Filed Pursuant to Rule 433 of the Securities Act of 1933
Issuer Free Writing Prospectus dated May 19, 2020
Relating to Preliminary Prospectus dated May 19, 2020
Registration No. 333-237714

FREE WRITING PROSPECTUS

- We have filed a registration statement (including a prospectus) with the SEC for the offering to which this communication relates. Before you invest, you should read the prospectus in that registration statement and other documents the issuer has filed with the SEC for more complete information about us and this offering. You may get these documents for free by visiting EDGAR on the SEC website, www.sec.gov. Alternatively, we or any underwriter participating in the offering will arrange to send you the prospectus if you contact ThinkEquity, a division of Fordham Financial Management, Inc., located at 17 State Street, 22nd Floor, New York, NY 10004, by telephone at (877)436-3673 or by email at prospectus@think-equity.com.
- All investors viewing these materials should first access the prospectus by clicking on the following link: https://www.sec.gov/Archives/edgar/data/1763950/000121390020012863/ea122016-s1a2_lanternpharma.htm

MARKET AND INDUSTRY DATA

- This presentation and the preliminary prospectus made available to you herewith 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 presentation and the preliminary 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.
- This presentation highlights basic information about us and the offering. Because it is a summary, it does not contain all of the information that you should consider before investing. This offering may only be made by means of a prospectus supplement and an accompanying prospectus. Except as otherwise indicated, this presentation speaks only as of the date hereof.
- This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering of solicitation. Neither the Securities and Exchange Commission (the "SEC") nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this presentation, 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. 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 presentation 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 in the preliminary prospectus on file with the SEC, 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 presentation, the preliminary prospectus we have filed with the SEC and the documents we reference in the preliminary prospectus and have filed as exhibits to the registration statement of which the preliminary 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 presentation are made as of the date of this presentation, 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 presentation, 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.

IPO Offering Summary

ISSUER	LANTERN PHARMA INC.
Proposed Aggregate Offering	$25,008,000
Price Range	$15.00 to $17.00
Proposed Symbol	LTRN – Nasdaq
Shares Offered	1,563,000
Pre-IPO Common Shares Outstanding as converted	4,467,594
Post-IPO Common Shares Outstanding	6,030,594
Use of Proceeds	• LP-300 Ph. 2 Clinical Trial • LP-184 IND Enabling Studies & Ph. 1 Clinical Trial • RADR® A.I. Platform Development & Data Collaborations • Explore Additional In-Licensing of Compounds • General Working Capital
Sole Book-Running Manager	ThinkEquity, a division of Fordham Financial Management, Inc.
Co-Managers	Dougherty & Company LLC and Paulson Investment Company, LLC

Highly experienced in the pharma, drug development and oncology industry

Management Team

Panna Sharma **President & CEO**
- *Former* President & CEO at Cancer Genetics (Nasdaq: CGIX)
- Led IPO, Private investment round and multiple global acquisitions
- Led CGIX to five years on Deloitte Fast 500
- Founder & CEO TSG Partners (Life Sciences Investment Bank & Strategy Consulting)
- Chief Strategy Officer, iXL (Nasdaq: IIXL)
- Analyst, Montgomery Securities

Kishor Bhatia, Ph.D., FRC Path **Chief Scientific Officer**

Former:
- Director AIDS Malignancy Program. Office of HIV and AIDS Malignancy, National Cancer Institute
- Director, Cancer Children's Cancer Research Center, KFSHR&C, Riyadh
- Director, International Network for Cancer Treatment and Research, Brussels
- 1st to clone PARP gene involved in DNA damage
- Over 250 publications

David Margrave, J.D. **Chief Financial Officer**
- 20+ years of oncology focused management experience.
- Former President and as Chief Administrative Officer, BioNumerik Pharmaceuticals
- Expertise in biotech deal structuring, and corporate management
- Chairman of the Texas Healthcare and Bioscience Institute
- Chairman of the State of Texas Product Development & Small Business Incubator Board
- Univ. of Texas and Stanford

Nasdaq: LTRN

Board of Directors

Jeff Donald Keyser, Ph.D., J.D., MPA
- Board Chairman
- Founder of Renibus Therapeutics and ZSPharma

Franklyn Prendergast, M.D., Ph.D.

Emeritus
- Board of Governors and Board of Trustees, Mayo Clinic
- Professor and Director –Mayo Clinic Comprehensive Cancer Center
- Emeritus Member of Eli-Lily Board of Directors
- Board of Directors, Lantern Pharma, Cancer Genetics, and TGEN
- Distinguished Alumnus Mayo Clinic

Vijay Chandru, Ph.D.
- Co-Founder, Chairman Scientific Advisory Board, Strand Life Sciences
- Fellow Indian Academies of Sciences and Engineering
- Technology Pioneer, World Economic Forum
- Co-Founder, Yantri Labs and other AI Compnies
- Research Professor: IISc, Purdue, MIT, UPenn, Stanford

David Silberstein, Ph.D., MPH

Former
- Director, Astra Zeneca
- Sr. Director, MedImmune
- Asst. Professor of Medicine, Harvard Medical School
- Currently Principal Investigator of an NCI funded clinical trial in patients with multiple brain metastases

Leslie (Les) W. Kreis
- Managing Partner & Co-Founder, BIOS Partners
- Principal & Founder, Steelhead Capital Management
- Co-Founder, Cowtown Angels
- Vice President, HRK Investments

Panna Sharma
- President & CEO, Lantern Pharma

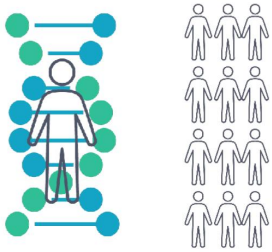
Lantern leverages A.I. to rescue and develop cancer therapies and has the potential to transform the cost, risk and timeline of drug development

Failed or Abandoned Drug Assets

Drugs that have failed clinical trials or have been abandoned by pharma and biotech companies in late stage trials

RADR®

- Big data (genomic, clinical, response) assembled and analyzed
- Patient subgroups identified through machine learning and artificial intelligence
- Mechanisms of action clarified
- Potential combinations identified
- Potential for faster and more efficient path to relaunching in the clinical trial setting



Responders Non-Responders

- Patient stratification based on A.I. enabled genomic biomarker discovery
- New patient populations for failed or abandoned drugs based on validated biomarker signatures
- Aimed to shorten time to market
- Designed to reduce risk in development
- Potential for orphan or fast track status
- New Chemical Entities based on incoming assets

Current oncology drug development is costly, risky, and inefficient … a perfect problem area for artificial intelligence & machine learning

Challenges in drug development …

3.4%
Avg. success rate of oncology drugs

$1B+
Average developmental cost per oncology drug

17,000+
Oncology trials conducted from 2001-2015

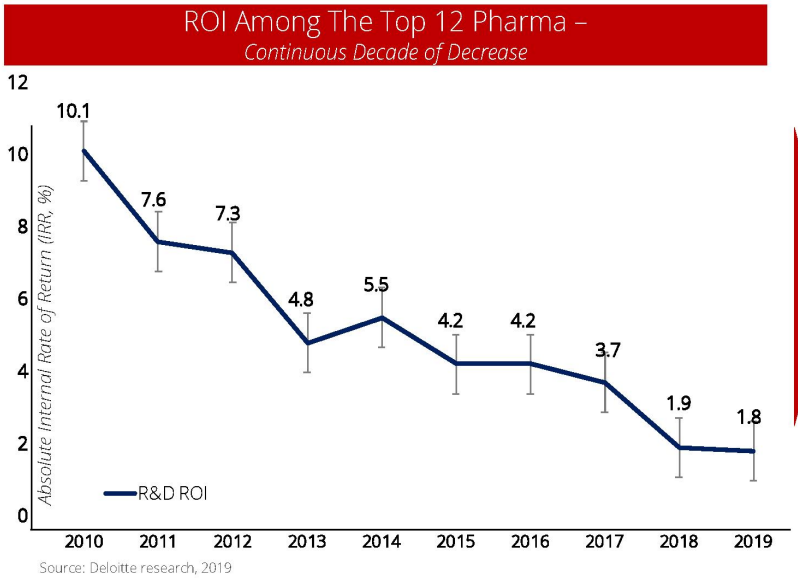
2X
Success rate of oncology trials using biomarker

Source: Wong CH et al.. *Biostatistics* (2018)

…are being met by data-driven, and A.I. approaches

Nasdaq: LTRN

There is a critical need to rescue drugs that failed *or* bring abandoned therapeutic assets to market in order to create ROI for biopharma



Source: Deloitte research, 2019

"... low efficacies of cancer drugs might be attributed to the heterogeneity of the tested patient population, which essentially dilutes the strong therapeutic effect that a drug might have on a specific patient subgroup."

Thiebault Geoux, Ph.D.
Chemistry - Elsevier 11/9/2015

"The ever-increasing catalog of genetic changes involved in cancer development is fueling a new generation of targeted drugs that are designed to address specific weaknesses in tumor cells. But these drugs will only work in a subset of patients – creating a demand for genetic stratification.

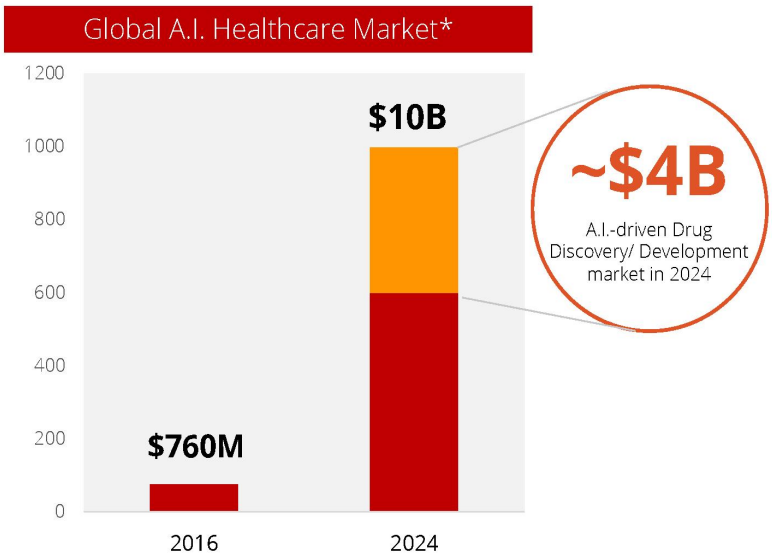
Allison Halliday, Ph.D.
Cancer Research, 01/31/2020
Cancer Biomarkers: Powering Precision Medicine

Solving unmet needs and creating opportunities in personalizing cancer therapy by capitalizing on emerging technologies and industry trends

Mega Trends Shaping Drug Development

1. Increased access to validated genomic & biomarker data
2. Availability of well tolerated and clinically active but failed or abandoned compounds
3. Economic pressure to reposition & rescue drug investments
4. Rising need to develop and manage combination and drug-resistance addressing therapies
5. Increased sharing and collaboration globally among research groups, industry consortiums and companies
6. Rapidly decreasing cost (and increasing quality) of sequencing and biomarker data and other health-monitoring data
7. Rapid evolution & implementation of A.I. and machine learning technologies
8. Increasing use of precision medicine and genomics to identify, treat and manage patients

Drug discovery and development driven by A.I. is a rapidly growing market in response to fundamental shifts in the industry and a re-tooling of R&D



*Source: Biopharmatrend.com, PMLiVE, and Global Market Insights, Inc.

Images Sources: Lantern Pharma as featured in *ZDNet* & *Fortune*

Lantern's focus on oncology, and advancing the portfolio where we own the therapeutic rights makes us uniquely positioned and differentiated

Scalable, Unique Artificial Intelligence Platform – RADR®

- **275+ Million** datapoints covering over **140+ drug/tumor** interactions
- Active **collaboration with NCI** in oncology therapeutics
- Guides development of **patient stratification and CDx** strategy
- Validated in multiple case studies with **over 80%+ blinded accuracy**
- Integration of **real-world, patient data** from thousands of patients
- Use of **genomic, transcriptomic, clinical and drug sensitivity** data
- Published posters and studies at **ASCO and AACR**
- Helped drive first **out-licensing deal for LP-100 for up to $14 Mn**

Rapidly Accelerating Our Portfolio Value

1. Guided the genetic signature to determine patient response for LP-100 which was out-licensed within one year
2. Uncovered potential mechanisms of action for LP-300 – which has shown notable and statistically significant results in prior trials, (with certain patient populations) but failed to meet broader endpoints
3. Highlighted potential pathways and genes involved in both the response to LP-184 and the biological mechanisms that are involved in activity across multiple tumors
4. Identified potential new candidates for rescue, repurposing and for combinations that can be accelerated through our drug development process

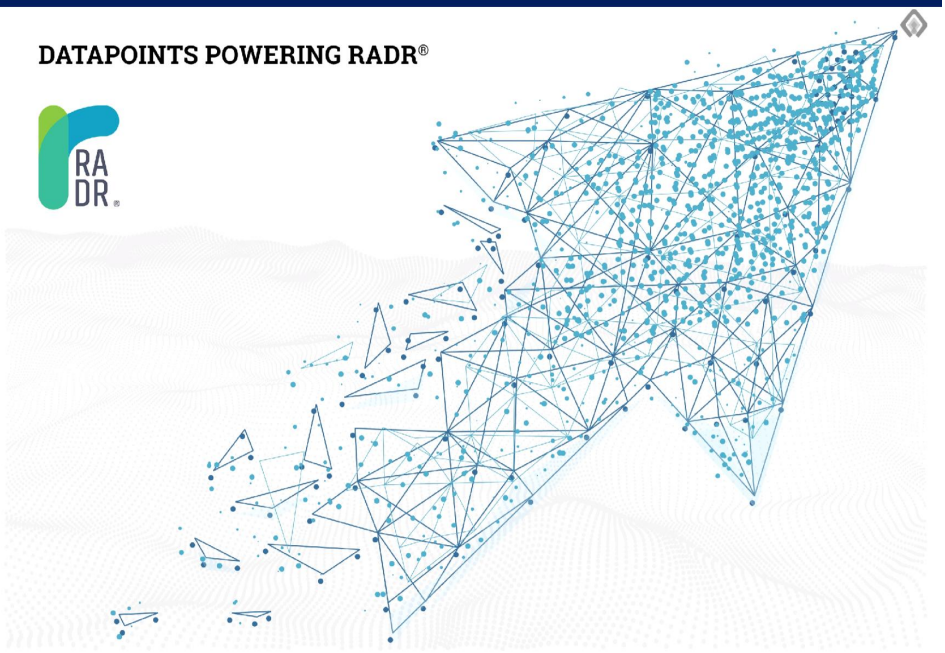
Lantern Pharma

Lantern's powerful A.I. platform is being developed with a pure focus on predicting drug outcome and drug response using a **depth of interrelated biomarker and clinical data**, including:

- Complete **transcriptome** data
- RNA **gene expression** data
- Drug **sensitivity** data
- DNA **copy number and mutation** data
- Clinical **stage of tumor**/cancer
- **Histology** of tumor
- Patient **age and sex**
- Patient race or **ethnicity**
- Prior **treatment history and response**

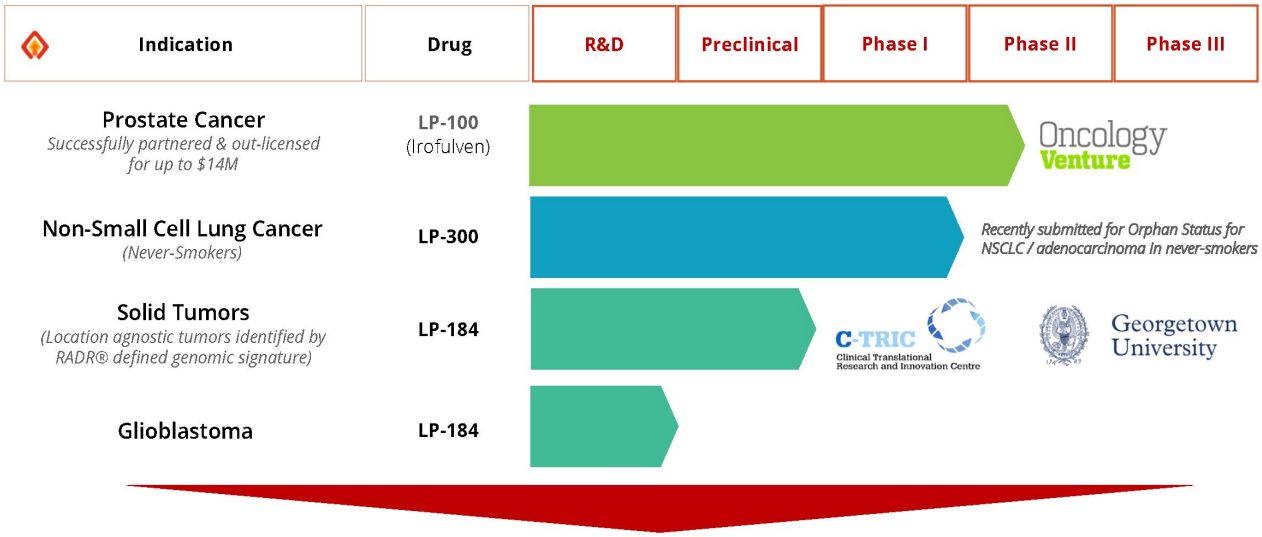
* Historical datapoints are approximate and based on end of year analysis
** Future datapoints are based on Company's product development plans

DATAPOINTS POWERING RADR®



< 10 Million	125 Million	400 Million	1 Billion +
2018*	2019*	2020**	2021**

Lantern's Unique & Rapidly Developing Pipeline



Built on a foundation of 108 issued patents, and 7 pending applications across 14 patent families

Target market segments comprise nearly 1M patients annually worldwide

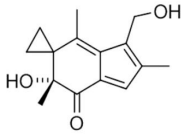
3 Drug Candidates in Development in Highly Targeted Segments With Clinical Need

Prostate Cancer	Ovarian, Pancreatic & Liver Cancer	Glioblastoma (GBM)	Non-Small Cell Lung Cancer (NSCLC)
1.3 million 2018 Estimated Global Incidence	**1.6 million** 2018 Estimated Combined Global Incidence	**240,000+** 2018 Estimate of new GBM cases globally	**2 million** 2018 Estimated Global Incidence
208,000 2018 Estimated Global metastatic hormone-resistant prostate cancer subpopulation	**400,000** 2018 Estimated Global cancer subpopulation non-responsive to or relapsed after chemotherapy and with potential biomarker signature for response	**11,000-13,000** 2019 estimated GBM Cases in the USA	**240,000+** 2018 Estimated Global never-smoker NSCLC adenocarcinoma subpopulation

Sources: American Cancer Society, Global Database, AANS, NCI, Lantern Pharma meta analysis

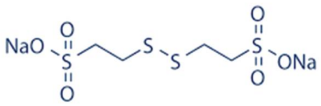
Overview of Lantern's Small Molecule Portfolio

LP-100, Irofulven



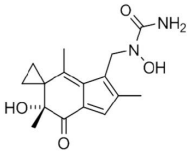
- DNA Damaging Agent
- Mediates cytotoxicity through multiple mechanisms such as DNA adduct formation, RNA polymerase stalling and redox protein modification
- Actively enrolling in a precision medicine, genomic-signature guided Phase II trial (NCT03643107) for metastatic, castration-resistant prostate cancer (mCRPC)

LP-300



- Disulfide bond disrupting agent with cysteine modifying activity on select proteins (ALK) and modulator of protein function (EGFR, MET, ROS1)
- Chemosensitizer for combination therapies by inactivating proteins modulating cell redox status and drug resistance (TRX, GRX, PRX)
- Chemoprotectant activity that reduces toxicities associated with taxane/ platin-based chemotherapies

LP-184



- Novel DNA Damaging Agent - member of the acylfulvene prodrug class
- Favorable *in vitro* and *in vivo* efficacy across multiple tumor types
- Broad anti-tumor agent that counteracts multi-drug resistance
- Nanomolar potency
- A.I. generated, validated and published gene signature for solid tumors

LP-100 (Irofulven): out-licensed to Oncology Venture and in an active, genetically-guided clinical trial for prostate cancer

History of Safety, Tolerability & Efficacy in Multiple Clinical Trials

- Prior history in over 41 clinical trials spanning 13 different solid tumors
- Over 1,500 patients were dosed with LP-100 with a good history of tolerability in patients
- Historical trials showed efficacy in subsets of patients and were not designed to select patients based on the potential to respond to the therapy
- Lack of biomarker-based strategies or stratification in previous trials resulted in modest advancement

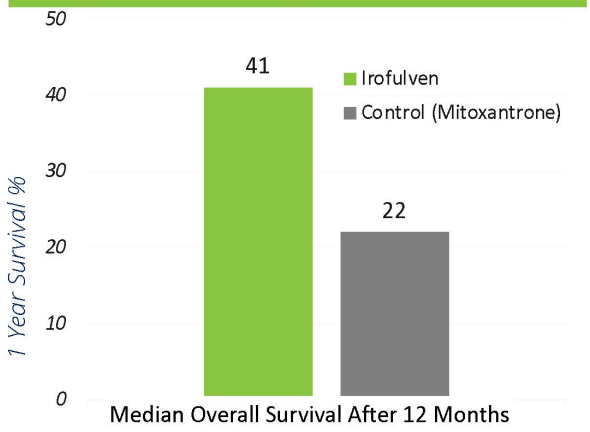
Oncology Venture

Current status

- Out-licensed to Oncology Venture (OV) in 2016
- Lantern Pharma can receive up to $14M or a specified percentage of future earnings from the sale or out-licensing of LP-100 – trial expected to end by first half of 2021
- OV dosed first patient in mHRPC (metastatic, hormone-resistant prostate cancer) in Q4 2018 in a Phase II trial using biomarker screening technology on the tumor to select patients
- US patent directed to use of drug in combination with tumor biomarker signature (*filed by Oncology Venture*) through 2036

LP-100 (Irofulven): Historical* phase II trial results in prostate cancer

Median 1 yr. survival was 86% greater in Irofulven in combination treated metastatic prostate cancer patients v. control



*Historical data from Hart et al., Randomized phase II trial of irofulven/prednisone, irofulven/capecitabine/prednisone, or mitoxantrone/prednisone in hormone refractory prostate cancer (HRPC) patients failing first-line docetaxel. European Journal of Cancer Supplements (2006)

Current Ongoing Precision Phase II Trial

- Screening patients using Irofulven-specific biomarker signature and recruiting eligible patients with Hormone Refractory Prostate Cancer (HRPC)
- Oncology Venture dosed first patient in HRPC in Q4 2018 in a Phase 2 trial using biomarker technology to ID and monitor patients
- Trial expanded to both Denmark & Germany and estimating up to 27 patients to be enrolled

LP-300 in development for female never-smokers with NSCLC adenocarcinoma based on strong historical data

Mechanism of action

- Disulfide bond disrupting agent
- Disrupts by covalently modifying Cysteine
- Inhibits and modulates activity of proteins in NSCLC pathways (ALK, EGFR, MET, ROS1)

Prior Clinical Experience

- Prior history in 5 phase 1 and 5 phase 2 and 3 clinical trials in lung and breast cancers as a combination agent
- LP-300 has been administered to over 1,000 patients and has been generally well tolerated
- Prior studies did not stratify or select patients based on biomarker or smoking status

Current status

FOX CHASE CANCER CENTER
TEMPLE HEALTH

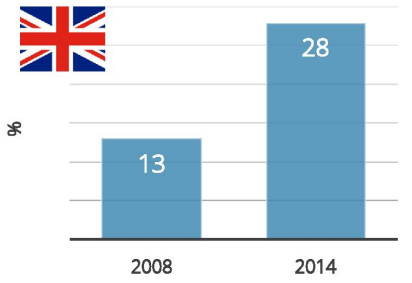
RADR®

- Filed for Orphan Status for NSCLC / histology of adenocarcinoma in never-smokers, targeting rare disease market (April 2020)
- Designing phase II clinical trial for use in non-smokers with NSCLC adenocarcinoma
- Exploring preclinical *in vivo* studies to characterize efficacy as a combination with approved targeted therapies
- Leveraging RADR® to develop biomarker signature that can be used to predict patients most likely to respond to combination therapy with LP-300

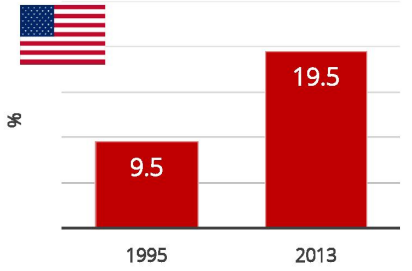
LP-300

Lung Cancer in Never-Smokers (LCINS) – a hidden but rising disease

Incidence of NSCLC in non-smokers in the U.K.*



Incidence of NSCLC in non-smokers in the USA*



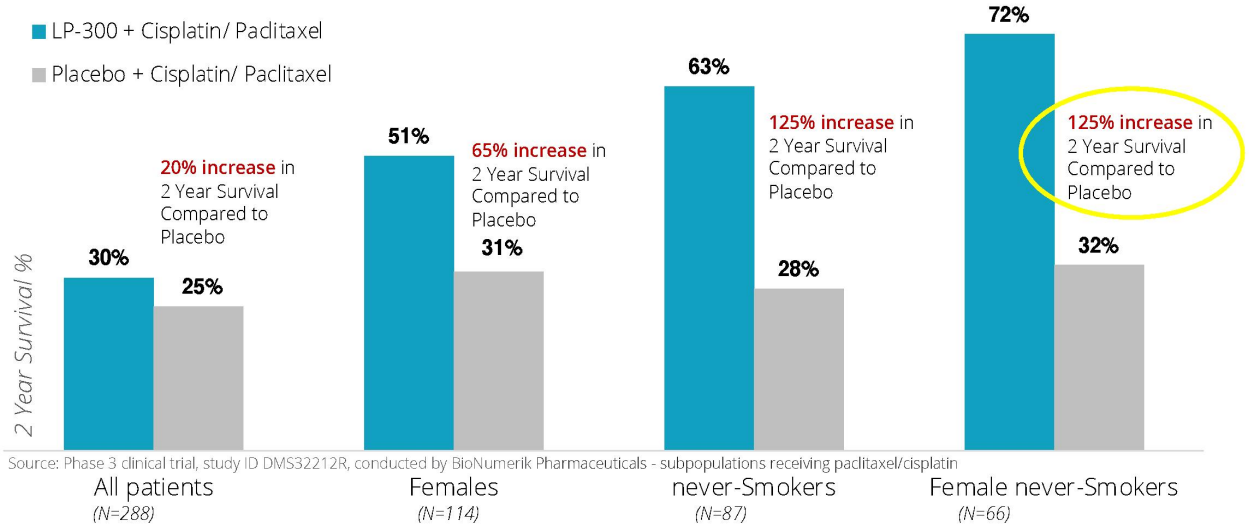
*Proli C et al., ASCO 2015; Pelosof L et al., ASCO 2015

- **7th leading cause of death** among patients with solid tumors
- **More frequent in women** with ~2/3 of patients with no reported smoking history
- **Adenocarcinoma is the most common histology** accounting for ~60% of non-smoking NSCLC patients
- **20% to 25% of global lung cancer cases and deaths** occur among never-smokers
- **LP-300 patent application** for use in never-smoking NSCLC patients (potential protection until 2039)
- **Significant mutational difference** in LCINS v. Smokers – esp. in EGFR, TP53, STK11 and KRAS**

**Mutation frequency data compiled by Lantern Pharma from 6 studies

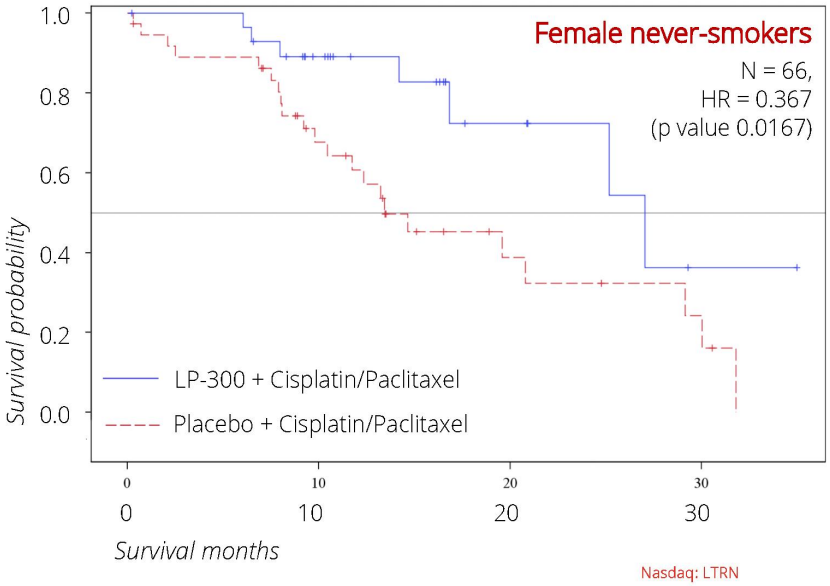
LP-300

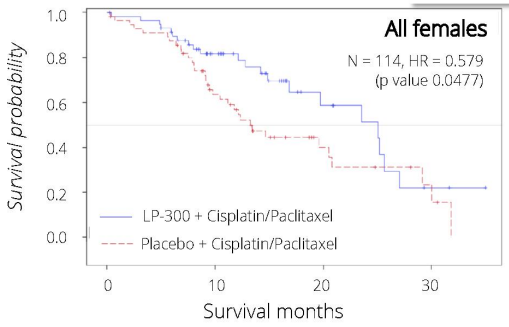
Lantern's precision oncology approach in the LP-300 Phase II trial will build on a prior Phase III trial that did not meet clinical efficacy endpoints but demonstrated survival benefit in a patient subgroup

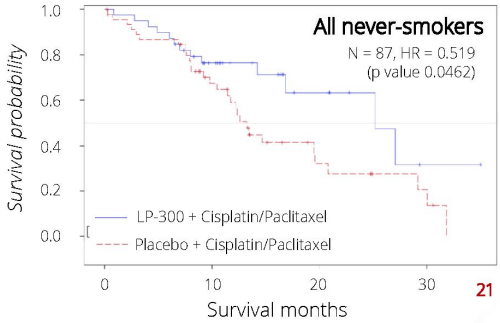


Source: Phase 3 clinical trial, study ID DMS32212R, conducted by BioNumerik Pharmaceuticals - subpopulations receiving paclitaxel/cisplatin

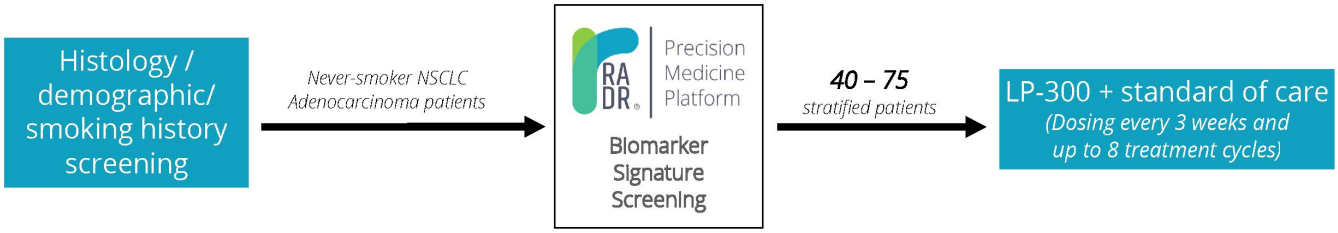
Female never-smokers showed the clearest statistically significant positive outcome among subgroups in the LP-300 treatment arm in advanced adenocarcinoma patients in Phase III







Proposed design for relaunching of Phase II clinical trial for LP-300 in a targeted patient population



Trial Design

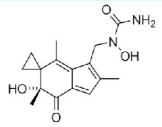
- Non-Randomized
- Masking: None (Open Label)
- Primary Purpose: Treatment
- Study arms: Single experimental arm

Efficacy Endpoints

- **Primary:** Overall Survival
- **Secondary:** Objective Response Rate/ Clinical Benefit Rate/ Progression-Free Survival/ Quality of Life

LP-184 for solid tumors and certain PTGR1 expressing cancers

Unique Features

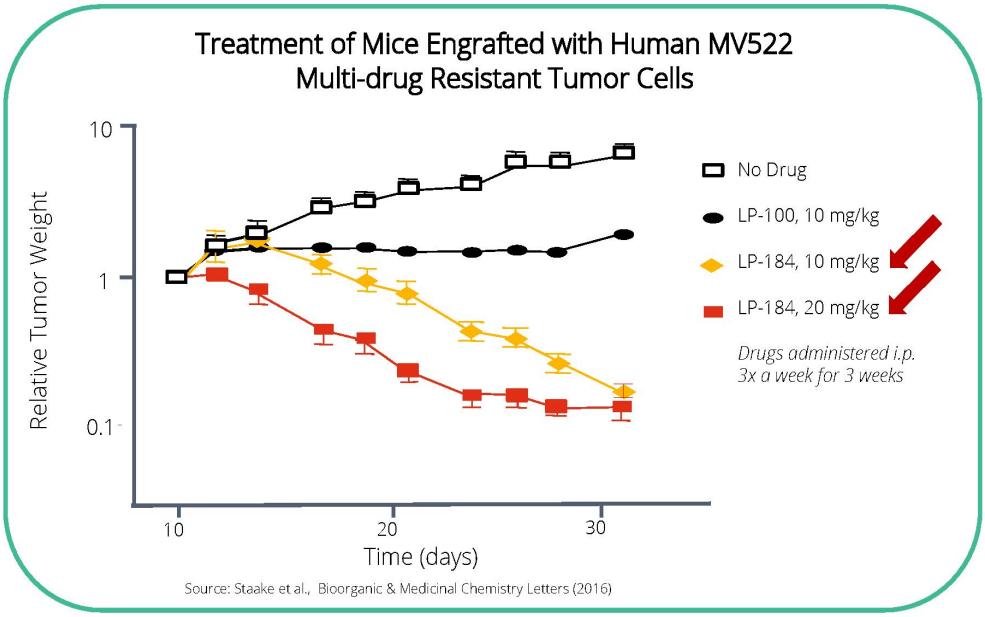


- Hydroxyurea Methylacylfulvene
- Nanomolar potency across multiple solid tumor (pancreas, prostate, liver) and glioblastoma cell lines
- Broad anti-tumor agent that counteracts multi-drug resistance and is independent of other mutations (p53, KEAP1)
- Favorable *in vitro* and *in vivo* efficacy allowing improved therapeutic index and pharmacokinetics
- Promising blood-brain-barrier (BBB) profile

Current status

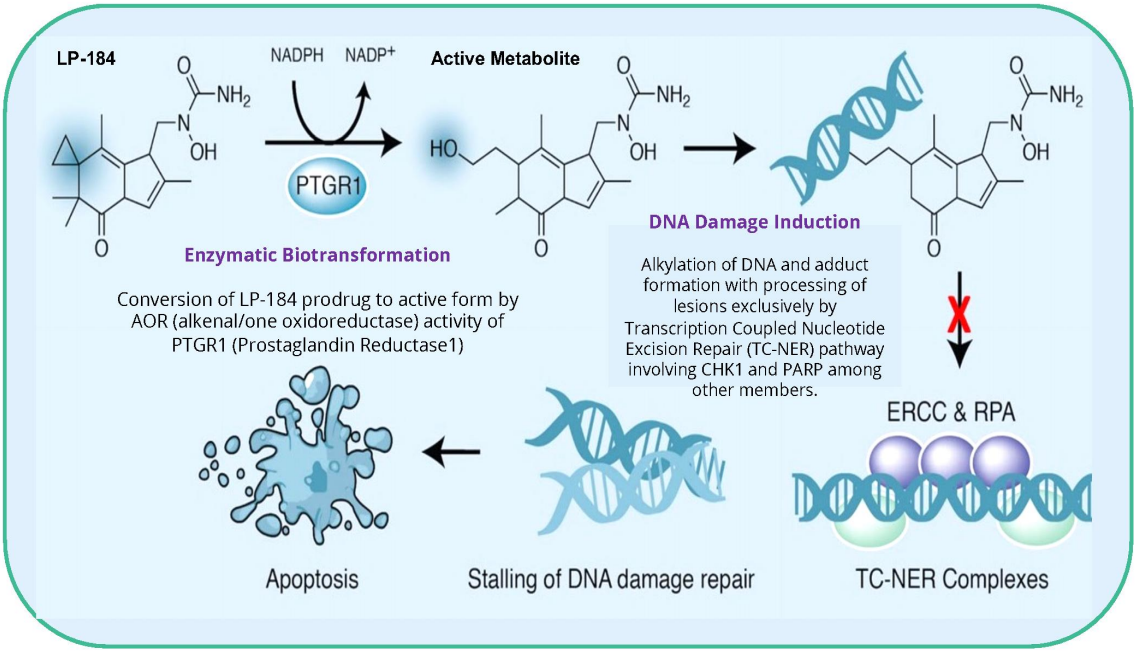
- 4 new patent filings: 2 new applications on synthetic manufacturing of new molecular entities & 1 new application on gene signature to stratify patients responsive to LP-184 & 1 for GBM
- Wet lab validated 16 gene signature leveraging NCI Cell Miner platform from our collaboration
- Q2 2020 launch of collaborative study with Georgetown University in Prostate and Pancreatic Cancers
- Q1 2019 initiation of the PRAISE (PRostate cancer Artificial Intelligence Study using Ex vivo models) collaboration with C-TRIC, partially funded by Invest Northern Ireland

LP-184 treatment resulted in greater tumor regression in a mouse model with human cancer



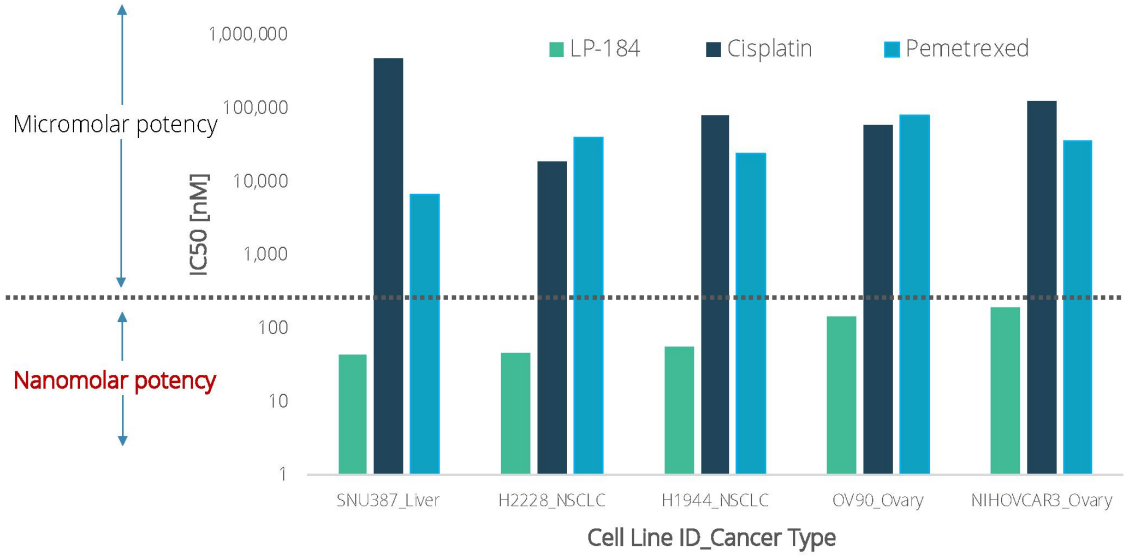
Source: Staake et al., Bioorganic & Medicinal Chemistry Letters (2016)

Proposed LP-184 mechanism of action based on acylfulvene drugs



1. Potential synergistic drug combinations due to involvement w/ DNA repair pathway and supported by gene correlation studies
2. Approved drugs in certain drug classes have been identified to be synergistic with LP-184 when used in combination for cancer treatment

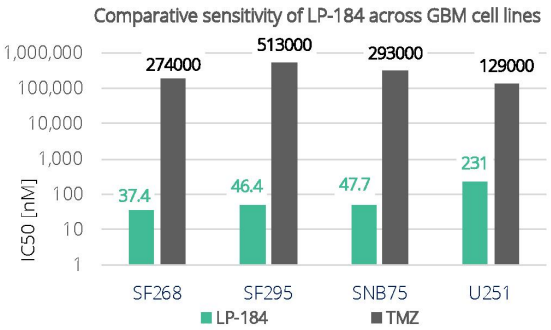
LP-184 shows a 10x – 3,800x increase in *in vitro* potency over approved chemotherapeutics in various solid tumors



LP-184 IC50 data from Lantern generated data, Cisplatin and Pemetrexed IC50s from GDSC database

LP-184 shows significant promise in improving patient outcomes in Glioblastoma (GBM) – a rare cancer with median survival of < 1 year

500x – 13,000x increase in *in-vitro* potency over TMZ, (the current standard in GBM)



LP-184 has a favorable CNS drug profile – blood brain barrier (BBB) permeability

Molecule	BBB permeability probability score	Developmental stage
LP-184	0.9694	Preclinical
TMZ	0.9879	Approved
Carmustine	0.9533	Approved
Cilengitide	0.9362	Phase II

Using **admetSAR2**, a tool for evaluating chemical ADMET (absorption, distribution, metabolism, excretion - toxicity) properties

The **current standard** of care for GBM consists of de-bulking surgery followed by combined treatments with fractionated ionizing radiation (IR) and the DNA alkylating agent **temozolomide (TMZ)** **which less than 50% of patients respond to***

Source: Genes & Disease, Volume 3, Issue 3, Sep. 2016 0 pp. 198-210

RADR® - A robust and scalable platform for accelerating the development of targeted cancer therapy, precision trials and Companion Dx

Real World Applications

- Robust precision medicine/drug development
- Uncovering potential drug combinations
- Predicting synergy with Immuno-oncology agents
- Drug repositioning, revitalization & rescue
- Companion Dx development

Model Data Sets

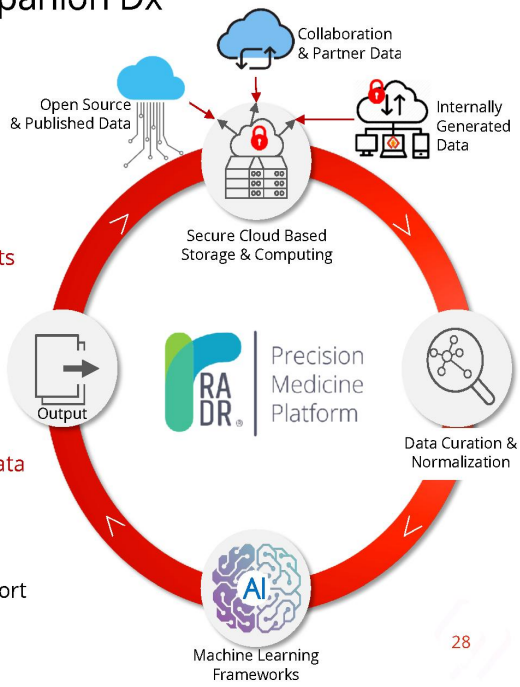
- >275+ million transcriptomic and drug sensitivity data points
- >140 drug-tumor interactions
- 7,000+ real world patient records

Data Sources

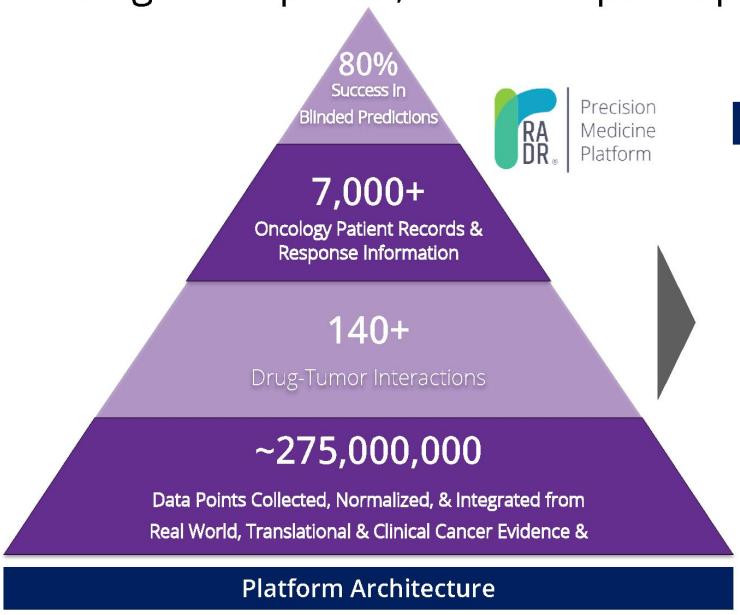
- Public Sources such as Gene Expression Omnibus (GEO), Cancer Cell Line Encyclopedia (CCLE), Genomics of Drug Sensitivity in Cancer (GDSC), Industry Data & Proprietary Data

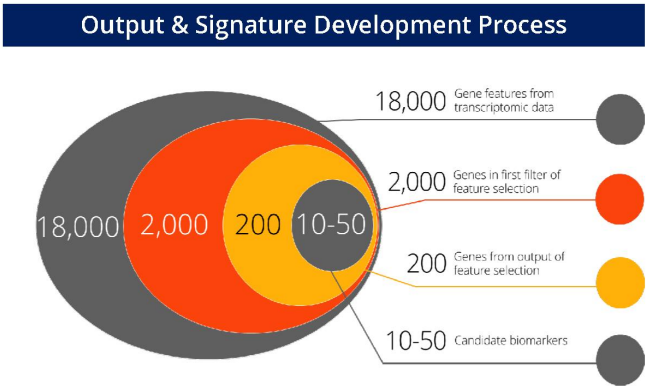
AI Methods Being Deployed

- Analytics: Integrated systems biology, statistical and descriptive analysis
- Machine Learning: Supervised ML (Neural Network & Support Vector), variations in established ML algorithms

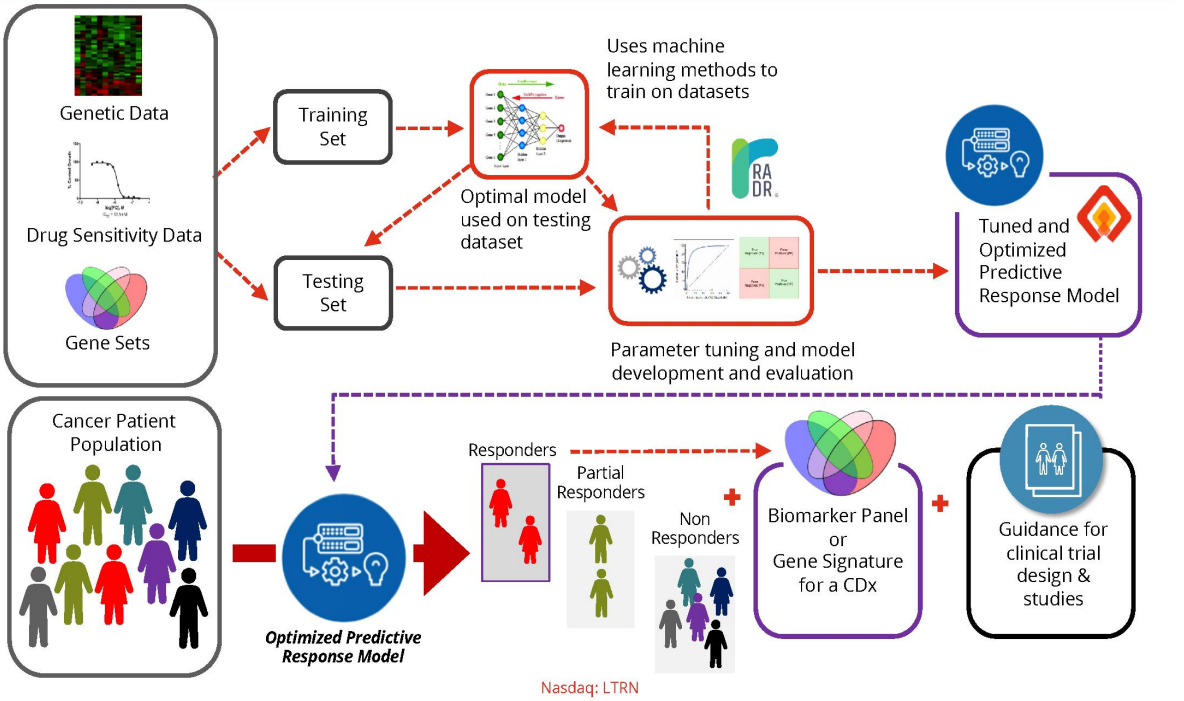


RADR® identifies genetic markers and signatures for precision oncology drug development, clinical response prediction and CDx enablement

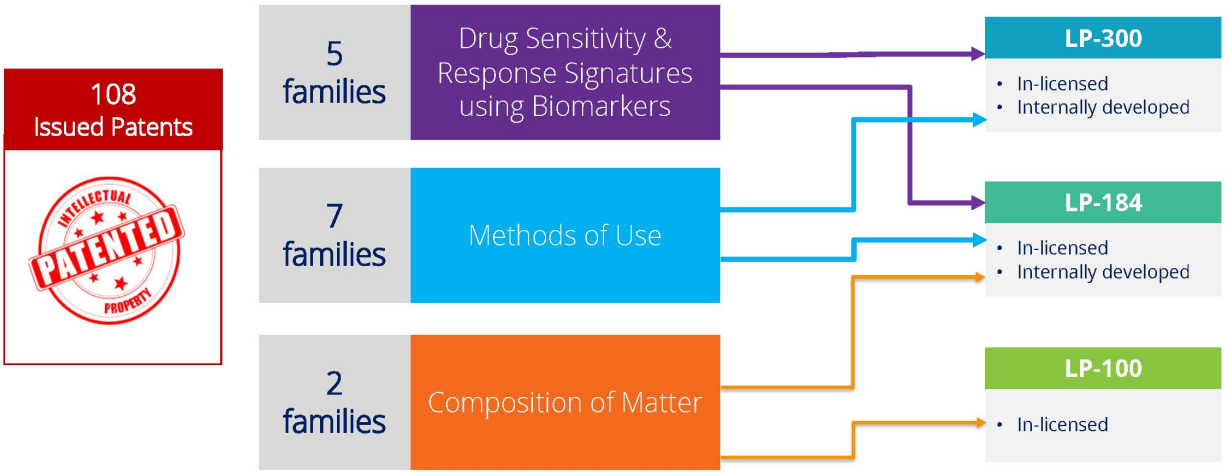




RADR® Workflow Details



Our Intellectual Property Portfolio – Extensive and continually growing position of over 108 issued and in-licensed patents and 7 patent applications across 14 patent families



Studies & Collaborations With Top Tier Academic & Research Partners

Memorial Sloan Kettering Cancer Center

NIH NATIONAL CANCER INSTITUTE

C-TRIC Clinical Translational Research and Innovation Centre

FOX CHASE CANCER CENTER TEMPLE HEALTH

Georgetown University

Heavy investment & investor interest in A.I. driven drug development

Company	Investment	Valuation*	Pipeline Status
BioXcel MEDICINES THROUGH INGENUITY	Mar. 2018 IPO (NASDAQ: BTAI)	**$950+ Million** $65 M. raised at IPO	• 2 lead compounds • Ph. 3 – Neuro • Ph. 2 – Immuno Oncology
SCHRÖDINGER	Feb. 2020 IPO (NASDAQ: SDGR)	**$3,600+ Million** $232 M. raised at IPO	• 5 compounds in early discovery • All oncology, targeted small molecule
RECURSION	$226+ M. total Latest 07/2019 private raise	**$600 – 800 Million** (estimate based on last round)	• 4 Phase 1 compounds • 1 oncology
Atomwise Better medicines faster.	$50+ M. total Latest 03/2018 private raise	**$200 – $300+ Million** (estimate based on last round)	• Partners w/ academic and pharma • No captive pipeline | collab. discovery
BenevolentAI	$290+ M. total Latest 09/2019 private raise	**~$1,100 Million** (pre-money based on last round)	• Partners w/ academic and pharma • Tech and service provider

*Source: Crunchbase, Pitchbook and Bloomberg
* Valuations of public companies from May 18, 2020

Value Building Milestones & Inflection Points

Foundational Year
Advance Platform
Prepare Trial Launches
Prioritize Additional Compounds

Second Half of 2020

- ✓ IND-Enabling studies for LP-184
- ✓ Results from preclinical work in Glioblastoma LP-184
- ✓ Q3 FDA related activity to explore relaunch of Phase 2 for LP300 as a rare cancer trial for never-smoking females with potential Orphan Designation –
- ✓ FDA feedback on Orphan Designation expected by end of Q3, 2020
- ✓ Further validation of RADR™ platform at AACR in June with 2 additional posters
- ✓ Data from collaboration with Georgetown and CTRIC in Prostate and Pancreatic Cancers
- ✓ Validate signature for LP-184 to design pan-tumor clinical trial
- ✓ Reach 400+ Million data points for RADR A.I. Platform

Multiple Streams of Value Creation
Launch Multiple Precision Trials
Leverage Platform for Pharma Partners
Secure Additional Compounds
Readout for LP-100 Ph. 2

2021-22

- ✓ Readout from targeted Phase 2 trial in Europe in prostate cancer by Q4, 2020 / Q2, 2021
- ✓ Launch Ph.2 clinical trial for LP-300 in NSCLC (never-smokers)
- ✓ Launch Ph.1 clinical trial for LP-184 in solid tumors
- ✓ Launch Ph.1/2 clinical trial for LP-184 in GBM
- ✓ Explore potential combinations for LP-184 & LP-300 with other existing approved drugs (inc. IO agents)
- ✓ Reach 1+ Billion data points for RADR A.I. Platform
- ✓ Big pharma partnership and collaboration on drug rescue, repurposing or development

Use of Proceeds

GROSS PROCEEDS FROM IPO	$25,008,000
Advance Clinical Programs for Lead Candidates - LP-300 and LP-184: Clinical Trial Testing, Preclinical Studies, Biomarker Studies & Manufacturing	$13,500,000
AI Platform, RADR® Development and Expansion & Data Collaborations	$2,000,000
Additional Drug Candidates Acquisition and In-Licensing of IP, patents and rights related to compounds for rescue or repurposing	$2,500,000
General Corporate Purposes	$4,000,000

Pre IPO Capitalization Table

LANTERN PHARMA INC.*	
Common Shares Outstanding **	4,467,594
Warrants (WAEP $3.13)	262,003
Options (WAEP $1.03)	513,862
Fully Diluted Share Outstanding	5,243,460

*Assuming a 1.74 for 1 stock split immediately prior to closing of the offering

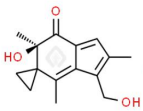
** Conversion of Series A Preferred stock into 2,438,865 shares of common stock

Investment Highlights - Lantern Pharma has a unique, growing and validated foundation for the future of cancer therapy and patient care

Active drug rescue process and in the clinic with 2 compounds and accelerating additional compounds and combinations to clinical trials...potentially saving tens of millions and years of development

Growing A.I. based platform with clear roadmap to 1+ Bn. datapoints focused exquisitely on cancer therapeutic development and companion Dx in a high growth, high demand $4 Bn market

Focused on cancer drug market segments with clear clinical need, understood mechanisms, targeted patient populations that exceed 1 Million , and multi-billion USD in annual sales potential



Potential to receive up to an additional ~$14 Million from LP-100 out-licensing deal during 2021-22

LP-300 submitted for Orphan Disease Designation and LP-184 to be submitted for ODD in pancreatic and GBM which can help accelerate development

Proven and growing library of A.I. & machine-learning methodologies published at ASCO, AACR and used to generate novel IP (108 issued, & 7 pending) and accelerate discovery by potentially years

Experienced and innovative management team w/ 60+ years experience in cancer and a passion to change the cost and outcome for cancer patients by using A.I. and genomics – *paradigm changing technologies*

Industry leading collaborations with National Cancer Institute, Georgetown, & Fox Chase Cancer Center


Lantern Pharma
IPO ROADSHOW
Presentation
Thank you!