UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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): March 27, 2025

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)	(I.R.S. Employer Identification Number)

1920 McKinney Avenue, 7th Floor
Dallas, Texas 75201
(Address of principal executive offices)

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

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligations of the registrant under any of the following provisions.

☐ 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 240.14d-2(b)

☐ 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)

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. ☒

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock: Par value $.001	LTRN	Nasdaq Capital Market

Item 2.02 Results of Operations and Financial Condition.

On March 27, 2025, Lantern Pharma Inc. (the "Company") issued a press release announcing its financial results for the fiscal year and fourth quarter ended December 31, 2024. 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 March 27, 2025, the Company utilized a presentation to assist with the Company's discussions during a conference call and live webinar hosted by the Company to discuss financial and operating results for the fiscal year and fourth quarter ended December 31, 2024. 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 Method Filing

The following exhibits are furnished with this report:

Exhibit 99.1	Press Release dated March 27, 2025 announcing financial results for the fiscal year and quarter ended December 31, 2024.	Filed Electronically herewith
Exhibit 99.2	Presentation relating to March 27, 2025 conference call and live webinar to discuss financial and operating results for fiscal year and quarter ended December 31, 2024.	Filed Electronically herewith
Exhibit 104	Cover Page Interactive Data File (embedded with 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.

Dated: March 27, 2025

/s/ David Margrave
David Margrave,
Chief Financial Officer

Exhibit 99.1

Lantern Pharma Provides Business Updates and Fourth Quarter &
Year-End 2024 Financial Results

- HARMONIC™ trial lead-in cohort delivered impressive 86% clinical benefit rate and 43% objective response rate in never-smoker NSCLC patients, with current expansion cohort reinforcing these positive trends as enrollment accelerates in Japan and Taiwan, where 33-40% of NSCLC cases occur in never-smokers, positioning Lantern for multiple clinical readouts in 2025.
- LP-184 received two U.S. FDA Fast Track Designations in 2024 for Glioblastoma and Triple Negative Breast Cancer, plus three additional Rare Pediatric Disease Designations, strengthening future market potential across multiple high-need indications with multi billion U.S. dollar market potential.
- Successfully dosed multiple patient cohorts in Phase 1A clinical trials for both LP-184 and LP-284, advancing these synthetic lethal drug candidates toward drug concentration levels that may show therapeutic efficacy in several cancers of high unmet patient need and with multiple orphan and fast track FDA designations.
- Demonstrated LP-184 synergy with checkpoint inhibitors in TNBC through MD Anderson collaboration, demonstrating ability to transform immunologically "cold" tumors into "hot" tumors by reshaping the tumor microenvironment and modulating T-cell activity in preclinical models.
- Starlight Therapeutics unveiled recurrent GBM trial design for STAR-001 at SNO 2024, featuring innovative STAR-001+spironolactone combination regimen that leverages synthetic lethality; assembled world-class Scientific Advisory Board from Johns Hopkins, UCSF, and Memorial Sloan Kettering.
- Showcased industry-leading capabilities in CNS therapeutic development using AI with patent-pending BBB permeability prediction algorithm with unprecedented performance –five of the top eleven rankings on Therapeutic Data Commons leaderboard and processing capabilities of 100,000 molecules per hour at industry-leading accuracy rates.
- Unveiled innovative AI-powered ADC development module that identified 82 promising targets and 290 target-indication combinations and potentially reducing development timelines by 30-50% and preclinical costs by up to 60% compared to traditional ADC development.
- The RADR® AI platform surpassed 100 billion oncology-specific data points in 2024, accelerating precision drug development initiatives including biomarker discovery and signature creation, identification of mechanisms of action and synergistic combination regimens, ADC optimization, and continuing to power collaborations with emerging oncology companies and centers.
- Approximately $24 million in cash, cash equivalents, and marketable securities as of December 31, 2024.
- The conference call and webcast are scheduled for Thursday, March 27, 2025 at 4:30 p.m. ET.

FOR IMMEDIATE RELEASE

DALLAS—(BUSINESS WIRE)— March 27, 2025 — Lantern Pharma Inc. (NASDAQ: LTRN), a clinical-stage biopharmaceutical company leveraging its proprietary RADR® artificial intelligence (AI) and machine learning (ML) platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced financial results for the fourth quarter and full year ended December 31, 2024, and provided an update on its portfolio of AI-driven drug candidates, the RADR® platform for precision oncology drug development enhancements, and other operational progress.

"With three clinical precision oncology programs actively enrolling patients and critical data milestones on the horizon, we are at the forefront of using AI to transform the cost, pace, and timeline of oncology drug development. Lantern is a leader in the development of tech-bio to deliver the next generation of cancer medicines, where success is defined by both AI-driven progress and meaningful patient outcomes," said Panna Sharma, CEO & President of Lantern Pharma *"During 2025, we expect to have meaningful clinical readouts from our Phase 1 and Phase 2 programs and continue to launch highly innovative AI modules that can be used to accelerate and transform drug development in oncology."*

AI-Powered Drug Development Pipeline Highlights:

LP-300

Lantern's Phase 2 HARMONIC™ trial for LP-300 continued to expand globally in 2024 with sites opened in Japan and Taiwan, including at theNational Cancer Center Japan. Patient enrollment was initiated inTaiwan and Japan during Q4 of 2024 and is expected to accelerate during 2025. Never-smokers with NSCLC in East Asia represent 33% to 40% of new NSCLC cases, as opposed to the US, where never smokers account for 15% of new NSCLC cases. LP-300 is being evaluated in combination with standard-of-care chemotherapy (carboplatin + pemetrexed) in never-smokers with NSCLC adenocarcinoma who have progressed after TKI therapy. The trial is designed to enroll approximately 90 patients across the U.S. and East Asia.

Phase 2 Clinical Results: Preliminary data from the Phase 2 U.S. safety, lead-in cohort showed an 86% clinical benefit rate and a 43% objective response rate. Additional patient data from the expansion cohort continues to support, at the current time, a similar patient response and clinical benefit rate trend. Lantern plans on sharing additional results, which will include data from patients enrolled in Taiwan and Japan from the expansion cohort, during Q2 of 2025.

Other LP-300 Advancements: Lantern's RADR platform and in-vitro preclinical experiments have shown that LP-300 has mechanistic synergy with EGFR, ALK, MET, and RET inhibitors. Leading clinicians and KOLs are supportive of the use of LP-300 in combination with TKIs - *most notably Osimertinib* - in an earlier line setting. Lantern is working on developing a clinical protocol to advance the potential use of LP-300 in this setting.

LP-184

LP-184 continued advancement through a Phase 1a trial in multiple solid tumors, which is targeted to finish enrollment during Q2 of 2025. In 2024, LP-184 received Fast Track Designations from the FDA for both GBM (Glioblastoma Multiforme) and TNBC (Triple Negative Breast Cancer). Additionally, LP-184 received three Rare Pediatric Disease Designations for hepatoblastoma, rhabdomyosarcoma, and malignant rhabdoid tumors, in addition to its existing designation for ATRT. ATRT is an ultra-rare pediatric brain tumor with the genetic hallmark of loss-of-function or deletion of the SMARCB1 gene.

Phase 1a Results: Safety, Tolerability, Pharmacokinetics including MTD Determination - The trial is now on cohort 11, and early indications of clinical activity have been observed at higher dose levels, consistent with preliminary PK data. During Q4 of 2024, dose levels 7, 8, and 9 were cleared without safety concerns, and preliminary PK data suggest dose proportionality with exposure. Enrollment at dose level 9 and above is focused on inclusion of advanced solid tumor patients that have identified DNA damage repair mutations. A broader clinical data update is slated for Q2 2025 when recruitment for the trial is expected to be finished, and complete safety and dose response data is expected to be available.

Future Planned Phase 1b/2 Trials: Lantern has submitted a clinical trial protocol to the FDA for a Phase 1b/2 study in TNBC evaluating a combination regimen with the PARP inhibitor, Olaparib. The FDA has raised no objections to the protocol, and Lantern expects to initiate this trial in both the US and a leading academic cancer center in Nigeria, subject to clinical priorities and funding. An investigator-led study of LP-184 for recurrent bladder cancer is planned to begin in Denmark. This clinical trial will test LP-184 as a monotherapy specifically in advanced bladder cancer patients with DNA damage repair mutations.

Other LP-184 Advancements: LP-184 showed synergy with anti-PD1 checkpoint inhibitors in TNBC, suggesting the potential for use in immuno-oncology combinations for TNBC patients. LP-184 sensitizes immuno-refractory TNBCs to anti-PD1 therapy by affecting the tumor microenvironment as shown in preclinical models. This work was done in collaboration with MD Anderson and was recently presented at the AACR IO Conference in February of 2025. During Q4 2024, Lantern completed a CRISPR-focused academic collaboration focused on highlighting and validating pathways and targets that show increased sensitivity to LP-184. These results and how they impact plans for potential upcoming trials will be further detailed in upcoming scientific communications.

LP-284

LP-284 continued enrollment in its Phase 1A, first-in-human clinical trial for relapsed/refractory non-Hodgkin's lymphoma and solid tumors. No dose-limiting toxicities have been observed through cohort 4. LP-284 has shown nanomolar potency in multiple preclinical cancer models, including tumors that are resistant to Ibrutinib and Bortezomib.

Other LP-284 Advancements: LP-284 is a potent B-cell depleter, and has shown significant potency in reducing clonal CD-19+ and CD-20+ B cells. Lantern believes that this mechanism can be redirected as a potential therapeutic for auto-immune disorders, including lupus nephritis. Lantern plans on sharing data from these early preclinical studies during Q2 of 2025.

RADR® A.I. Platform

Lantern's proprietary RADR® platform surpassed 100 billion oncology-focused data points across multiple sources (proprietary and public) of oncology, molecular, clinical and preclinical datasets in 2024. Across Lantern's pipeline RADR® continues to advance:

- drug candidate optimization,
- development and validation of clinically relevant drug-candidate combinations,
- identification of mechanism(s) of action,
- identification of optimal indications for drug-candidate advancement, and
- creation of biomarker signatures to support patient selection
- optimization and characterization of molecular features
- prediction of BBB capabilities of a molecule

Platform advancements contributed to LP-184's clinical biomarker strategy, including a qPCR assay for PTGR1 to guide patient stratification, and aided in the identification of multiple indications leading to orphan and rare pediatric disease designations. Additionally, RADR® also underpinned combination strategies, such as LP-184 with anti PD1 checkpoint inhibitors and LP-284 with rituximab. Future plans and developments include additional collaborations with leading oncology development groups and biopharma companies in both adult and pediatric cancers.

Lantern expects to publicly release multiple modules (validated A.I. frameworks) that can be accessed by Lantern collaborators for specific needs in oncology drug development, such as prediction of certain molecular features and identification of potential cancer indications that are more likely to show a higher sensitivity to a molecule or drug-candidate.

Starlight Therapeutics:

Lantern's wholly owned subsidiary, Starlight Therapeutics, made key strides in 2024 toward developing potential therapies for CNS and brain cancers. LP-184, referred to as STAR-001 for CNS indications, was highlighted at the Society for Neuro-Oncology (SNO) 2024 conference, with a Phase 1b trial in recurrent GBM anticipated to begin in 2025 subject to successful additional funding. Additionally, Starlight appointed Dr. Marc Chamberlain as Chief Medical Officer and established its inaugural Scientific Advisory Board, which includes leading neuro-oncology researchers and clinicians during 2024.

Additional Operational Highlights:

- Advanced strategic RADR®-based AI collaborations with Actuate Therapeutics (NASDAQ:ACTU) and Oregon Therapeutics, accelerating and refining the development of novel best-in-class cancer metabolism inhibitors.

- Achieved key development milestone in the creation of a qRT-PCR molecular diagnostic for PTGR1 assessment to identify patients most likely to respond to LP-184, potentially increasing success rates through precision patient selection for future clinical trials.
- Secured Japanese Patent Office protection for LP-284 composition of matter, extending IP coverage through 2039 in a strategic market with 7,000+ NHL cases annually.
- Advanced proprietary BBB permeability prediction algorithm with favorable PCT patent application report, advancing our AI leadership with Lantern's algorithms holding five of the top ten positions on Therapeutic Data Commons Leaderboard.

Fourth Quarter and Full Year 2024 Financial Results:

- **Balance Sheet**: Cash, cash equivalents, and marketable securities were approximately $24.0 million as of December 31, 2024, compared to approximately $41.3 million as of December 31, 2023.
- **R&D Expenses**: Research and development expenses were approximately $4.3 million for the quarter ended December 31, 2024, compared to approximately $3.6 million for the quarter ended December 31, 2023.
- **G&A Expenses**: General and administrative expenses were approximately $1.6 million for the quarter ended December 31, 2024, compared to approximately $1.3 million for the quarter ended December 31, 2023.
- **Net Loss**: Net loss was approximately $5.9 million (or $0.54 per share) for the quarter ended December 31, 2024, compared to a net loss of approximately $4.2 million (or $0.39 per share) for the quarter ended December 31, 2023.
- **Full Year Net Loss Per Share**: Net loss was $1.93 per share for the fiscal year 2024 compared to $1.47 per share for the fiscal year 2023.
- **Shares Issued**: In fiscal year 2024 the Company issued 21,313 shares of common stock for aggregate proceeds of $66,710, relating to the exercise of warrants that were expiring. The Company also issued 22,220 shares of common stock relating to the cashless exercise of warrants to purchase 86,685 shares during the year ended December 31, 2024. The Company also issued 20,000 shares of restricted common stock during fiscal year 2024.

About Lantern Pharma:

Lantern Pharma (NASDAQ: LTRN) is an AI company transforming the cost, pace, and timeline of oncology drug discovery and development. Our proprietary AI and machine learning (ML) platform, RADR®, leverages over 100 billion oncology-focused data points and a library of 200+ advanced ML algorithms to help solve billion-dollar, real-world problems in oncology drug development. By harnessing the power of AI and with input from world-class scientific advisors and collaborators, we have accelerated the development of our growing pipeline of therapies that span multiple cancer indications, including both solid tumors and blood cancers and an antibody-drug conjugate (ADC) program. On average, our newly developed drug programs have been advanced from initial AI insights to first-in-human clinical trials in 2–3 years and at approximately $1.0 – $2.5 million per program.

Our lead development programs include a Phase 2 clinical program and multiple Phase 1 clinical trials. We have also established a wholly-owned subsidiary, Starlight Therapeutics, to focus exclusively on the clinical execution of our promising therapies for CNS and brain cancers, many of which have no effective treatment options. Our AI-driven pipeline of innovative product candidates is estimated to have a combined annual market potential of over $15 billion USD and have the potential to provide life-changing therapies to hundreds of thousands of cancer patients across the world.

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; expectations and estimates regarding clinical trial timing and patient enrollment; 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 patient populations, 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," "model," "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 risk that we may not be able to secure sufficient future funding when needed and as required to advance

and support our existing and planned clinical trials and operations, (ii) the risk that observations in preclinical studies and early or preliminary observations in clinical studies do not ensure that later observations, studies and development will be consistent or successful, (iii) the risk that our research and the research of our collaborators may not be successful, (iv) the risk that we may not be successful in licensing potential candidates or in completing potential partnerships and collaborations, (v) 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, (vi) the risk that no drug product based on our proprietary RADR® AI platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (vii) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the Securities and Exchange Commission on March 27, 2025. You may access our Annual Report on Form 10-K for the year ended December 31, 2024 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 Disclosure Channels to Disseminate Information:

Lantern Pharma's investors and others should note that we announce material information to the public about our company and its technologies, clinical developments, licensing matters and other matters through a variety of means, including Lantern Pharma's website, press releases, SEC filings, digital newsletters, and social media, in order to achieve broad, non-exclusionary distribution of information to the public. We encourage our investors and others to review the information we make public in the locations above as such information could be deemed to be material information. Please note that this list may be updated from time to time.

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Fourth Quarter & Year-end 2024
Operating & Financial Results Conference Call / Webinar

March 27th, 2025
4:30 PM Eastern Time

Lantern Pharma NASDAQ :LTRN

Forward Looking Statements

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Contents

Speakers

Panna Sharma
CEO and President

David Margrave
CFO

2024 4th Quarter Highlights

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Lantern Pharma

NASDAQ: LTRN

- ✓ **HARMONIC™ trial** lead-in cohort delivered impressive **86% clinical benefit rate and 43% objective response rate** in never-smoker NSCLC patients, with current expansion cohort reinforcing these positive trends as enrollment accelerates in **Japan and Taiwan**, where 33-40% of NSCLC cases occur in never-smokers, positioning Lantern for multiple clinical readouts in 2025.

- ✓ **LP-184** received **two U.S. FDA Fast Track Designations in 2024 for Glioblastoma and Triple Negative Breast Cancer**, plus three additional Rare Pediatric Disease Designations, strengthening future market potential across multiple high-need indications with multi billion U.S. dollar market potential.

2024 4th Quarter Highlights

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Lantern Pharma

NASDAQ: LTRN

- ✓ Successfully dosed multiple patient cohorts in **Phase 1A clinical trials for both LP-184 and LP-284**, advancing these synthetic lethal drug candidates toward drug concentration levels that may show therapeutic efficacy in several cancers of high unmet patient need and with **multiple orphan and fast track FDA designations.**

- ✓ Demonstrated **LP-184 synergy with checkpoint inhibitors in TNBC** through **MD Anderson collaboration**, demonstrating ability to transform immunologically "cold" tumors into "hot" tumors by reshaping the tumor microenvironment and modulating T-cell activity in preclinical models.

2024 4th Quarter Highlights

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Lantern Pharma

NASDAQ: LTRN

- ✓ Starlight Therapeutics unveiled **recurrent GBM trial design for STAR-001 at SNO 2024**, featuring innovative **STAR-001+spironolactone combination** regimen that leverages synthetic lethality; assembled world-class **Scientific Advisory Board** from Johns Hopkins, UCSF, and Memorial Sloan Kettering.

- ✓ Showcased **industry-leading capabilities in CNS therapeutic development using AI** with patent-pending **BBB permeability prediction algorithm** with unprecedented performance – five of the top eleven rankings on Therapeutic Data Commons leaderboard and processing capabilities of 100,000 molecules per hour at industry-leading accuracy rates.

2024 4th Quarter Highlights

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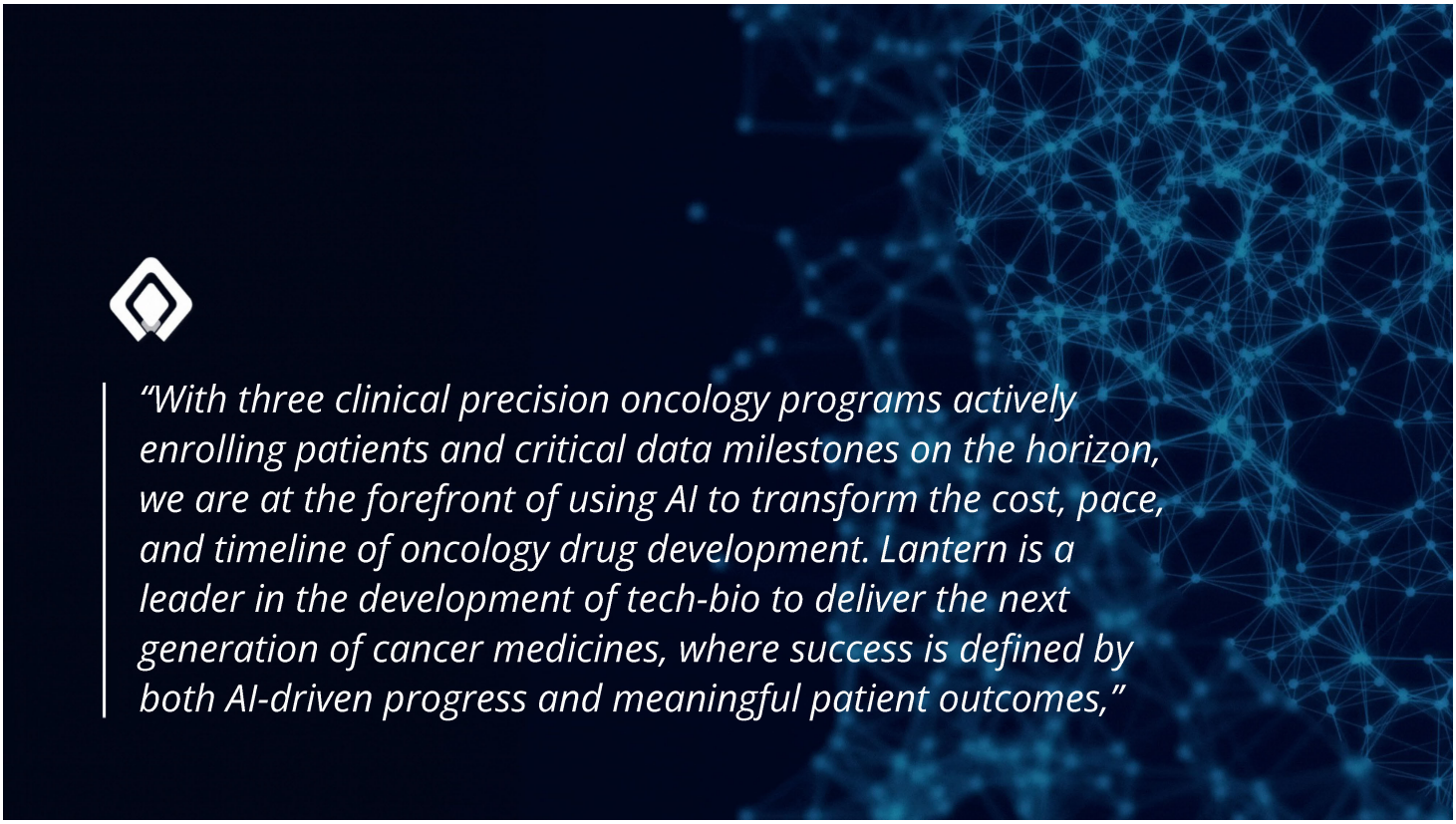
Lantern Pharma®

NASDAQ: LTRN

- ✓ Unveiled innovative **AI-powered ADC development module** that identified 82 promising targets and 290 target-indication combinations and potentially **reducing development timelines by 30-50% and preclinical costs by up to 60%** compared to traditional ADC development.
- ✓ The **RADR® AI platform** surpassed **100 billion oncology-specific data points** in 2024, accelerating precision drug development initiatives including biomarker discovery and signature creation, identification of mechanisms of action and synergistic combination regimens, ADC optimization, and continuing to power collaborations with emerging oncology companies and centers.
- ✓ Approximately **$24 million** in cash, cash equivalents, and marketable securities as of December 31, 2024.



Summary Results of Operations

	Three Months Ended December 31,		Year Ended December 31,	
	2024	2023	2024	2023
Operating expenses:				
General and administrative	$ 1,626,878	$ 1,304,127	$ 6,090,747	$ 5,983,255
Research and development	4,269,521	3,573,257	16,125,690	11,894,315
Total operating expenses	5,896,399	4,877,384	22,216,437	17,877,570
Loss from operations	(5,896,399)	(4,877,384)	(22,216,437)	(17,877,570)
Interest + Other income, net	21,199	691,463	1,435,224	1,916,036
NET LOSS	**$** (5,875,200)	**$** (4,185,921)	**$** (20,781,213)	**$** (15,961,534)
Net loss per common share, basic and diluted	$ (0.54)	$ (0.39)	$ (1.93)	$ (1.47)

Balance Sheet Highlights & Summary

	December 31, 2024	December 31, 2023
Cash and Marketable Securities	$24,013,063	$41,302,672
Prepaid Expenses & Other Current Assets	$1,234,566	$2,038,653
Total Assets	**$25,571,792**	**$43,647,616**
Total Liabilities	**$4,384,018**	**$2,739,682**
Total Stockholders' Equity	**$21,187,774**	**$40,907,934**

Shares Outstanding

LANTERN PHARMA INC. (LTRN)	December 31, 2024
Common Shares Outstanding	10,784,725
Warrants	70,000
Options (Employees, Management and Directors)	1,245,694
Fully Diluted Shares Outstanding	**12,100,419**

Lantern's diverse & unique AI-driven pipeline of 11 drug programs including RADR® collaborations and Starlight Therapeutics

Lantern Pharma (NASDAQ: LTRN)

Lead Candidate	Indication	Discovery	Preclinical	Phase I	Phase II	Orphan Drug	Rare Pediatric	Fast Track
LP-300	Non-Small Cell Lung Cancer for Never Smokers				harmonic			
LP-184	Recurrent Advanced Solid Tumors (*Pancreatic, TNBC, Bladder, & Other Solid Tumors*)					* for Pancreatic, MRT, RMS, HB, HGG	* for MRT, RMS & HB	* for TNBC
LP-284	Recurrent Non-Hodgkin's Lymphomas (*Mantle cell, Double-hit lymphomas, & HGBL*)					*for Mantle Cell & HGBL		
ADC	Select Solid Tumors							

RADR® Collaborations

Elraglusib *owned by – Actuate Thera.*	Multiple Solid Tumors		Collaboration partner ACTUATE THERAPEUTICS
TTC-352 *owned by– TTC Oncology*	ER+ Breast Cancers		Collaboration partner ttc oncology
XCE853 *owned by – Oregon Thera.*	Protein Disulfide Isomerase (PDI) Inhibitor		Collaboration partner OREGON THERAPEUTICS
ADC	Cryptophycin Conjugate for Solid Tumors		Collaboration partner UNIVERSITÄT BIELEFELD

Starlight's pipeline is focused on multiple CNS indications in both adult and pediatric patients

Starlight Therapeutics

ADULT CNS CANCERS

Lead Candidate	Indication	Discovery	Preclinical	Phase I	Phase II	Orphan Designation	RPDD	Fast Track
STAR-001	First Recurrent Glioblastoma*					●		●
	Newly Diagnosed MGMT Unmethylated Glioblastoma**					●		●

Multiple GBM patients have been enrolled in the ongoing Phase 1a being conducted by Lantern Pharma
Investigator led trial

PEDIATRIC CNS CANCERS

STAR-001	Phase 1a monotherapy including ATRT, DIPG and Medulloblastoma					● *for ATRT	● *for ATRT	
	Phase 1b combination select pediatric CNS cancers							

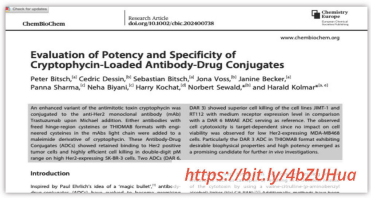
Eleven FDA designations demonstrate our data-driven, AI-enabled approach to transformative drug development & strengthen our commercial value

FDA

11 designations

Designation	Candidate	Indication	Date
Fast Track Designation	LP-184	Glioblastoma	Sep. 2024
	LP-184	Triple Negative Breast Cancer	Dec. 2024
Orphan Drug Designation	LP-184	Pancreatic Cancer	Aug. 2021
	LP-184	Glioblastoma	Aug. 2021
	LP-184	Malignant Glioma	Aug. 2021
	LP-284	Mantle Cell Lymphoma	Jan. 2023
	LP-284	High Grade B-Cell Lymphoma	Nov. 2023
Orphan and Rare Pediatric Disease Designation	LP-184	ATRT	Jan. 2022
	LP-184	Malignant Rhabdoid Tumors	Sep. 2024
	LP-184	Rhabdomyosarcoma	Sep. 2024
	LP-184	Hepatoblastoma	Sep. 2024

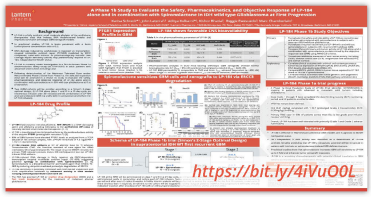
Recent publications highlighting the clinical value of RADR® in the development of Lantern's drug candidates



PUBLICATION | CHEMBIOCHEM JOURNAL

Evaluation of Potency and Specificity of Cryptophycin-Loaded Antibody-Drug Conjugates

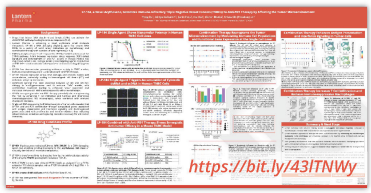
ChemBioChem
An Official Journal of the EFMC



POSTER | SNO ANNUAL MEETING 2024

A Phase 1b Study to Evaluate the Safety, Pharmacokinetics, and Objective Response of LP-184 alone and in combination with Spironolactone in IDH wild type Glioblastoma at First Progression

SNO
Society for NeuroOncology



POSTER | AACR IMMUNO-ONCOLOGY CONFERENCE 2025

LP-184, a Novel Acylfulvene, Sensitizes Immuno-refractory Triple Negative Breast Cancers (TNBCs) to Anti-PD1 Therapy by Affecting the Tumor Microenvironment

AACR IO
DISCOVERY AND INNOVATION IN CANCER IMMUNOLOGY: REVOLUTIONIZING TREATMENT THROUGH IMMUNOTHERAPY

AACR American Association for Cancer Research®

2025 Objectives

A Breakthrough Year for Lantern

TOP TEN

- Complete Phase 1a clinical trial for LP-184; pursue Phase 1b and investigator led trial(s)
- Advance enrollment in first-in-human clinical trial for LP-284 in NHL + other cancers
- Accelerate enrollment of **The Harmonic™ Trial** in targeted sites in Asia
- Progress Starlight Therapeutics towards planned Phase 1b / 2 adult & pediatric clinical trials
- Expand RADR® AI platform and develop additional monetizable collaborations
- Further ADC preclinical and IND development to support future Phase 1 launch / partnership opportunities
- Explore licensing and partnership opportunities with biopharma companies
- Develop combination programs for LP-184, LP-284, and LP-300 with existing approved drugs
- Continue efficient internal clinical operations capabilities
- Maintain disciplined fiscal management and pursue additional funding opportunities

Lantern Pharma®

NASDAQ: LTRN

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