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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): November 1, 2021

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

Delaware	**001-39318**	**46-3973463**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

1920 McKinney Avenue, 7th Floor Dallas, Texas	**75201**
(Address of Principal Executive Offices)	(Zip Code)

(972) 277-1136
(Registrant's telephone number, including area code)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act: Common Stock

Title of each class	**Trading Symbol**	**Name of each exchange on which registered**
Common Stock, $0.0001 par value	LTRN	The Nasdaq Stock Market

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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 pursuant to Section 13(a) of the Exchange Act. ☐

Item 2.02 Results of Operations and Financial Condition.

On November 1, 2021, Lantern Pharma Inc. (the "Company") will issue a press release announcing its financial results for the third quarter ended September 30, 2021. A copy of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

The information in this Item 2.02, including Exhibit 99.1 hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filings, unless expressly incorporated by specific reference in such filing.

Item 7.01 Regulation FD Disclosure.

On November 1, 2021, the Company will utilize a presentation to assist with the Company's discussions during a conference call and live webcast hosted by the Company to discuss financial and operating results for the third quarter ended September 30, 2021. A copy of the presentation is furnished as Exhibit 99.2 to this Current Report on Form 8-K and is incorporated herein by reference.

The information in this Item 7.01, including Exhibit 99.2 hereto, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filings under the Securities Act of 1933, as amended, or the Exchange Act, regardless of any general incorporation language in such filings, unless expressly incorporated by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	**Exhibit Description**
99.1	Press Release dated November 1, 2021 announcing financial results for quarter ended September 30, 2021.

99.2	Presentation relating to November 1, 2021 conference call and live webcast to discuss financial and operating results for quarter ended September 30, 2021.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Lantern Pharma Inc.,
A Delaware Corporation

Dated: November 1, 2021

By: */s/ David R. Margrave*
David R. Margrave, Chief Financial Officer

Lantern Pharma

Third quarter 2021 Operating & Financial Results Conference Call / Webinar

November 1st, 2021
4:30 PM Eastern

TODAY'S SPEAKERS

Panna Sharma

Chief Executive Officer, President and Director

David Margrave

Chief Financial Officer and Secretary

Dr. Kishor Bhatia

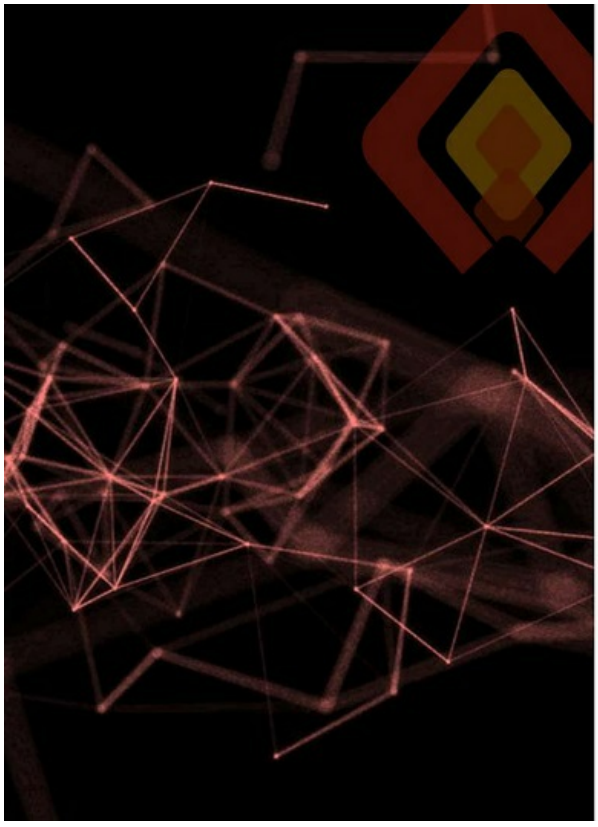
Chief Scientific Officer

Nicole Leber

Finance and Administration

Forward Looking Statements

This presentation contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, among other things, statements relating to: future events or our future financial performance; 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 our drug candidates and antibody drug conjugate (ADC) development program; estimates regarding the development timing for our drug candidates and ADC development program; our research and development efforts of our internal drug discovery programs and the utilization of our RADR® platform to streamline the drug development process; our intention to leverage artificial intelligence, machine learning and genomic data to streamline and transform the pace, risk and cost of oncology drug discovery and development and to identify patient populations that would likely respond to a drug candidate; estimates regarding potential markets and potential market sizes; sales estimates for our drug candidates and 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. Any statements that are not statements of historical fact (including, without limitation, statements that use words such as "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "seek," "may," "might," "plan," "potential," "predict," "project," "target," "aim," "upcoming," "should," "will," "would," or the negative of these words or other similar expressions) should be considered forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by the forward-looking statements, such as (i) the impact of the COVID-19 pandemic, (ii) the risk that we may not be able to successfully initiate, conduct, or conclude clinical testing for or obtain marketing approval for our product candidates; (iii) the risk that no drug product based on our proprietary RADR A.I. platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (iv) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 10, 2021. You may access our Annual Report on Form 10-K for the year ended December 31, 2020 under the investor SEC filings tab of our website at www.lanternpharma.com or on the SEC's website at www.sec.gov. Given these risks and uncertainties, we can give no assurances that our forward-looking statements will prove to be accurate, or that any other results or events projected or contemplated by our forward-looking statements will in fact occur, and we caution investors not to place undue reliance on these statements. All forward-looking statements in this presentation represent our judgment as of the date hereof, and, except as otherwise required by law, we disclaim any obligation to update any forward-looking statements to conform the statement to actual results or changes in our expectations.



Contents

A quarter of meaningful progress for Lantern Pharma on multiple fronts

CLINICAL PROGRESS

OPERATIONAL PROGRESS

RADR® PLATFORM

DISCOVERY EFFORTS

RADR® Surpassed 10 billion datapoints this past month

10+ Billion

(x10 increase since Nov. 2020)

- accelerate drug development **timelines**
- uncover **new** therapeutic opportunities
- develop insights into the creation of **combination-therapy** programs
- expand our ability to **collaborate** with additional partners

What is RADR®

***R**esponse **A**lgorithm for*
***D**rug Positioning & **R**escue*

- A proprietary integrated data analytics, experimental biology, oncology-focused, machine-learning-based platform focused on drug development
- Leverages cutting edge machine-learning approaches and techniques to generate powerful data-driven insights
- Enables rapid informatics based hypothesis generation which can be validated in wet-lab
- Uses biology driven machine-learning algorithms to achieve higher prediction accuracy in real world settings
- A scalable, robust, expanding and replicable platform to support a range of drug development needs

3rd Quarter 2021 and Subsequent Highlights

- Achieved over *10 billion data points* on our A.I. platform, RADR®
- LP-184 granted Orphan Drug Designation for the treatment of pancreatic cancer, glioblastoma multiforme (GBM) and other malignant gliomas by the U.S. Food and Drug Administration (FDA)
- Announced positive preclinical data in GBMwith LP-184 and expanded GBM research collaboration with Johns Hopkins
- Presentated at the AACR Virtual Special Conference on the effectiveness of LP-184 in pancreatic cancers
- Presented positive preclinical data for LP-184 in pancreatic cancers that have either high levels of PTGR1 expression or deficiencies/mutations in DNA damage repair genes
- Confirmed LP-184 efficacy in the nanomolar range in the ultra-rare brain cancer, Atypical Teratoid Rhabdoid Tumor (ATRT)
- Advanced two new undisclosed programs on rare cancers which are expected to advance into preclinical indications during 2022
- Entered strategic collaboration with Deep Lens
- Entered into a strategic collaboration with Code Ocean

Lantern leverages A.I. to reduce oncology drug development costs and improve the likelihood of success

Abandoned Drug Assets & New Drug Development

- Drugs that fell short of statistical significance *or* abandoned by pharma / biotech companies in late stage trials despite tens to hundreds of millions spent on development, PK analysis, safety and efficacy studies
- Development of new compounds in drug classes that leverage our AI platform

RADR®

- Big data (genomic, clinical, response) assembled and analyzed
- Patient subgroups identified through machine learning and artificial intelligence
- Mechanisms of action clarified
- Potpotential 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 designed and filed

Potential to **shorten clinical development** by years, save tens to hundreds of millions of dollars in cost and substantially **de-risk drug development** versus the traditional model

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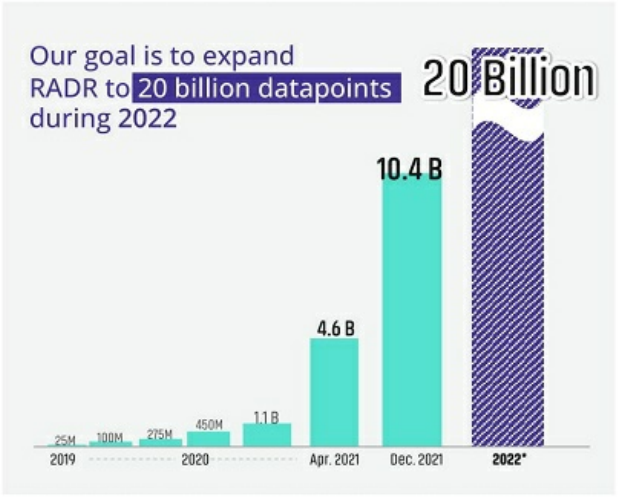
RADR® Precision Medicine Platform

We plan on continuing *further data expansion* by incorporating and curating additional datasets from proprietary studies and public data sources and further automating the evolution of RADR's library of algorithms. Additionally, Lantern will be augmenting the 10.4 billion datapoints with additional data from *immuno-oncology related studies and trials.*



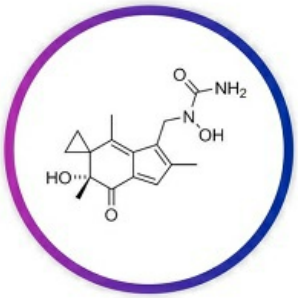
*We believe our growing A.I. platform will be pivotal in uncovering potential **new therapeutic opportunities** and developing insights into the creation of **combination-therapy programs**, both internally and through third-party collaborations.*

Lantern's Unique & Rapidly Developing Pipeline

Indication	Program	R&D	Preclinical	Phase I	Phase II	Phase III
Prostate Cancer *(Metastatic Castration-Resistant Prostate Cancer)*	***LP-100*** *(Irofulven)*					Initial 9 patients showed median overall survival ***(mOS) of 12.5 months***
Non-Small Cell Lung Cancer *(Focused on Never-Smokers)*	***LP-300***					Targeting sub-population in NSCLC of Adenocarcinoma subtype
Pancreatic Cancer *(Identified by RADR® defined genomic signature)*	***LP-184***				Development Collaboration with - *Fox Chase Cancer Center*	
CNS Cancers -Glioblastoma *(Predicted by RADR® and confirmed in in-vivo studies)*	***LP-184***				Development Collaboration with - *Fox Chase Cancer Center*	
CNS Cancers - ATRT *(Predicted by RADR® and confirmed in in-vivo studies)*	***LP-184***				Development Collaboration with - *Johns Hopkins School of Medicine*	
Bladder Cancer *(Identified by RADR® defined genomic signature)*	***LP-184***				Development Collaboration with - *Johns Hopkins School of Medicine*	
Hematologic Cancers *(Predicted by RADR® confirmed with in-vitro studies)*	***LP-284***					
Select Solid Tumors *Leveraging novel linker library & with unique DNA-damaging agents with proven antibodies*	***LP-A18*** *(ADC Programs)*					

Accelerated Development by Leveraging the RADR® A.I. platform

Over 90+ issued patents and pending applications across 14 patent families



LP-184

Positive preclinical data in pancreatic cancer

Highlights

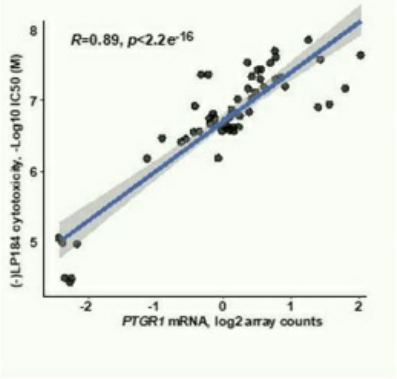
- Granted *Orphan Drug Designation* by FDA
- *Positive preclinical data* in pancreatic cancers that have either high levels of PTGR1 expression or deficiencies/mutations in DNA damage repair genes
- Presented at the *AACR Virtual Special Conference*: Pancreatic Cancer

Upcoming Milestones

- Initiate *Investigational New drug (IND)* and Phase 1 human trial
- Host virtual *Key Opinion Leader (KOL)* event on LP-184 for the treatment of pancreatic cancer with Dr. Igor Astsaturov and Dr. Kishor G. Bhatia on November 18th, 2021, World Pancreatic Cancer Day

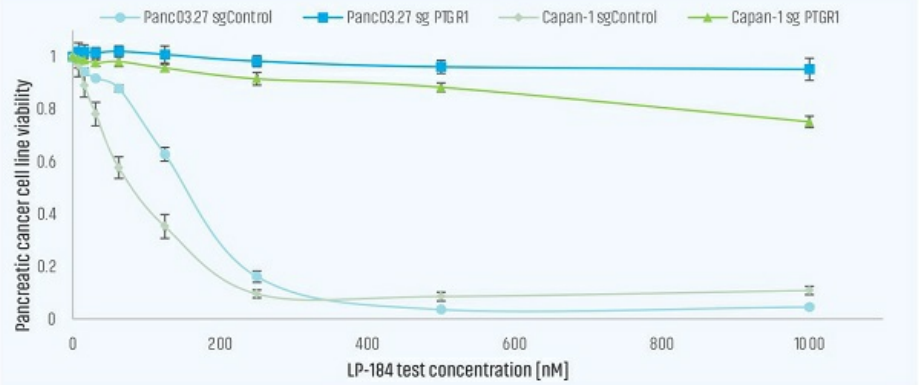
As predicted by RADR ®, LP-184 cytotoxic activity is driven by PTGR1

RADR Insight *(in-silico)*



LP-184 activity **positively correlates** with PTGR1 transcript levels in the NCI60 cancer cell line panel

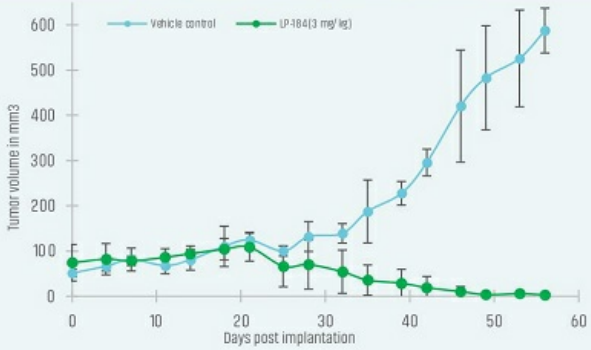
In-vitro Gene Editing Studies *(CRISPR)*



CRISPR-mediated depletion of PTGR1 expression in a pancreatic cancer cell line (Panc03.27) is sufficient to **fully diminish LP-184 activity**. This confirms the strict dependency of LP-184 cytotoxicity on PTGR1 expression

Positive Preclinical Data in Pancreatic Cancer

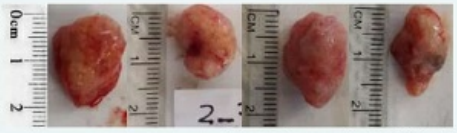
LP-184 in vivo response in a Capan-1 pancreatic cancer xenograft mouse model



Tumor growth inhibition of ***109%*** was observed with LP-184 treatment relative to control with dosing occurring weekly over an 8 week period

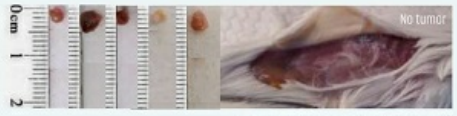
LP-184 demonstrated significant tumor shrinkage (146x) in in-vivo mice PDX models

Tumors From Vehicle Control Mice at the End of Study Period



Average tumor volume = 587 mm³

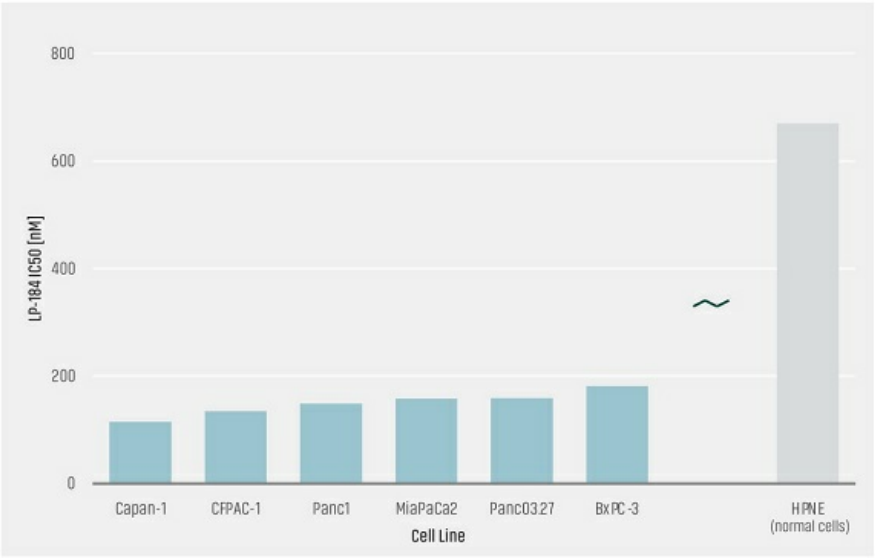
Tumors from LP-184 (3mg/kg) Treated Mice at the End of Study Period



Average tumor volume = 4 mm³

Preclinical data demonstrated that LP-184 demonstrated significant & rapid pancreatic tumor shrinkage, by ***over 90%,*** in *in-vivo* mouse models in 8 weeks.

LP-184 shows nanomolar in vitro potency in pancreatic cancer cell lines

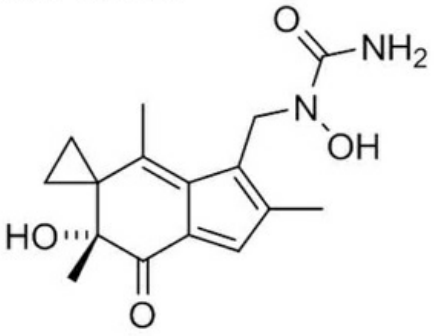


Drug / Compounds	***Range of IC50 [nM]*** across 6 cancer cell lines	***Median IC50 [nM]***
LP-184	100 - 200	154
Gemcitabine	30 - 1,000	149
Irinotecan	3,000 - 70,000	12,052
5-Fluorouracil	30,000 - 300,000	72,747

LP-184 IC50 in the ***normal(non-cancerous) pancreatic epithelial cell HPNE line***: 670 nM

LP-184 Anticipated Upcoming Milestones

- In discussions on the design of *first-in-human clinical studies* for LP-184 in collaboration with Dr. Igor Astsaturov and other key opinion leaders in the pancreatic cancer treatment landscape.
- Initiate *IND application* enabling animal studies later this year, and Phase 1 human trials following the filing of a future IND application



KOL event on Nov. 18th , World Pancreatic Cancer day

Virtual Key Opinion Leader(KOL) event on LP-184 for the treatment of pancreatic cancer

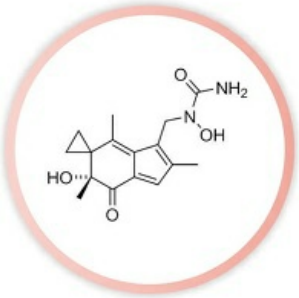
Speakers

Dr. Igor Astsaturov

Co-leader of the Marvin & Conchetta Greenberg Pancreatic Cancer Institute at Fox Chase Cancer Center

Dr. Kishor G. Bhatia

Chief Scientific Officer of Lantern Pharma



LP-184

Positive preclinical data in Glioblastoma(GBM)

Highlights

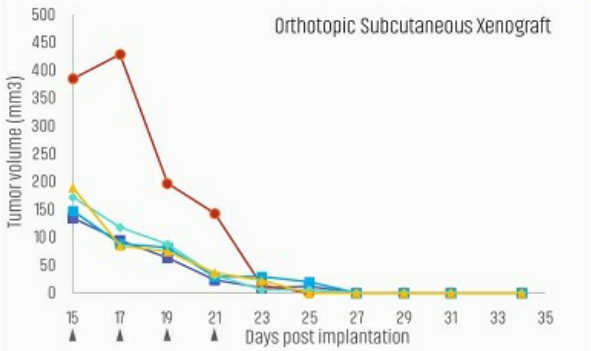
- Completed a ***successful preclinical study*** demonstrating the ability of LP-184 to inhibit tumor growth and improve survival in animal studies of glioblastoma (GBM)
- Based on the encouraging results of the study, Lantern **extended and expanded** its collaborative agreement with ***Kennedy Krieger*** Institute and ***Johns Hopkins***

Upcoming Milestones

- Share detailed scientific results from LP-184 collaborative research program in GBM after presentation at ***Society of Neuro Oncology conference*** November 18-21 in Boston, MA
- Launch ***Phase 1/2 clinical trial*** for LP-184 in GBM

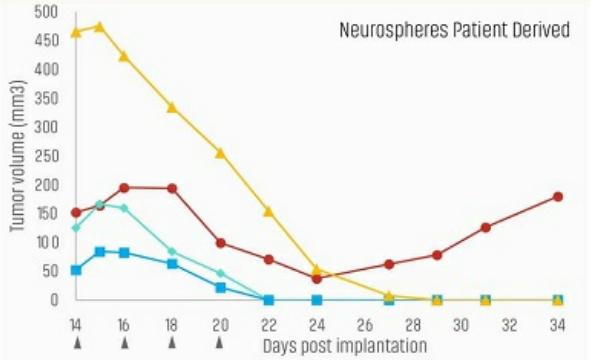
LP-184 shows complete tumor regression in mice implanted with Glioblastoma in multiple models

U87-MG GBM Model



- Complete Regression
- No measurable tumors 12 days post final dosing (33 days after implantation)

M1123 GBM Model



- Complete regression during dosing
- 3 out of 4 mice showed no tumor growth after final dosing

Antibody-drug Conjugates (ADC) - an area of increasing future focus of Lantern Pharma

Antibody-Drug Conjugates (ADCs) novel class of highly potent biological drugs conjugate a cytotoxic drug with a monoclonal antibody (mAb) through an applicable linker

High specificity

- ADCs take advantage of the high potency of cytotoxic payloads and the superior specificity of antibodies. The drug antibody conjugate thus maximizes efficacy and minimizes systemic toxicity

"ADC's ability to harness mAb specificity and target the delivery of a cytotoxic agent to the tumor may significantly enhance both mAb and drug activities."

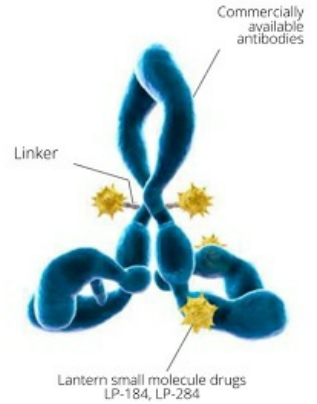
Stephen C et al.
Current Opinion in Chemical Biology- Elsevier
06/2010

Growing

- 2 of the 4 largest oncology licensing deals in 2020 were for **ADC assets**
  AstraZeneca licensed a Ph 1 ADC from Daiichi Sanko for *$6.0 billion*
  Merck licensed a Ph2 ADC from Seagen for *$3.2 billion*

"With so many ADCs in clinical development and the unprecedented approvals of the past year, it's clear that ADCs will continue to be a critical part of the therapeutic armamentarium against cancer"

Dr. Amita Patnaik
FRCPC, of START Center for Cancer Care



Collaboration with Deep Lens A.I. Clinical Trial Machine, VIPER

Lantern Pharma X DeepLens	strategic collaboration to accelerate patient enrollment for Phase 2 clinical trial for never-smokers with non-small cell lung cancer (NSCLC), utilizing LP-300 in combination with chemotherapy

RADR® Precision Medicine Platform + VIPER

predict outcomes and response in specific patient subsets

accelerate the patient enrollment

*Help Patients to have access to the **right medicine** at the **right time***

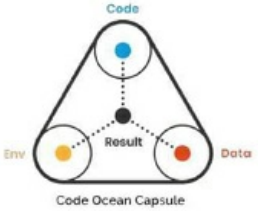
Collaboration with Code Ocean's Compute Capsule

Lantern Pharma X Code Ocean	strategic collaboration to to facilitate the accelerated development of RADR® while reducing development complexity and cost and increasing security and reproducibility

CODE OCEAN

Leveraging Code Ocean's *Compute Capsule* technology

- further power RADR® platform for faster, more collaborative discoveries from billions of RADR data points, as well as data and insights from collaborators.
- manage our external data and code collaborators with ease



Code Ocean Capsule

*Further enhances our already established RADR® platform and provides **additional efficiencies** in terms of development time and cost.*

Anticipated Upcoming Milestones

- Host virtual *Key Opinion Leader (KOL)* event on LP-184 for the treatment of pancreatic cancer on World Pancreatic Cancer Day
- Planned launch of 90 patient Phase 2 clinical trial in the US for LP-300 in NSCLC focused on never-smokers that are chemo naïve and failed/relapsed on TKI therapy
- Share detailed results from LP-184 research program in GBM after presentation at Society of Neuro Oncology conference
- Share results for LP-184 in pancreatic, bladder, GBM, ATRT and other tumors over the next several months
- Launch Phase 1 clinical trial for LP-184 in solid tumors
- Launch Phase 1/2 clinical trial for LP-184 in GBM
- Progress LP-184 in ATRT towards Phase 1/2 clinical trial
- Launch IND enabling studies for ADC program
- Explore potential combinations for LP-184 and LP-300 with other existing approved drugs
- Strategically grow RADR® A.I. platform to 20 billion datapoints, including continued expansion in additional rare cancers
- Explore biopharma licensing and partnership opportunities

Contents

Summary Results of Operations

	Three Months Ended September 30, (Unaudited)		Nine Months Ended September 30, (Unaudited)	
	2021	***2020***	***2021***	***2020***
Operating expenses:				
General and administrative	1,184,486	1,100,719	3,671,945	2,117,290
Research and development	2,964,391	600,769	5,408,320	894,896
Total operating expenses	4,148,877	1,701,488	9,080,265	3,012,186
Loss from operations	***(4,148,877)***	***(1,701,488)***	***(9,080,265)***	***(3,012,186)***
Interest income	77,219	-	125,108	-
Other income, net	17,679	-	132,402	-
NET LOSS	***$ (4,053,979)***	***$ (1,701,488)***	***$ (8,822,755)***	***$ (3,012,186)***
Net loss per common share, basic and diluted	$ (0.36)	$ (0.27)	$ (0.82)	$ (0.82)
Weighted Avg. Common Shares Outstanding - Basic and Diluted	11,186,259	6,217,577	10,818,201	3,661,942

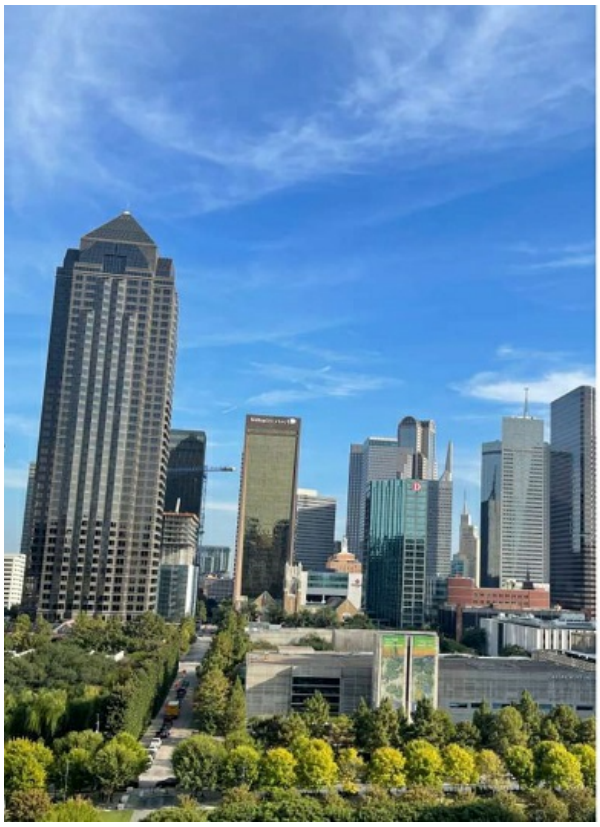
Balance Sheet Highlights & Summary

	9/30/2021 (unaudited)	**12/31/2020**
Cash, Cash equivalents and Marketable Securities	***$ 73,832,553***	***$ 19,229,232***
Prepaid Expenses & Other Current Assets	$ 2,504,089	$ 1,007,690
Total Assets	***$ 77,606,197***	***$ 20,359,634***
Total Liabilities	***$ 1,877,623***	***$ 660,839***
Total Stockholders' Equity	***$ 75,728,574***	***$ 19,698,795***

Shares Outstanding

September 30, 2021

LANTERN PHARMA INC. (LTRN)	
Common Shares Outstanding	11,186,999
Warrants	298,204
Options (Employees, Management and Directors)	801,588
Fully Diluted Shares Outstanding	***12,286,791***



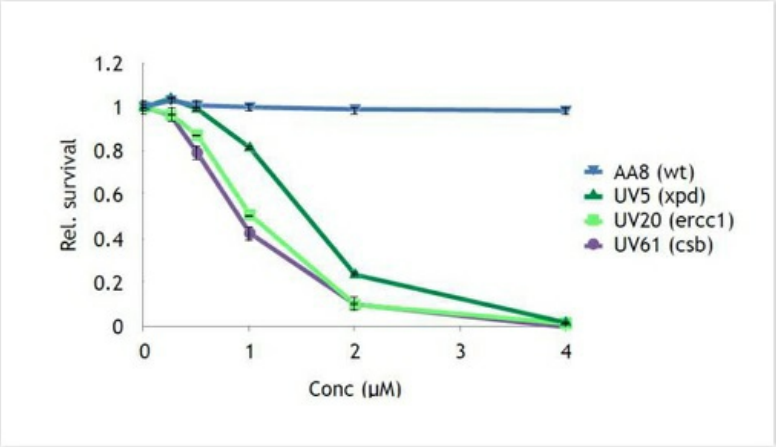
*We believe our **solid financial position** will fuel continued growth and evolution of our RADR® A.I. platform, accelerate the development of our portfolio of targeted oncology drug candidates and allow us to introduce additional targeted product and collaboration opportunities in **a capital efficient manner.***

Contents

Lantern Pharma

LP-184 and LP-284 targets NER deficient cells

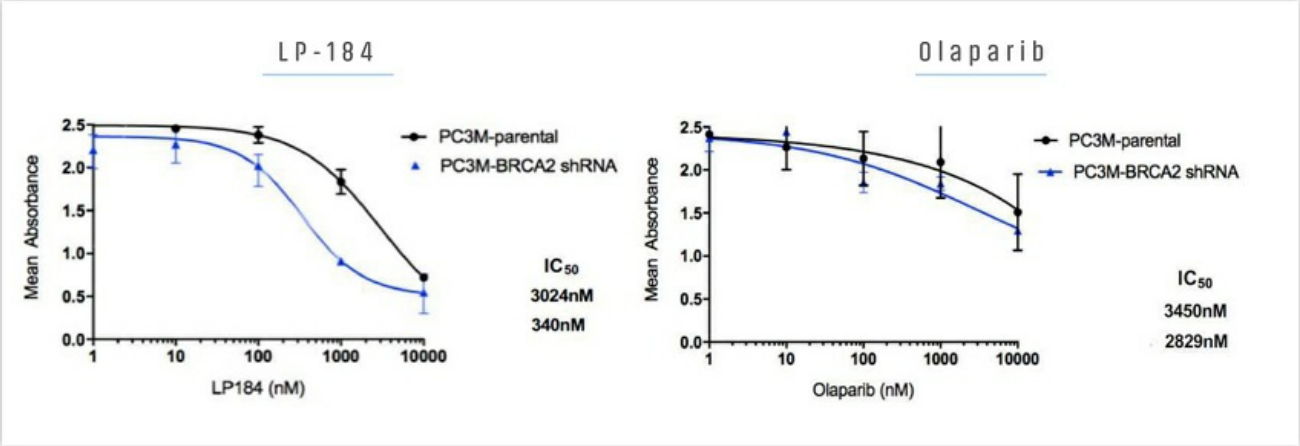
Mutant cell lines deficient in the Nucleotide Excision Repair (NER) pathway were more sensitive to LP-184/ LP-284 than the parent cell line



LP-184 is effective in multiple HR deficient prostate cancer models

PC3M metastatic prostate cancer cell line

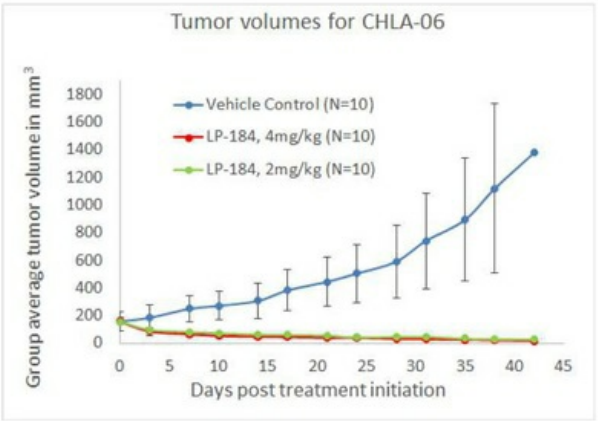
LP-184 and PARP inhibitor Olaparib are equipotent in vitro in the parental PC3M cell line.
LP-184 is 8X more active than Olaparib in the BRCA2 depleted PC3M line.

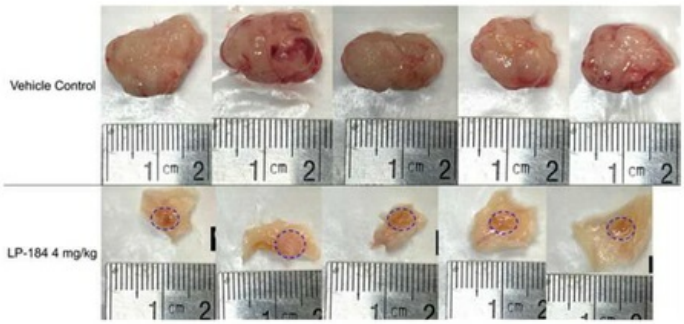


LP-184 is effective in a xenograft model of Atypical Teratoid/ Rhabdoid Tumor (ATRT)

Orphan Drug Designation (ODD) and Rare Pediatric Disease Designation (RPDD) applications submitted for the use of LP-184 in ATRT treatment

CHLA06 subcutaneous cell line derived xenograft model (SMARCB1 deletion, MYC elevation)





Representative terminal tumors

LP-184 CNS Bioavailabiity

BBB quantification parameter	Assay/ system	LP-184	TMZ
BBB permeability probability score	admetSAR2 *in silico*	0.9694	0.9879
Apparent permeability after 30 minutes	Neuromics BBB 3D assay *in vitro*	1.53E-04 cm/s	1.72E-04 cm/s
Brain: plasma ratio	SCID mice *in vivo*	0.11	0.11 – 0.29

2022

A **Transformational** year for Lantern

- Launch of multiple human clinical trials over the next 12 months
- Ongoing growth of our RADR platform – Reach 20 billion datapoints during 2022.
- With our network of strategic collaborators and recent additions to our team, we believe we are very well positioned with all members passionately invested and focused on developing drugs that benefit patients, while bringing them to market faster and at a lower cost.
- Looking forward, we intend to explore licensing and collaboration opportunities with our portfolio and with our RADR platform.

Contents

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Lantern Pharma Reports Third Quarter 2021 Financial Results and Operating Highlights

- *RADR® A.I. platform surpasses 10 billion datapoints, significantly enhancing speed and scope of new drug development and expanding potential for biopharma collaborations*
- *Drug candidate LP-184 granted Orphan Drug Designations by the FDA for the treatment of glioblastoma multiforme and pancreatic cancer*
- *Preparing to launch multiple human clinical trials in the next several quarters for LP-300, LP-184 and LP-100*
- *$73.8 million of cash, cash equivalents and marketable securities as of September 30, 2021*
- *Conference call scheduled for 4:30 p.m. ET (Eastern Time) today*

DALLAS, November 1, 2021 /PRNewswire/ -- Lantern Pharma (NASDAQ: LTRN), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to transform the cost, pace, and timeline of oncology drug discovery and development, today provided a business update and reported financial results for the third quarter ended September 30, 2021.

"Lantern has continued to advance our portfolio, both clinically and in new preclinical indications, as well as rapidly expand our RADR® A.I. platform this past quarter," stated Panna Sharma, President & CEO of Lantern Pharma Inc. "Our A.I. driven approach to oncology drug development will be pivotal in discovering additional indications for our existing compounds, as well as the identification of entirely new drug candidates. Our strong balance sheet with over $73.8 million of cash, cash equivalents and marketable securities as of September 30, 2021 provides us with a solid foundation as we execute on our clinical programs and expand our proprietary RADR® A.I. platform."

Third Quarter 2021 and Subsequent Highlights:

- Achieved over 10 billion data points from highly curated oncology datasets focused on increasing the performance and scale of our A.I. platform, RADR®, for oncology drug development
- LP-184 granted Orphan Drug Designation for the treatment of glioblastoma multiforme (GBM) and other malignant gliomas by the U.S. Food and Drug Administration (FDA)
- Announced positive preclinical data in glioblastoma with LP-184 and expanded GBM research collaboration with Johns Hopkins University

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Lantern Pharma.

- LP-184 granted Orphan Drug Designation for the treatment of pancreatic cancer by the FDA
- Submitted poster presentation on the effectiveness of LP-184 in pancreatic cancers, which was accepted for presentation at the AACR Virtual Special Conference: Pancreatic Cancer
- Presented positive preclinical data for LP-184 in pancreatic cancers that have either high levels of PTGR1 expression or deficiencies/mutations in DNA damage repair genes
- Confirmed LP-184 efficacy in the nanomolar range in the ultra-rare brain cancer, Atypical Teratoid Rhabdoid Tumor (ATRT), using animal models
- Advanced two new undisclosed programs focused on rare cancers which are expected to advance into preclinical indications during 2022
- Entered strategic collaboration with Deep Lens to accelerate patient enrollment for Lantern's planned Phase 2 clinical trial for never-smokers with non-small cell lung cancer (NSCLC), utilizing LP-300 in combination with chemotherapy
- Entered into a strategic collaboration with Code Ocean to facilitate the accelerated development of RADR® both internally and with external collaborators while reducing development complexity and cost and increasing security and reproducibility

"We continue to advance our pipeline of drug candidates and made significant progress across multiple areas of our business during the third quarter," commented, Panna Sharma, President and CEO of Lantern Pharma. "Specifically, we reported positive preclinical data for LP-184 in pancreatic cancer and GBM. LP-184 demonstrated remarkable efficacy, in both *in vivo* and *ex vivo* models, validating the in-silico predictions generated by our RADR® A.I. platform. Based upon our highly encouraging preclinical data, the FDA granted LP-184 Orphan Drug Designations for the treatment of pancreatic cancer and glioblastoma multiforme and other malignant gliomas. Our plan is to develop LP-184 for a number of targeted oncology indications where we can exploit the important mechanistic insights we have obtained about the compound."

"Earlier today, we announced that our proprietary A.I. platform, RADR®, has now surpassed 10 billion datapoints powered by a growing library of algorithms designed specifically to help solve challenging data and correlation problems in cancer drug development. This directly advances our stated goal of building the world's largest A.I. platform for precision oncology drug development. Our RADR® platform will be pivotal in uncovering potential new therapeutic opportunities for Lantern and developing insights into the creation of combination-therapy programs, both internally and through third-party collaborations to drive long-term shareholder value. Our goal is to expand RADR® to over 20+ billion datapoints during 2022. This will not only open more opportunities for collaborations with additional biopharma partners, but will also dramatically accelerate development timelines, derisk key decisions and reveal new opportunities that may have gone undeveloped — ultimately leading to additional therapeutic

opportunities for patients and additional sources of value for our investors. By advancing our clinical pipeline, cultivating new discoveries, and growing our RADR® platform, we believe we have laid the groundwork for numerous upcoming catalysts in the quarters and years ahead. “

Anticipated Upcoming Milestones:

- Lantern Pharma to host virtual Key Opinion Leader (KOL) event on LP-184 for the treatment of pancreatic cancer with Dr. Igor Astsaturov, an established, NCI -funded, physician scientist and co-leader of the Marvin & Conchetta Greenberg Pancreatic Cancer Institute at Fox Chase Cancer Center and Dr. Kishor G. Bhatia, Chief Scientific Officer of Lantern Pharma on November 18th, 2021, World Pancreatic Cancer Day
- Planned launch of 90 patient Phase 2 clinical trial in the US for LP-300 in NSCLC focused on never-smokers that are chemo naïve and failed/relapsed on TKI therapy
- Share detailed scientific results from LP-184 collaborative research program in GBM after presentation at Society of Neuro Oncology conference November 18-21 in Boston, MA
- Share results from other studies and preclinical work with LP-184 in pancreatic, bladder, GBM, ATRT and other tumors over the next several months
- Launch Phase 1 clinical trial for LP-184 in solid tumors
- Launch Phase 1/2 clinical trial for LP-184 in GBM
- Progress LP-184 in ATRT towards Phase 1/2 clinical trial
- Launch IND enabling studies for ADC program
- Explore potential combinations for LP-184 and LP-300 with other existing approved drugs for additional targeted cancer indications
- Strategically grow RADR® A.I. platform to 20 billion datapoints, including continued expansion in blood cancers and additional rare cancers under review by our development team
- Explore biopharma licensing and partnership opportunities

Third Quarter 2021 Financial Highlights:

- Balance Sheet: Cash, cash equivalents, and marketable securities were $73.8 million as of September 30, 2021, compared to $19.2 million as of December 31, 2020.
- R&D Expenses: Research and development expenses were $2.96 million for the three months ended September 30, 2021, compared to $0.6 million for the three months ended September 30, 2020. The increase was primarily attributable to increased manufacturing related expenses and expenditures to advance and expand the Company’s product portfolio.

- G&A Expenses: General and administrative expenses were $1.2 million for the three months ended September 30, 2021, compared to $1.1 million for the three months ended September 30, 2020. The nominal increase was primarily attributable to increased business and corporate development expenses, legal and patent related fees, and general and administrative related stock option expenses.
- Net Loss: Net loss was $4.1 million for the three months ended September 30, 2021, compared to a net loss of $1.7 million for the three months ended September 30, 2020.

A copy of the Company’s quarterly report on Form 10-Q for the third quarter ended September 30, 2021 has been filed with the Securities and Exchange Commission and posted on the Company’s website at https://ir.lanternpharma.com/financial-information.

Conference Call & Webcast:

Monday, November 1, 2021 at 4:30 p.m. Eastern Time / 1:30 p.m. Pacific Time

- To register for the live webcast, please sign up here: https://zoom.us/webinar/register/6716351795676/WN_s_xTDUXeRB6Lq55SItCPdQ
- To access the conference by phone: One-tap dial-in: +19292056099,,99145071949#

- A replay of the conference call will be available on the investor relations section of the Company's website: ir.lanternpharma.com

About Lantern Pharma

Lantern Pharma (LTRN) is a clinical-stage oncology-focused biopharmaceutical company leveraging its proprietary RADR® A.I. platform and machine learning to discover biomarker signatures that identify patients most likely to respond to its pipeline of genomically-targeted therapeutics. Lantern is currently developing four drug candidates and an ADC program across eight disclosed tumor targets, including two phase 2 programs. By targeting drugs to patients whose genomic profile identifies them as having the highest probability of benefiting from the drug, Lantern's approach represents the potential to deliver best-in-class outcomes. More information is available at: www.lanternpharma.com and Twitter @lanternpharma.

Forward-looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. These forward-looking statements include, among other things, statements relating to: future events or our future financial performance; 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 our drug candidates and antibody drug conjugate (ADC) development program; estimates regarding the development timing for our drug candidates and ADC development program; our research and development efforts of our internal drug discovery programs and the utilization of our RADR® platform to streamline the drug development process; our intention to leverage artificial intelligence, machine learning and genomic data to streamline and transform the pace, risk and cost of oncology drug discovery and development and to identify patient populations that would likely respond to a drug candidate; estimates regarding potential markets and potential market sizes; sales estimates for our drug candidates and 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. Any statements that are not statements of historical fact (including, without limitation, statements that use words such as "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "seek," "may," "might," "plan," "potential," "predict," "project," "target," "objective," "aim," "upcoming," "should," "will," "would," or the negative of these words or other similar expressions) should be considered forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by the forward-looking statements, such as (i) the impact of the COVID-19 pandemic, (ii) the risk that our research and the research of our collaborators may not be successful, (iii) the risk that none of our product candidates has received FDA marketing approval, and we may not be able to successfully initiate, conduct, or conclude clinical testing for or obtain marketing approval for our product candidates, (iv) the risk that no drug product based on our proprietary RADR A.I. platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (v) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 10, 2021. You may access our Annual Report on Form 10-K for the year ended December 31, 2020 under the investor SEC filings tab of our website at www.lanternpharma.com or on the SEC's website at www.sec.gov. Given these risks and uncertainties, we can give no assurances that our forward-looking statements will prove to be accurate, or that any other results or events projected or contemplated by our forward-looking statements will in fact occur, and we caution investors not to place undue reliance on these statements. All forward-looking statements in this press release represent our judgment as of the date hereof, and, except as otherwise required by law, we disclaim any obligation to update any forward-looking statements to conform the statement to actual results or changes in our expectations.

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