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): May 3, 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 May 3, 2021, Lantern Pharma Inc. (the "Company") will issue a press release announcing its financial results for the first quarter ended March 31, 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 May 3, 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 first quarter ended March 31, 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 May 3, 2021 announcing financial results for quarter ended March 31, 2021.
99.2	Presentation relating to May 3, 2021 conference call and live webcast to discuss financial and operating results for quarter ended March 31, 2021.

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: May 3, 2021

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

Lantern Pharma Reports First Quarter 2021 Financial Results and Operational Highlights

- RADR® A.I. platform surpasses 4.6 billion datapoints curated for oncology drug development across a wide a range of tumors and drug classes
- Phase 2 clinical trial for non-smokers with NSCLC (Non-Small Cell Lung Cancer) utilizing **LP-300** in combination with chemotherapy scheduled to begin during third quarter of 2021
- Expanded potential indications for **LP-184** to include ATRT pediatric brain cancers
- Initiated preclinical development of new molecular entity, **LP-284**, in hematologic cancers
- Strengthened intellectual property portfolio with filing of over 10 patent applications
- Launched research and development collaboration leveraging RADR® for accelerating drug development for Actuate Therapeutics GSK3β drug candidate
- Peer-reviewed studies of RADR® and **LP-184** in *BMC Bioinformatics* and *Oncotarget*
- Balance sheet cash at the end of 1Q'21 was $81.4 million, strengthened by follow-on offering in January of 2021
- Conference call scheduled for 4:30 p.m. ET today

DALLAS, TX - May 3, 2021 - Lantern Pharma Inc. (NASDAQ: LTRN) a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to transform oncology drug discovery and development today announced financial results for the first quarter ended March 31, 2021.

"We are very pleased with our continued rapid progress in expanding and advancing our pipeline of targeted cancer drug candidates and are on pace to launch the Phase 2 trial of LP-300 in non-small cell lung cancer among non-smokers in the third quarter of this year," stated Panna Sharma, President and CEO of Lantern Pharma. "During the first quarter, we dramatically accelerated the pace with which we gather, curate, tag and assemble biologically relevant data for our RADR® A.I. platform. Our RADR® A.I. platform now exceeds 4.6 billion datapoints, representing a nearly 16-fold increase in the number of datapoints since our IPO in June 2020. RADR® grew by approximately 1 billion datapoints per month during the first quarter of 2021. The size and scope of our RADR® A.I. platform is opening up new insights and areas of opportunity for the discovery of additional indications for our existing drug candidates, as well as the identification of entirely new drug candidates and new therapeutic indications for existing molecules in the fight against cancer."

"Perhaps most exciting, as our RADR® A.I. platform grows, potential partnerships with biopharma companies are now even more clearly in our sights," continued Sharma. "Earlier today, we announced that we have entered into an equity-based collaboration with Actuate Therapeutics to apply the remarkable power of RADR ® to better understand the mechanism of action of Actuate's 9-ING-41 drug candidate and utilize these insights to advance a biomarker signature of response and a biomarker guided development strategy. We are excited about the opportunity to continue to build additional value-driven partnerships in the quarters ahead."

The collaboration will focus on leveraging the RADR® machine learning technology, large-scale oncology datasets, and the A.I. platform to accelerate key aspects of Actuate's 9-ING-41 drug candidate, a best-in-class GSK-3β inhibitor in active development in multiple Phase 2 clinical trials, including for pancreatic cancer. The collaboration is expected to start immediately and will potentially generate novel intellectual property that will be jointly owned by the companies. Lantern will receive upfront equity in Actuate Therapeutics subject to meeting certain conditions of the collaboration, as well as development milestones in the form of additional equity if results from the collaboration are utilized in future development efforts.

Lantern is developing four drug candidates and an ADC program across seven disclosed targets, including:

- **LP-100 (Irofulven)**, in a Phase 2 trial for the treatment of metastatic castration resistant prostate cancer (mCRPC) which is out-licensed to Allarity Therapeutics.
- **LP-300**, a small molecule candidate that is preparing to enter a Phase 2 trial as a combination therapy in non-smokers with Non-Small Cell Lung Cancer (NSCLC).
- **LP-184**, a small molecule DNA damaging candidate anticipated to enter clinical development in 1H'22, with opportunities in several genomically-defined cancers, including: prostate, pancreatic, glioblastoma multiforme (GBM), atypical teratoid rhabdoid tumors (ATRT) and potentially additional tumors defined by the overexpression of PTGR1.
- **LP-284**, an alkylating agent in the research optimization stage, that appears to be preferentially active in certain hematologic cancers.

- **Antibody Drug Conjugate (ADC)** program leveraging RADR® A.I. to identify targeted or therapeutic antibodies and aimed at utilizing a unique library of linkers to conjugate with LP-184 and other compounds.

First Quarter 2021 Financial Highlights

- **Cash Position**: Cash and cash equivalents were $81.4 million as of March 31, 2021 compared to $19.2 million as of December 31, 2020. The increase in cash and cash equivalents reflects the proceeds from our January 20, 2021 follow-on public offering with gross proceeds of $69.0 million.

- **R&D Expenses**: Research and development expenses were $1,279,037 for the quarter ended March 31, 2021, compared to $137,104 for the quarter ended March 31, 2020. The increase was primarily attributable to increases in research studies, expansion of the company's research team, and research and development related stock option compensation expense of approximately $116,000 (a non-cash item) for the quarter ended March 31, 2021.

- **G&A Expenses**: General and administrative expenses were $1,173,258 for the quarter ended March 31, 2021, compared to $340,172 for the quarter ended March 31, 2020. The increase was primarily attributable to expenses associated with operating as a public company and general and administrative related stock option compensation expense of approximately $130,000 (a non-cash item) for the quarter ended March 31, 2021.

- **Net Loss**: Net losses were $2,452,295 for the quarter ended March 31, 2021, or $0.24 per share, compared to a net loss of $477,276 for the quarter ended March 31, 2020, or $0.24 per share. The net loss includes non-cash expenses related to employee stock options of approximately $246,000 for the quarter ended March 31, 2021.

Mr. Sharma concluded, "We will continue to aggressively advance our portfolio, both clinically and in new preclinical indications, and continue to leverage our A.I. platform to uncover new rescue or repurposing opportunities on our own or with partners. Our team is committed to building Lantern into a best-of-breed biopharma company that transforms the cost, pace and risk of oncology drug development by leveraging insight from our RADR® A.I. platform with the experience and expertise of our cancer-focused research team and a roster of collaborations with world-renowned cancer research institutions. Our financial position has never been stronger and our portfolio of targeted oncology drug candidates is positioned to deliver significant ongoing value for shareholders."

Conference Call
Lantern will host a conference call and webcast today, Monday, May 3, at 4:30 p.m. ET.
Toll-free US and Canada: 800-791-4813 – conference ID 97381
US and Canada callers one touch dial: +1.800.791.4813,,97381#
International: 785-424-1102 – conference ID 97381
Replay Number: 1-800-839-8389, no passcode. Available through 11:59 pm ET on June 3, 2021.

Webcast
Live webcast will be available at: https://www.webcaster4.com/Webcast/Page/2460/41104
The webcast will be archived on https://ir.lanternpharma.com through 11:59 pm ET on June 3, 2021.

Contact
Marek Ciszewski, JD
Director, Investor Relations
628-777-3167
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 seven 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.

May 3rd, 2021 1st Quarter Earnings Press Release Lantern Pharma Inc.

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," "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 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; (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 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.

Lantern Pharma Inc. and Subsidiary
Condensed Consolidated Balance Sheets

	March 31, 2021 (Unaudited)	December 31, 2020
CURRENT ASSETS		
Cash	$ 81,373,725	$ 19,229,232
Prepaid expenses and other current assets	1,110,770	1,007,690
Total current assets	82,484,495	20,236,922
Property and equipment, net	20,164	21,507
Deferred offering costs	-	101,205
TOTAL ASSETS	$ 82,504,659	$ 20,359,634
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 664,533	$ 552,339
Total current liabilities	664,533	552,339
PPP loan payable	108,500	108,500
TOTAL LIABILITIES	773,033	660,839
COMMITMENTS AND CONTINGENCIES (NOTE 4)		
STOCKHOLDERS' EQUITY		
Preferred Stock - Par Value (1,000,000 authorized at March 31, 2021 and December 31, 2020; $.0001 par value) (Zero shares issued and outstanding at March 31, 2021 and December 31, 2020)	-	-
Common Stock – Par Value (25,000,000 authorized at March 31, 2021 and December 31, 2020; $.0001 par value) (11,181,447 shares issued and outstanding at March 31, 2021; 6,220,927 shares issued and outstanding at December 31, 2020)	1,118	622
Additional paid-in capital	96,842,698	32,358,068
Accumulated deficit	(15,112,190)	(12,659,895)
Total stockholders' equity	81,731,626	19,698,795
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 82,504,659	$ 20,359,634

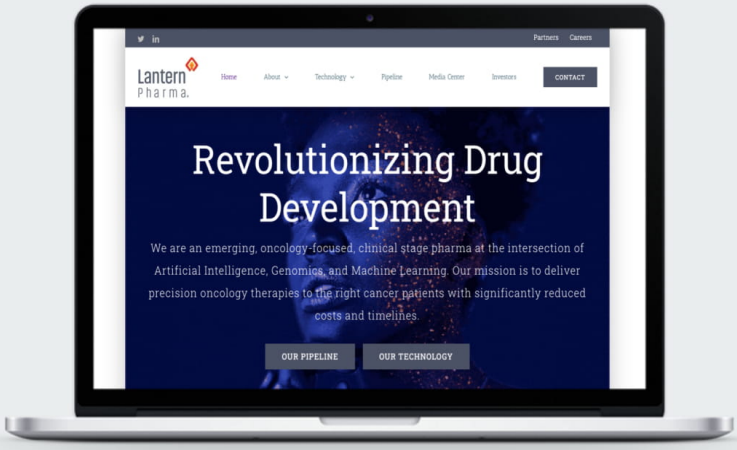
Lantern Pharma Inc. and Subsidiary
Condensed Consolidated Statements of Operations (Unaudited)

	Three Months Ended March 31,	
	2021	**2020**
Operating expenses:		
General and administrative	1,173,258	340,172
Research and development	1,279,037	137,104
Total operating expenses	2,452,295	477,276
NET LOSS	$ (2,452,295)	$ (477,276)
Net loss per share of common shares, basic and diluted	$ (0.24)	$ (0.24)
Weighted-average number of common shares outstanding, basic and diluted	10,074,623	2,020,966

Lantern Pharma®

First Quarter 2021

Operating & Financial Results Conference Call



May 3, 2021
4:30 PM Eastern

https://ir.lanternpharma.com/

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," "objective," "aim," "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.

Lantern Pharma

First Quarter 2021

Operating & Financial Results Conference Call

May 3, 2021
4:30 PM Eastern

KEY TOPICS

1. Business Overview & Background
   Panna Sharma, CEO
2. Financial Results & Highlights
   David Margrave, CFO
3. Business Updates
   Panna Sharma, CEO
4. Milestones
   Panna Sharma, CEO
5. Q&A Session

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

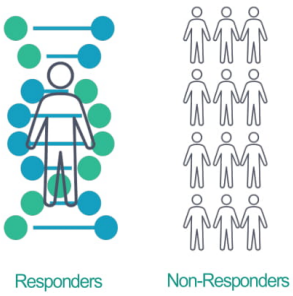
Failed or Abandoned Drug Assets & New Drug Development

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

Development of new compounds in drug classes that leverage our AI platform

RADR®

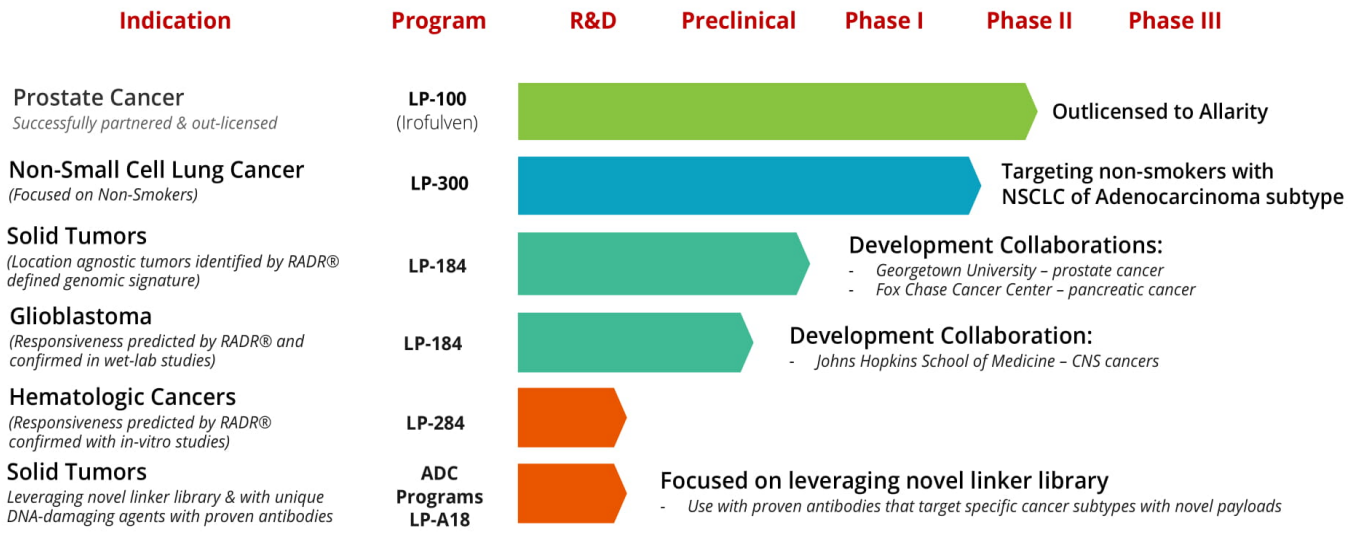
- Big data (genomic, clinical, response) assembled and analyzed
- Patient subgroups identified through machine learning and artificial intelligence
- Mechanisms of action clarified
- Potential combinations identified
- Potential for faster and more efficient path to relaunching in the clinical trial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

Lantern's Unique and Rapidly Developing Pipeline

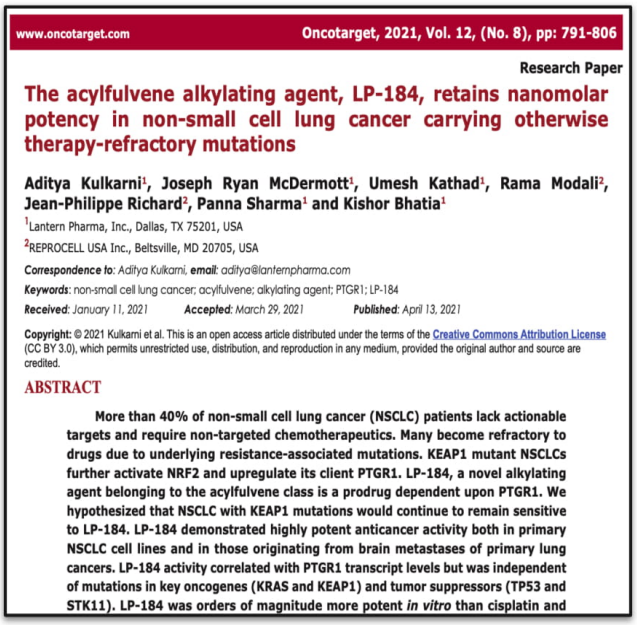


Accelerated Development by Leveraging the RADR® A.I. platform
Over 70 issued patents and pending applications across 14 patent families

Key Milestones Attained During Q1, 2021

- RADR® A.I. platform surpassed 4.0 billion datapoints
- Strengthened IP portfolio with filing of over 10 patent applications
- Launched RADR® collaboration strategy resulting in deal with Actuate
- Initiated preclinical development of LP-284 in highly sensitive hematologic cancers
- Published peer-reviewed studies of RADR® in BMC Bioinformatics and LP-184 in Oncotarget
- Submitted updated clinical development plans to FDA for LP-300 Phase 2 trial in non-smokers with NSCLC
- Expanded potential indications for LP-184 to include ATRT pediatric brain tumors & drug resistant lung cancers
- Balance Sheet cash as of 3/31/21 was $81.4 M, strengthened by Jan. '21 follow-on offering

Peer-Reviewed Publications That Further Validate RADR® A.I. Platform and LP-184



www.oncotarget.com Oncotarget, 2021, Vol. 12, (No. 8), pp: 791-806

Research Paper

The acylfulvene alkylating agent, LP-184, retains nanomolar potency in non-small cell lung cancer carrying otherwise therapy-refractory mutations

Aditya Kulkarni[1], Joseph Ryan McDermott[1], Umesh Kathad[1], Rama Modali[2], Jean-Philippe Richard[2], Panna Sharma[1] and Kishor Bhatia[1]

[1]Lantern Pharma, Inc., Dallas, TX 75201, USA

[2]REPROCELL USA Inc., Beltsville, MD 20705, USA

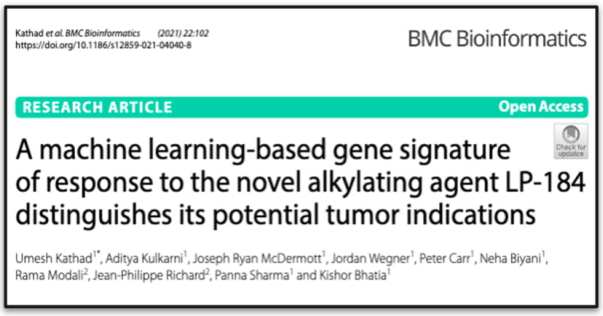
***Correspondence to**: Aditya Kulkarni, **email**: aditya@lanternpharma.com*

***Keywords**: non-small cell lung cancer; acylfulvene; alkylating agent; PTGR1; LP-184*

***Received**: January 11, 2021 **Accepted**: March 29, 2021 **Published**: April 13, 2021*

ABSTRACT

More than 40% of non-small cell lung cancer (NSCLC) patients lack actionable targets and require non-targeted chemotherapeutics. Many become refractory to drugs due to underlying resistance-associated mutations. KEAP1 mutant NSCLCs further activate NRF2 and upregulate its client PTGR1. LP-184, a novel alkylating agent belonging to the acylfulvene class is a prodrug dependent upon PTGR1. We hypothesized that NSCLC with KEAP1 mutations would continue to remain sensitive to LP-184. LP-184 demonstrated highly potent anticancer activity both in primary NSCLC cell lines and in those originating from brain metastases of primary lung cancers. LP-184 activity correlated with PTGR1 transcript levels but was independent of mutations in key oncogenes (KRAS and KEAP1) and tumor suppressors (TP53 and STK11). LP-184 was orders of magnitude more potent *in vitro* than cisplatin and



Kathad et al. BMC Bioinformatics (2021) 22:102
https://doi.org/10.1186/s12859-021-04040-8

BMC Bioinformatics

RESEARCH ARTICLE Open Access

A machine learning-based gene signature of response to the novel alkylating agent LP-184 distinguishes its potential tumor indications

Umesh Kathad[1*], Aditya Kulkarni[1], Joseph Ryan McDermott[1], Jordan Wegner[1], Peter Carr[1], Neha Biyani[1], Rama Modali[2], Jean-Philippe Richard[2], Panna Sharma[1] and Kishor Bhatia[1]

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Session PO.ET06.03 - Novel Antitumor Agents

1249 - LP184, a novel alkylating agent, is efficacious in prostate cancer models with DNA damage repair defects

April 10, 2021, 8:30 AM - 11:59 PM Poster

Authors

Aditya Kulkarni, Partha Banerjee, Umesh Kathad, Kishor Bhatia, Panna Sharma. Lantern Pharma Inc., Dallas, TX, Georgetown University, Washington, DC

Disclosures

A. Kulkarni: ; Lantern Pharma. **P. Banerjee:** ; Georgetown University. **U. Kathad:** ; Lantern Pharma. **K. Bhatia:** ; Lantern Pharma. **P. Sharma:** ; Lantern Pharma.

Abstract

Prostate cancer (CaP) remains the most commonly diagnosed malignancy and the second leading cause of cancer related deaths in men in the US. While the 5-year survival rate for patients with localized CaP is over 99%, it is only 30% for patients with distant metastases. Despite impressive advances in the treatment of metastatic CaP with more efficacious inhibitors along the androgen/androgen receptor axis, eventual development of incurable metastatic Castration Resistant Prostate Cancer (mCRPC) is inevitable, necessitating the development of newer therapeutic strategies. Comprehensive evaluations of CaP genomes from localized and metastatic CaP have revealed that subsets harboring mutations in certain DNA Damage Repair Genes (DDRGs) account for up to 30% of patients. LP184, a novel alkylating agent belonging to the acylfulvene (AF) class is currently in preclinical development, having demonstrated appreciable anticancer activity in multiple prostate tumor models. LP184 exhibits nanomolar potency (20 - 350 nM) against widely used CaP cell lines in 2D culture while having reduced cytotoxicity in a non tumor prostate epithelial cell line. In CaP cell lines, LP184 turned out equipotent as standard chemotherapeutic Docetaxel, 100-2000 times more potent than another alkylating agent

Summary Results of Operations

Three Months Ended March 31, (Unaudited)

	2021	2020
Operating expenses:		
General and administrative	1,173,258	340,172
Research and development	1,279,037	137,104
Total operating expenses	2,452,295	477,276
NET LOSS	**$ (2,452,295)**	**$ (477,276)**
Net loss per common share, basic and diluted	$ (0.24)	$ (0.24)
Weighted Avg. Common Shares Outstanding - Basic and Diluted	10,074,623	2,020,966

Balance Sheet Highlights & Shares Outstanding

	3/31/2021 (Unaudited)	12/31/2020
Cash	**$ 81,373,725**	**$ 19,229,232**
Prepaid Expenses & Other Current Assets	$1,110,770	$1,007,690
Total Assets	**$ 82,504,659**	**$ 20,359,634**
Total Liabilities	**$ 773,033**	**$ 660,839**
Total Stockholders' Equity	**$ 81,731,626**	**$ 19,698,795**

Follow-on offering (1/20/2021):

- 4,928,571 shares at $14.00 per share
- $68,999,994 Gross Proceeds.

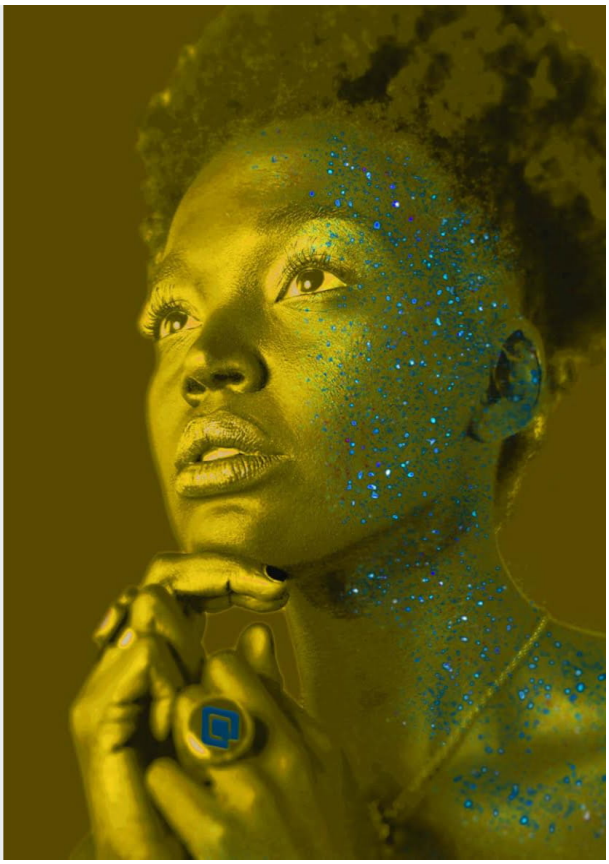
LANTERN PHARMA INC. (LTRN) -- Total Share Count	***As of March 31, 2021***
Common Shares Outstanding*	11,181,447
Warrants	305,294
Options (Employees, Management and Directors)	823,826
Fully Diluted Shares Outstanding	**12,310,567**

Entering "The Golden Age of A.I."

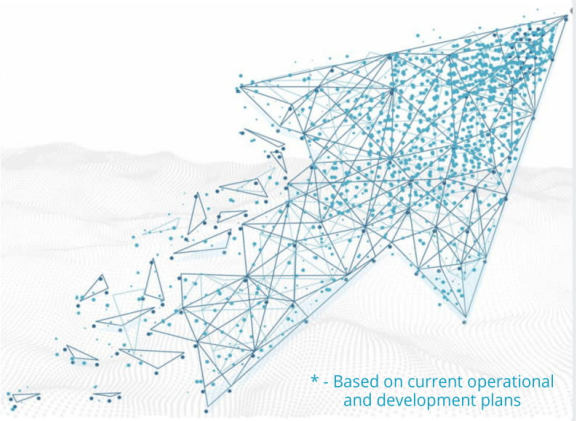
10 Mega-Trends Setting The Stage for A.I. Led Transformation in Drug Development & Medicine

- Large-scale, relevant and readily available data-sets
- Methods, technologies and algorithms that are massively scalable
- Computing, storage and transmission continue exponential advances
- Rapid rise of global talent and collaboration networks
- Tremendous increase in quality of biological data and methods
- Rise of sequencing as a highly available, on-demand, low-cost service
- Consumers willing to share personal data in near-time
- Industries that have an increasing impetus to transform
- New generation of investors demanding novel value creation
- Executives and entrepreneurs rewarded for rapid change

Lantern is at the forefront of this model of A.I. driven transformation in the area of personalized oncology drug development to drive value for cancer patients and our investors.



Precision Medicine Platform



10 Million > 2018 | 125 Million > 2019 | 1 Billion > 2020 | 8 Billion* > 2021 | 15 Billion* > 2022

Curated Data Sources Include:

- *Historical Trials*
- *Proprietary Internal Studies*
- *Studies & Collaborations w/ Partners*
- *Active Clinical Trials*
- *Trials in adjacent drug classes and tumors*
- *Proprietary Sequencing Campaigns*
- *Proprietary Drug Sensitivity Studies*
- *Open Sources from Publications and Research*
- *Clinical Outcome & Lab Data From Select Groups*

The RADR® Platform Enables…

Scientific Value +

- Rapid identification of potential compounds to rescue and develop
- Improved and more nuanced understanding of responder groups, and non-responder groups based on biological networks
- Feedback for potential mechanisms to be exploited in target-based development activity

- More rapid entry into clinical trials and patient subgroups
- Robust companion diagnostics that can be used to accelerate trials and commercial traction
- Potential for improved patient outcomes with drastically reduced costs and economic burden

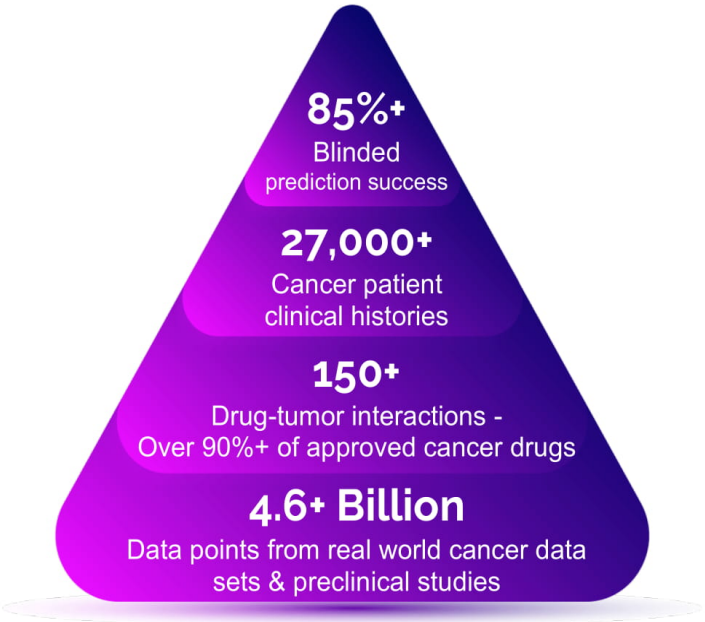
Patient Value +

Precision Medicine Platform

RADR® rapidly identifies genetic & biomarker signatures for precision oncology drug development, clinical response prediction and CDx (companion diagnostic) enablement.

We continue to invest in the platform's functionality, scale, and volume of data.

RADR® Platform Key Features & Architecture



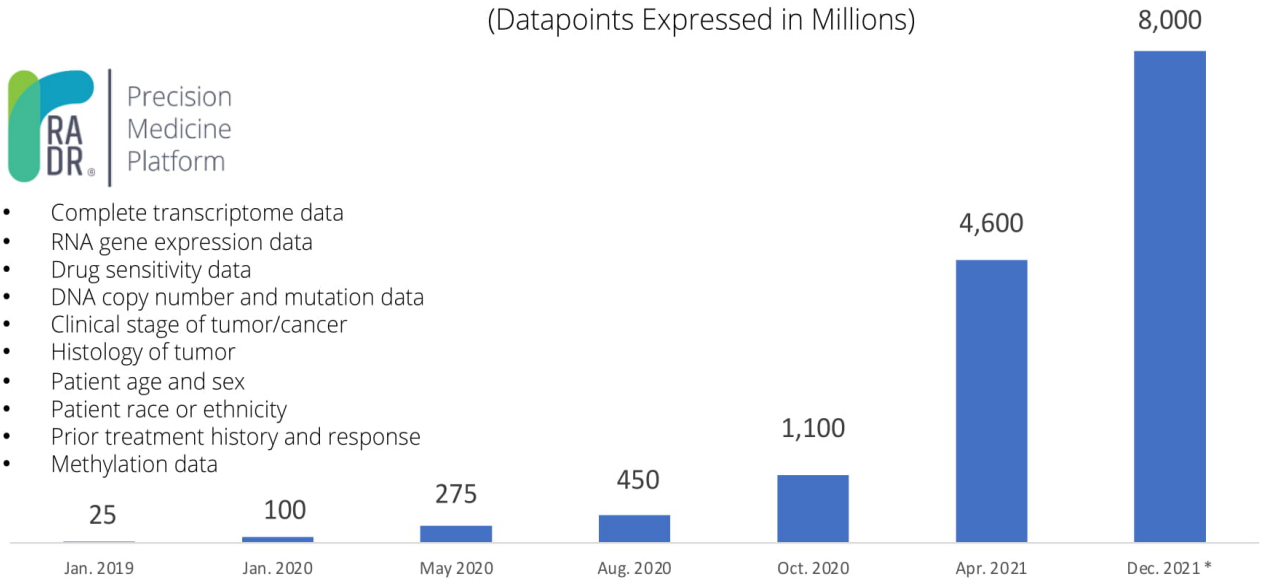
RADR® Platform Continues to Grow in Volume and Functionality

Growth in Data Drives Growth in Capabilities

16.7x growth Over Last 12 Months (May 2020 to May 2021)

Precision Medicine Platform

- 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
- Methylation data



* Expected amount of data based on development plan and pipeline

Updated Clinical Development Plans Submitted to FDA for LP-300 Phase 2 Trial For Non-smokers With NSCLC

Investigational Product	LP-300 in combination with chemo doublet - carboplatin and pemetrexed.
Development Phase	Phase II
Indication	Relapsed Advanced Primary Adenocarcinoma of the Lung in Never Smoker (Chemo-Naive) Patients After Treatment with Tyrosine Kinase Inhibitors or PD-1 / PDL-1 Inhibitors as monotherapy.
Study Rationale	This study is being conducted in an attempt to determine clinical advantages for this drug combination in the study-defined patient population.
Objectives	**Primary Objective:** The primary objective of this study is to determine progression-free survival and objective tumor responses in the study-defined patient population when co-administered LP-300 combination chemotherapy (carboplatin and pemetrexed) versus carboplatin and pemetrexed alone. **Secondary Objectives:** Secondary objectives of this study include the determination of overall survival, measurement of circulating tumor DNA (ctDNA), and the correlation of response with genomic characteristics of tumor (through whole genome and RNA sequencing).
Study Design & Population	Multicenter, open label, Phase II; approximately 80 patients to be enrolled. Patients who are never-smokers with lung adenocarcinoma after prior treatment with and relapse from tyrosine kinase inhibitors or PD-1 / PDL-1 inhibitors will be eligible for enrollment. The trial will proceed in two stages. In a run-in stage, three patients will be enrolled and treated with the triplet of carboplatin, LP-300, and pemetrexed. The second stage of the trial will consist of randomizing patients to one of two arms: carboplatin and pemetrexed versus carboplatin, LP-300, and pemetrexed.

Equity-Based Collaboration with Actuate Therapeutics that Leverages RADR®

ACTUATE THERAPEUTICS

Actuate Therapeutics, Inc. is a private clinical stage biopharmaceutical company focused on the development of compounds for use in the treatment of cancer, and inflammatory diseases leading to fibrosis.

Ft. Worth, TX & Chicago, IL

- Develop predictive model of sensitivity and a potential signature of biomarkers to identify response patients for 9-ING-41.
- 9-ING-41 is a widely researched GSK-3β inhibitor. There are multiple active oncology clinical trials in Phase I - II as monotherapy and in drug combinations.
- Lantern will be receiving equity in Actuate as part of the collaboration.

Key Value Building Objectives

Foundational Year
Advance Platform
Prepare Trial Launches
Prioritize Additional Compounds

2021

- Planned launch of Ph. 2 clinical trial for LP-300 in NSCLC (non-smokers) in 3Q'21
- Update on LP-100 Ph. 2 EU trial in mCRPC
- Grow RADR® A.I. platform to over 8 billion datapoints
- Identify antibody target and tumor for ADC program
- Results from preclinical work w/ LP-184 in pancreatic, prostate, GBM, ATRT and other tumors
- Launch initial ADC indications in pre-clinical
- Showcase RADR® A.I. platform and drug portfolio during "Lantern Investor Day"

Multiple Streams of Value Creation
Launch Multiple Precision Trials
Leverage Platform for Pharma Partners
Secure Additional Compounds

2022

- Launch Ph. 1 ADC program in solid tumors
- Launch Ph. 1 clinical trial for LP-184 in solid tumors
- Launch Ph. 1/2 clinical trial for LP-184 in GBM
- Progress LP-184 in ATRT towards Ph. 1/2 clinical trial
- Explore potential combinations for LP-184 & LP-300 with other existing approved drugs (inc. I-O agents)
- Strategically grow RADR® A.I. platform to 15 billion datapoints
- Licensing and partnership opportunities

Q & A

LTRN Operating & Financial Results Call
May 3, 2021