the "Parties". To the extent that any of the terms or conditions contained in this LANTERN AFC ADDENDUM may contradict or conflict with any of the terms or conditions of the Technology License Agreement dated January 15, 2015, it is expressly understood and agreed that the terms of this LANTERN AFC ADDENDUM shall take precedence and supersede the Technology License Agreement.

Recitals

WHEREAS, LANTERN has negotiated a license to the TARGETED COMPOUNDS, the COMPOUND and the PRODUCT;

Whereas AFC has rights to the TARGETED COMPOUNDS, the COMPOUND and the PRODUCT;

WHEREAS, LANTERN desires to acquire right, title and interest in and to the LICENSED TECHNOLOGY, the COMPOUND and the PRODUCT in the FIELD OF USE;

LANTERN and AFC have previously entered into the Technology License Agreement (effective January 15, 2015) (hereinafter the "AGREEMENT"), attached hereto as Exhibit D.

LANTERN and AFC now agree to this LANTERN AFC ADDENDUM to the AGREEMENT.

Now Therefore, in consideration of the foregoing premises and the mutual promises, covenants and conditions contained in this LANTERN AFC ADDENDUM, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. DEFINITIONS

In this LANTERN AFC ADDENDUM, sections that are numbered using the same section number as employed in the AGREEMENT replace the corresponding section in the AGREEMENT. Sections in the AGREEMENT in which no corresponding numbered section is present in the LANTERN AFC ADDENDUM remain unchanged but shall be read in light of the LANTERN AFC ADDENDUM as a whole. Subsections in the AGREEMENT in which no corresponding numbered section is present in the LANTERN AFC ADDENDUM remain unchanged but shall be read in light of the LANTERN AFC ADDENDUM as a whole. As used in this LANTERN AFC ADDENDUM, capitalized terms, whether used in the singular or plural form, shall have the meanings set forth in the AGREEMENT, except that the following initially capitalized terms, whether used in the singular or plural form, shall have the meanings set forth in this ARTICLE 1.

1.3 “LICENSED TECHNOLOGY” shall mean any inventions disclosing the TARGETED COMPOUNDS excluding the COMPOUND and/or the PRODUCT.

1.13 “COMPOUND” shall mean the IROFULVEN composition and/or any pharmaceutically-active formulations of IROFULVEN in one or more patents listed in Exhibit A, (ii) together with rights in technical information recorded in the form of drawings, plans, specification, diagrams, trade secrets as defined by the Uniform Trade Secrets Act and other data relating to the manufacture, design and improvement of the IROFULVEN composition, but excluding IROFULVEN when bound directly or via a linker to all of the foregoing conjugates: an antibody, antibody fragment, peptide, growth factor, receptor proteins, receptor binding entity, lipids, liposomal particles, nanoparticles, PEG carriers, steroids, proteins, toxins, or another drug conjugate (hereinafter “Conjugates”). For clarity COMPOUND does not include all of the foregoing: illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analog bound directly or via a linker to a Conjugate, or acylfulvene analog bound directly or via a linker to a Conjugate.

1.14 “IROFULVEN” means (i) irofulven or 6-hydroxymethylacylfulvene (also known as HMAF or MGI-114 or IUPAC name, (6’*R*)-6’-hydroxy-3’-(hydroxymethyl)-2’,4’,6’-trimethylspiro[cyclopropane-1,5’-inden]-7’(6’*H*)-one or (5‘R)-5’-hydroxy-1’-(hydroxymethyl)-2’,5’,7’-trimethylspiro[cyclopropane-1,6’-indene]-4’-one) (CAS No. 158440-71-2 and/or CAS 187277-46-9) (FDA UNII 6B799IH05A http://fdasis.nlm.nih.gov/srs/ProxyServlet?mergeData=true&objectHandle=DBMaint&APPLICATION_NAME=fdasrs&actionHandle=default&nextPage=jsp/srs/ResultScreen.jsp&TXTSUPE RLISTID=6B799IH05A), an alkylating DNA damage repair inhibitor, having molecular formula $C_{15}H_{18}O_3$, and/or (ii) any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, complex or mixture of any of the foregoing with respect to IROFULVEN that has the same mechanism of action as IROFULVEN. For clarity, IROFULVEN includes the active pharmaceutical ingredient known as irofulven, together with any salt, free acid, free base, clathrate, solvate, hydrate, hemihydrate, anhydride, chelate, conformer, congener, crystal form, crystal habit, polymorph, amorphous solid, homolog, isomer, stereoisomer, enantiomer, racemate, prodrug, isotopic or radiolabeled equivalent, complex or mixture thereof. For the purposes of the AGREEMENT and this LANTERN AFC ADDENDUM, IROFULVEN does <u>not</u> include IROFULVEN analogs, illudin bound directly or via a linker to a Conjugate or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analog bound directly or via a linker to a Conjugate, acylfulvene analog bound directly or via a linker to a Conjugate, IROFULVEN bound directly or via a linker to a Conjugate or Irofulven analog bound directly or via a linker to a Conjugate.

1.15 “PRODUCT” means any and all pharmaceutical preparations in finished form that contains the COMPOUND, alone or in combination with any other active pharmaceutical ingredient(s) or therapeutically or prophylactically active ingredient(s), in any formulation and any dosage strength suitable for administration to humans.

1.16 “ANNUAL LICENSING FEE’ is a fee due annually to be paid by LANTERN to AFC on January 15th as specified in Exhibit B and Exhibit C.

1.17 “KNOW-HOW” means all tangible and intangible: (a) information, techniques, technology, practices, trade secrets, inventions (whether patentable or not), methods, knowledge, skill, experience, data, results (including pharmacological, toxicological and clinical test data and results, chemical structures, sequences, processes, formulae, techniques, research data, reports, standard operating procedures and batch records), analytical and quality control data, analytical methods (including applicable reference standards), full batch documentation, packaging records, release, stability, storage and shelf-life data, and manufacturing process information, results or descriptions, software and algorithms; and/or (b) compositions of matter, cells, cell lines, assays, animal models and any other physical, biological or chemical material, each to the extent owned or otherwise controlled (which, for purposes of this LANTERN AFC ADDENDUM, includes the ability to license) by AFC and related to the COMPOUND, including physical embodiments of the COMPOUND or PRODUCT. As used in this LANTERN AFC ADDENDUM, “clinical test data” shall include all information related to clinical or non-clinical testing, including patient report forms, investigators’ reports, biostatistical, pharmaco-economic and other related analyses, regulatory filings and communications, and the like.

1.18 “LICENSED INTELLECTUAL PROPERTY” means the Licensed Know-How and the Licensed Patents.

1.19 “LICENSED KNOW-HOW” means all Know-How controlled by AFC or its Affiliates as of the Effective Date or at any time during the Term that is (a) necessary or useful for the research, Development, Manufacture and/or Commercialization of any COMPOUND or PRODUCT, or (b) incorporated or otherwise used in (including in the Manufacture of) any COMPOUND or PRODUCT.

1.20 “LICENSED PATENTS” means all Patents controlled by AFC or its Affiliates as of the January 15, 2015 or thereafter during the Term that claim the composition of matter of, or use, manufacture, distribution, sale or formulation of, any COMPOUND, including the patents and patent applications listed on Exhibit A.

2. LICENCE

2.3 Upon the terms and conditions set forth herein, AFC hereby grants to LANTERN an exclusive non-transferable and non-assignable license, under the Licensed Intellectual Property, to make, use, sell, import, offer to sell and Commercialize the COMPOUND and/or the PRODUCT solely in the FIELD OF USE in the LICENSED TERRITORY during the TERM, which grant shall include grants to make, use and sub-license , (subject to Section 2.4) the COMPOUND and/or the PRODUCT solely in the FIELD OF USE in the LICENSED TERRITORY during the TERM.

2.4 The REVENUE payable under either Exhibit B or Exhibit F to AFC will be increased [***] fold in the event of any challenge including an action in District Court or a proceeding before the Patent Trial and Appeal Board or the United States Patent and Trademark Office by LANTERN and/or a SUB-LICENSEE as to the validity of (i) any patent application or patent issuing from the COMPOUND and/or the PRODUCT, or (ii) any patent application filed on or before the date of the challenge to the validity, relating to an AFC ADC INVENTION, or (iii) any patent issuing on or before the date of the challenge to the validity, relating to an AFC ADC INVENTION.

2.5 Lantern expressly designates that OV shall make payments directly to AFC as provided in Exhibit F and Section 4.

2.6 AFC acknowledges that OV is a third party beneficiary of the AGREEMENT as per this LANTERN AFC ADDENDUM and as such that OV's rights and licenses to the COMPOUND and/or the PRODUCT shall not be restricted, impaired or diminished.

4. REVENUE

4.1 LANTERN agrees to pay to AFC the REVENUE received for the LICENSED TECHNOLOGY during the TERM of the AGREEMENT including the ANNUAL LICENSING FEE for the LICENSED TECHNOLOGY as prescribed in Exhibit C for the year 2016 and thereafter for the TERM of the AGREEMENT.

4.2 LANTERN acknowledges that Oncology Venture APS (hereinafter "OV"), (Company Registration no. 34 62 35 62) a Danish corporation having its principal offices at Venlighedesvej 1, 2970 Hørsholm, Denmark is a third party beneficiary of the AGREEMENT as per this LANTERN AFC ADDENDUM and as such that OV's rights and licenses to the COMPOUND and/or the PRODUCT shall not be restricted, impaired or diminished by this Agreement.

4.3 As consideration for AFC entering into a Stand-by License Agreement with OV (hereinafter the "AFC OV Stand-by License Agreement"), attached hereto as Exhibit E and for entering into this LANTERN AFC ADDENDUM, LANTERN agrees that OV shall make direct payments to AFC for the COMPOUND and/or the PRODUCTS as outlined in Exhibit F during the TERM of the AGREEMENT.

4.4 LANTERN agrees to pay directly to AFC the ANNUAL LICENSING FEE for the LICENSED TECHNOLOGY and COMPOUND and PRODUCTS as prescribed in Exhibit B and Exhibit C for the year 2017 and thereafter for the TERM of the AGREEMENT.

4.5 LANTERN agrees to pay to AFC any REVENUE for which OV was contracted to pay AFC for the COMPOUND and/or the PRODUCTS under Section 4.2 for the LICENSED TECHNOLOGY as outlined in Exhibit F during the TERM of this AGREEMENT, for which OV has for any reason not paid AFC.

4.6 LANTERN acknowledges and agrees that in the event that the payment of money, this AGREEMENT, or the grant of collateral should for any reason subsequently be declared to be "fraudulent" or "preferential" within the meaning of any state, federal, or foreign law relating to fraudulent transfers, fraudulent conveyances, preferences, or otherwise voidable or recoverable, in whole or in part, for any reason, under the United States Bankruptcy Code or any other federal, foreign, or state law (collectively referred to herein as "Voidable Transfer"), and AFC is required to pay or restore any such Voidable Transfer, or any portion thereof, then as to that which is repaid or restored pursuant to any such Voidable Transfer (including all costs, expenses, and attorneys' fees of AFC related thereto, including, without limitation, relief from stay, objection to claims, or similar proceedings, including, but not limited to, those arising under the United States Bankruptcy Code), the liability of LANTERN shall automatically be revived, reinstated, and restored to the extent hereof, and shall exist as though such Voidable Transfer had never been made to AFC,

4.7 Nothing set forth in this Agreement is an admission that such Voidable Transfer has occurred. LANTERN expressly acknowledges that AFC may rely upon the advice of counsel, and if so advised by counsel, may, in the exercise of their sole opinion and judgment, settle, without defending any action to void any alleged Voidable Transfer, and that upon such settlement, LANTERN shall again be liable for any deficiency resulting from such settlement as provided in this AGREEMENT.

4.8 As between AFC and LANTERN, LANTERN agrees to compensate AFC in full for all costs of storage and digitization of data required for AFC to fulfill the requirements of Section 2.3 relating to Licensed Intellectual Property. For clarity this includes the costs of access and digitization of the LP Data Package.

4.9 AFC confirms that it has reviewed the terms of the LANTERN-OV ADDENDUM dated February 8, 2016 and that LANTERN is authorized by AFC to grant the license to the LP Technology (as defined in the Lantern Pharma-OV License Agreement dated February 8, 2016) pursuant to the terms set forth therein.

4.10 LANTERN authorizes OV to make direct payments to AFC as outlined in Exhibit F, solely to the extent that OV is responsible to make the specified payments thereon to LANTERN under the Drug License and Development Agreement by and between LP and OV, dated as of May 23, 2015, as amended from time to time. LANTERN acknowledges and agrees that such direct payments to AFC (or any designee) shall reduce, dollar-for-dollar, the amounts which OV owes to LANTERN with respect to each such payment obligation specified in Exhibit F:

1) $[***] in connection with OV's obligation to pay a signing fee ($[***]) to Lantern (based on the [***]% royalty).

2) $[***] in connection with Lantern's commitment of a $[***] license fee for Irofulven in 2016.

3) $[***] in connection with Lantern's commitment of a $[***] license

4) $[***] in connection with Lantern's ongoing commitment to pay the legal fees of AFC in negotiating (i) the AFC OV Stand-by License Agreement; (ii) Proprietary Information Agreement; (iii) addendum to Lantern Pharma-OV License Agreement; (iv) this AFC LANTERN ADDENDUM; and (v) Material Transfer Agreement.

5) $[***] in connection with Lantern's ongoing commitment to pay the costs and fees of AFC supplying access to the LP Data Package this amount is to cover the January 25-26 inspection of the LP Data Package.

5. TERM AND TERMINATION

5.2 Failure of LANTERN to distribute REVENUE owed AFC within ninety (90) days of receipt of same or any failure to initiate or complete payments as specified in either Section 8.2 or Section 8.3 shall be a material breach of this AGREEMENT.

5.7 Failure of OV to distribute REVENUE to AFC in an amount in excess of five thousand dollars ($5,000) within ninety (90) days of said REVENUE being payable to LANTERN shall be a material breach of this AGREEMENT.

8. ASSIGNMENTS

8.2 A transfer or assignment of the LICENSED TECHNOLOGY license as outlined in Section 2.1 to a third party (hereinafter the 'Acquirer') shall require that the Acquirer make a Transfer Payment to AFC. The Transfer Payment will be [***] dollars ($ [***]) where the Transfer Payment will be spread out over 5 years as follows: [***] dollars ($[***]) will be due within 30 days of the transfer or assignment of rights, with the residual due in four (4) equal installments of [***] dollars ($[***]) at yearly intervals on the anniversary of the transfer or assignment of rights. The Acquirer will be responsible for making the [***] dollars ($[***]) payment. The Acquirer remains responsible for all other payments outlined in Exhibit C (milestone and royalty payments) from the date of the transfer or assignment of rights.

8.3 Any event that results in a Change in Control of LANTERN to a third party irrespective of whether the third party is a person, an entity, a group of persons or entities (hereinafter the 'Purchaser') shall require that the Purchaser make a payment of [***] dollars ($[***]) to AFC as a result of the Change of Control. Payments will be spread out over 5 years as follows: [***] dollars ($[***]) will be due within 30 days of the Change of Control, with the residual due in four (4) equal installments (each up to [***] dollars ($[***]) at yearly intervals on the anniversary of the Change of Control. The Purchaser will be responsible for making the [***] dollars ($[***]) payment. OV will continue to be responsible for all other payments outlined in Exhibit B (milestone and royalty payments) after the date of the Change of Control as outlined in Sections 2.5 and 4.6. The Purchaser remains responsible for the payments outlined in Exhibit C (milestone and royalty payments) from the date of the change of control.

9. MISCELANEOUS

9.2 This AGREEMENT including the Exhibits thereto, and this LANTERN AFC ADDENDUM , including the Exhibits hereto set forth the entire understanding and obligation of the Parties with respect to the subject matter of the AGREEMENT and supersedes any and all prior or contemporaneous negotiations, representations, understandings and agreements, whether written or oral between the Parties. No amendment or modification of this AGREEMENT shall be valid or binding unless made in writing and signed on behalf of each of the Parties. Any amendment of the AGREEMENT and/or this LANTERN AFC ADDENDUM that restricts, impairs or diminishes OV's rights and licenses to the COMPOUND and/or the PRODUCT is expressly prohibited.

20. INTELLECTUAL PROPERTY.

20.4 It is recognized and understood that AFC patents including the patents listed in Exhibit A relating to the COMPOUND and the PRODUCT are the separate property of AFC and the ownership of the AFC patents is only affected as explicitly recited in this AGREEMENT.

20.5 AFC shall have exclusive ownership rights to all inventions, discoveries, improvements, and modifications, as well as all methods, processes, Know-How and/or trade secrets arising from or conceived or reduced to practice during and as part of the research, development, formulation, marketing and sale of the all of the following: illudin bound directly or via a linker to a Conjugate, or acylfulvene bound directly or via a linker to a Conjugate, including an illudin analog bound directly or via a linker to a Conjugate, acylfulvene analog bound directly or via a linker to a Conjugate, IROFULVEN bound directly or via a linker to a Conjugate or Irofulven analog bound directly or via a linker to a Conjugate ("AFC ADC INVENTIONS") and regardless of whether generated by an AFC employee alone, a LANTERN employee alone, a SUB-LICENSEE employee alone, an AFC employee and a LANTERN employee jointly, an AFC employee and a SUB-LICENSEE employee jointly, a LANTERN employee and a SUB-LICENSEE employee jointly or any of the above combinations with others.

20.6 AFC shall be entitled to shop rights to any license or other technology acquired by LANTERN relevant to the COMPOUND and/or the PRODUCT.

Signature Page to Follow

In Witness Whereof, the Parties have executed this LANTERN AFC ADDENDUM in duplicate originals by the following signatures of their duly authorized officers as of the Effective Date.

AF Chemicals LLC		**Lantern Pharma, Inc.**	
By:	/s/ Michael J. Kelner	By:	/s/ Arun Asaithambi
	Michael J. Kelner, M.D.		Arun Asaithambi
	Managing Member		Chief Executive Officer
Date:		Date:	02-10-2016

EXHIBITS

Exhibit D TECHNOLOGY LICENSE AGREEMENT signed January 15, 2015

Exhibit A List of Licensed U.S. Patentsn

Exhibit B Term Sheet for Lantern Pharmaceuticals - Irofulven

Exhibit C Term Sheet for Lantern Pharmaceuticals - Analogs

Exhibit E AFC OV Stand-by License Agreement signed February 8, 2016

Exhibit F Schedule of Payments

Exhibit D
Technology License Agreement

By and between LANTERN PHARMA, INC.

and

AF CHEMICALS, LLC
January 15, 2015

[to be appended pre-execution]

Exhibit E
AFC OV Stand-by License Agreement

By and between AF CHEMICALS, LLC

and

ONCOLOGY VENTURE, APS

Dated February 8, 2016

[to be appended pre-execution]

FINAL VERSION 2/8/15

CONFIDENTIAL

Exhibit F

SCHEDULE OF PAYMENTS

The following is a list of ONCOLOGY VENTURE, APS (OV) payments to be made directly and in preference to AF Chemicals LLC (AFC) on behalf of Lantern Pharma, Inc. (LP) at the time of the applicable payment to LP under the relevant sections of the Drug License and Development Agreement by and between LP and OV, dated as of May 23, 2015, as amended February 8, 2016 and as further amended from time to time, as enumerated below:

1) $[***] prior to any payment by OV to Lantern upon treatment of the first patient in a Phase 3 Clinical Trial of a Product under 6.2(a) ($[***] payment plus an additional $ [***] payment - portion of the $[***]).

2) $[***] prior to any payment by OV to Lantern upon first Filing of Regulatory Approval in the U.S. of a Product under 6.2(c) ($[***] payment plus an additional $ [***] payment - portion of the $[***]).

3) $[***] prior to any payment by OV to Lantern upon Regulatory Approval in the U.S. of a Product under 6.2(e) ($ [***] plus an additional $ [***] payment to AFC - portion of the $[***]).

4) $[***] prior to any payment by OV to Lantern for the first Filing of Regulatory Approval in the EU under 6.2(b) ([***] payment plus an additional $ [***] payment - portion of the $[***]).

5) $[***]prior to any payment by OV to Lantern for Regulatory Approval in the EU of a Product under 6.2(d) ($ [***] (for Germany, France, UK) plus [***] payment plus an additional payment of $ [***] - portion of the $[***]).

6) $[***] prior to any payment by OV to Lantern for the conclusion of a First Program Acquirer Agreement under Section 6.2(g) ([***]% of the $[***] payment).

Note that LP remains responsible for the 2017 and subsequent yearly licensing payments for Irofulven and Irofulven Analogs

Exhibit 14.1

LANTERN PHARMA INC.
CODE OF BUSINESS CONDUCT AND ETHICS

ADOPTED: October 15, 2019

1. Introduction.

1.1 The Board of Directors of Lantern Pharma Inc. (together with its subsidiaries, the "Company") has adopted this Code of Business Conduct and Ethics (the "Code") in order to:

(a) promote honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest;

(b) promote full, fair, accurate, timely and understandable disclosure in reports and documents that the Company files with, or submits to, the Securities and Exchange Commission (the "SEC") and in other public communications made by the Company;

(c) promote compliance with applicable governmental laws, rules and regulations;

(d) promote the protection of Company assets, including corporate opportunities and confidential information;

(e) promote fair dealing practices;

(f) deter wrongdoing; and

(g) ensure accountability for adherence to the Code.

1.2 All directors, officers and employees are required to be familiar with the Code, comply with its provisions and report any suspected violations as described below in Section 10, "Reporting and Enforcement."

2. Honest and Ethical Conduct.

2.1 The Company's policy is to promote high standards of integrity by conducting its affairs honestly and ethically.

2.2 Each director, officer and employee must act with integrity and observe the highest ethical standards of business conduct in his or her dealings with the Company's customers, suppliers, partners, service providers, competitors, employees and anyone else with whom he or she has contact in the course of performing his or her job.

3. Conflicts of Interest.

3.1 A conflict of interest occurs when an individual's private interest (or the interest of a member of his or her family) interferes, or even appears to interfere, with the interests of the Company as a whole. A conflict of interest can arise when an employee, officer or director (or a member of his or her family) takes actions or has interests that may make it difficult to perform his or her work for the Company objectively and effectively. Conflicts of interest also arise when an employee, officer or director (or a member of his or her family) receives improper personal benefits as a result of his or her position in the Company.

3.2 Loans by the Company to, or guarantees by the Company of obligations of, employees or their family members are of special concern and could constitute improper personal benefits to the recipients of such loans or guarantees, depending on the facts and circumstances. Loans by the Company to, or guarantees by the Company of obligations of, any director or executive officer or their family members are expressly prohibited.

3.3 Whether or not a conflict of interest exists or will exist can be unclear. Conflicts of interest should be avoided unless specifically authorized as described in Section 3.4.

3.4 Persons other than directors and executive officers who have questions about a potential conflict of interest or who become aware of an actual or potential conflict should discuss the matter with, and seek a determination and prior authorization or approval from, their supervisor or the chief financial officer. A supervisor may not authorize or approve conflict of interest matters or make determinations as to whether a problematic conflict of interest exists without first providing the chief financial officer with a written description of the activity and seeking the chief financial officer's written approval. If the supervisor is himself involved in the potential or actual conflict, the matter should instead be discussed directly with the chief financial officer.

Directors and executive officers must seek determinations and prior authorizations or approvals of potential conflicts of interest exclusively from the Audit Committee.

4. Compliance.

4.1 Employees, officers and directors should comply, both in letter and spirit, with all applicable laws, rules and regulations in the cities, states and countries in which the Company operates.

4.2 Although not all employees, officers and directors are expected to know the details of all applicable laws, rules and regulations, it is important to know enough to determine when to seek advice from appropriate personnel. Questions about compliance should be addressed to the Company's chief financial officer, designated compliance officer, or designated outside legal counsel.

4.3 No director, officer or employee may purchase or sell any Company securities while in possession of material non-public information regarding the Company, nor may any director, officer or employee purchase or sell another company's securities while in possession of material non-public information regarding that company. It is against Company policies and illegal for any director, officer or employee to use material non-public information regarding the Company or any other company to:

(a) obtain profit for himself or herself; or

(b) directly or indirectly "tip" others who might make an investment decision on the basis of that information.

5. Disclosure.

5.1 The Company's periodic reports and other documents filed with the SEC, including all financial statements and other financial information, must comply with applicable federal securities laws and SEC rules.

5.2 Each director, officer and employee who contributes in any way to the preparation or verification of the Company's financial statements and other financial information must ensure that the Company's books, records and accounts are accurately maintained. Each director, officer and employee must cooperate fully with the Company's accounting and internal audit departments, as well as the Company's independent public accountants and counsel.

5.3 Each director, officer and employee who is involved in the Company's disclosure process must:

(a) be familiar with and comply with the Company's disclosure controls and procedures and its internal control over financial reporting; and

(b) take all necessary steps to ensure that all filings with the SEC and all other public communications about the financial and business condition of the Company provide full, fair, accurate, timely and understandable disclosure.

6. Protection and Proper Use of Company Assets.

6.1 All directors, officers and employees should protect the Company's assets and ensure their efficient use. Theft, carelessness and waste have a direct impact on the Company's profitability and are prohibited.

6.2 All Company assets should be used only for legitimate business purposes, though incidental personal use may be permitted. Any suspected incident of fraud or theft should be reported for investigation immediately.

6.3 The obligation to protect Company assets includes the Company's proprietary information. Proprietary information includes intellectual property such as trade secrets, patents, trademarks, and copyrights, as well as business and marketing plans, engineering and manufacturing ideas, designs, databases, records and any non-public financial data or reports. Unauthorized use or distribution of this information is prohibited and could also be illegal and result in civil or criminal penalties.

7. Corporate Opportunities. All directors, officers and employees owe a duty to the Company to advance its interests when the opportunity arises. Directors, officers and employees are prohibited from taking for themselves personally (or for the benefit of friends or family members) opportunities that are discovered through the use of Company assets, property, information or position. Directors, officers and employees may not use Company assets, property, information or position for personal gain (including gain of friends or family members). In addition, no director, officer or employee may compete with the Company.

8 . Confidentiality. Directors, officers and employees should maintain the confidentiality of information entrusted to them by the Company or by its customers, suppliers or partners, except when disclosure is expressly authorized or is required or permitted by law. Confidential information includes all non-public information (regardless of its source) that might be of use to the Company's competitors or harmful to the Company or its customers, suppliers or partners if disclosed.

9. Fair Dealing. Each director, officer and employee must deal fairly with the Company's customers, suppliers, partners, service providers, competitors, employees and anyone else with whom he or she has contact in the course of performing his or her job. No director, officer or employee may take unfair advantage of anyone through manipulation, concealment, abuse or privileged information, misrepresentation of facts or any other unfair dealing practice.

10. Reporting and Enforcement.

10.1 Reporting and Investigation of Violations.

(a) Actions prohibited by this Code involving directors or executive officers must be reported to the Audit Committee or in accordance with other anonymous reporting procedures established by the Audit Committee.

(b) Actions prohibited by this Code involving anyone other than a director or executive officer must be reported to the reporting person's supervisor, the chief financial officer, or in accordance with other anonymous reporting procedures established by the Audit Committee.

(c) After receiving a report of an alleged prohibited action, the Audit Committee, the relevant supervisor or the chief financial officer must promptly take all appropriate actions necessary to investigate.

(d) All directors, officers and employees are expected to cooperate in any internal investigation of misconduct.

(e) If any director, officer or employee chooses to remain anonymous, every effort will be made to respect this request. No one will be punished for asking about possible breaches of law, regulation or company policy. It is corporate policy not to take any action against a director, officer or employee who reports in good faith regardless of whether or not the report proves to be accurate. Any allegation of a reprisal will be investigated.

10.2 Enforcement.

(a) The Company must ensure prompt and consistent action against violations of this Code.

(b) If, after investigating a report of an alleged prohibited action by a director or executive officer, the Audit Committee determines that a violation of this Code has occurred, the Audit Committee will report such determination to the Board of Directors.

(c) If, after investigating a report of an alleged prohibited action by any other person, the relevant supervisor or the chief financial officer determines that a violation of this Code has occurred, the supervisor or the chief financial officer will report such determination to the Board of Directors.

(d) Upon receipt of a determination that there has been a violation of this Code, the Board of Directors will take such preventative or disciplinary action as it deems appropriate, including, but not limited to, reassignment, demotion, dismissal and, in the event of criminal conduct or other serious violations of the law, notification of appropriate governmental authorities.

10.3 Waivers.

(a) The Board of Directors or a board committee may, in its discretion, waive any violation of this Code.

(b) Any waiver for a director or an executive officer shall be disclosed as required by SEC and NASDAQ Listing Rules.

10.4 Prohibition on Retaliation. The Company does not tolerate acts of retaliation against any director, officer or employee who makes a good faith report of known or suspected acts of misconduct or other violations of this Code.

ACKNOWLEDGMENT OF RECEIPT AND REVIEW

I, _____, acknowledge that I have received and read a copy of the Code of Business Conduct and Ethics ("Code") of Lantern Pharma Inc. (the "Company"). I understand the contents of the Code and I agree to comply with the policies and procedures set out in the Code.

I understand that I should approach the Company's chief financial officer, designated officer, or designated outside legal counsel if I have any questions about the Code generally or any questions about reporting a suspected conflict of interest or other violation of the Code.

_____

_____

PRINTED NAME

_____

DATE

Exhibit 21.1

List of Subsidiaries

Name of Subsidiary	Jurisdiction
Lantern Pharma Limited	Northern Ireland

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the inclusion in this Registration Statement of Lantern Pharma Inc. and Subsidiary on Form S-1 (No. XXX-XXXXX) to be filed on or about April 16, 2020 of our report dated April 16, 2020, on our audits of the consolidated financial statements as of December 31, 2019 and 2018 and for each of the years then ended. Our report includes an explanatory paragraph about the existence of substantial doubt concerning the Company's ability to continue as a going concern. We also consent to the reference to our firm under the caption “Experts” in this Registration Statement.

/s/ EisnerAmper LLP

EISNERAMPER LLP
Iselin, New Jersey
April 16, 2020