NEWS RELEASE

Lantern Pharma's LP-184 Phase 1a Clinical Trial Achieves All Primary Endpoints with Robust Safety Profile and Promising Antitumor Activity in Multiple Advanced Solid Tumors

2025-09-16

- LP-184 achieves all primary endpoints and demonstrates a favorable safety and tolerability profile positioning it for both monotherapy or synergistic combinations with PARP inhibitors and immunotherapies.
- Clinical benefit observed in 48% of evaluable cancer patients at or above the therapeutic dose threshold.
- Durable clinical benefits were observed in hard-to-treat tumors like glioblastoma multiforme (GBM), gastrointestinal stromal tumor (GIST) and thymic carcinoma.
- Biomarker insights highlight potential in DDR-mutated cancers, with marked tumor reductions in patients with CHK2, ATM, and STK11/KEAP1 alterations.
- Recommended Phase 2 dose (RP2D) established for targeted Phase 1b/2 trials in triple-negative breast cancer (TNBC), non-small cell lung cancer (NSCLC), and bladder cancer.
- The cancer indications in these targeted trials represent markets exceeding $6 billion in annual potential.
- The observations for LP-184 in the Phase 1a trial include clinical benefit for multiple patients who had reached the limits of or failed current available therapies.

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), a leading artificial intelligence (AI)-driven oncology company leveraging its proprietary RADR® platform to accelerate targeted cancer therapies, today announced the successful completion of its Phase 1a clinical trial (NCT05933265) for LP-184. The trial met all

primary endpoints, demonstrating a favorable safety and pharmacokinetic (PK) profile, and early signs of antitumor activity. Enrollment is complete, with several patients continuing treatment due to ongoing clinical benefit.

The open-label, multicenter, non-randomized study evaluated LP-184 in 63 patients with advanced relapsed or refractory solid tumors, including GBM. Primary objectives focused on safety, tolerability, PK, and determining a recommended Phase 2 dose (RP2D) when administered on Days 1 and 8 of a 21-day cycle.

Summary of Preliminary Phase 1a Safety and Pharmacokinetic Observations

LP-184 exhibited a robust safety profile, with no dose-limiting toxicities in the majority of cohorts and low incidence of discontinuations, interruptions, or delays due to drug-related adverse events. Adverse events were predominantly Grade 1 or 2, including manageable nausea and vomiting—consistent with alkylating agents—that resolved without significant intervention. The low rate of Grade 3+ events (minimal across the study) underscores LP-184's tolerability, making it well-suited for potential monotherapy or combinations with agents like PARP inhibitors and immunotherapies, where preclinical synergies have been observed.

PK data confirmed that therapeutic concentrations were achieved at dose levels 8 (0.25 mg/kg) and above, aligning with preclinical models and supporting dose optimization for future trials. These observations will help further de-risk LP-184, enabling efficient advancement in biomarker-enriched populations identified via our RADR® AI platform.

Summary of Preliminary Phase 1a Antitumor Observations

Promising antitumor activity emerged, particularly at dose levels 8 (0.25 mg/kg) and above, where therapeutic exposures were attained. Disease control was achieved in 48% (10/21) of evaluable patients after two cycles, including in heavily pre-treated cases. The median number of prior lines of therapy was 3; some patients had up to 8 prior lines of therapy.

Notable highlights from the overall study include:

- Clinical benefit observed in 4 of 16 recurrent GBM patients previously exposed to temozolomide, lomustine, and/or radiation.
- Marked reductions in target cancer lesions among patients with CHK2, ATM, BRCA1 and STK11/KEAP1 mutations, spanning colon cancer, thymic carcinoma, gastrointestinal stromal tumor (GIST), and NSCLC.
- A NSCLC patient with DNA damage response (DDR) mutations, refractory to immunotherapy, achieved nearly two years of clinical benefit and remained on treatment.
- Two patients at dose level 10 (0.39 mg/kg) maintain disease control beyond six months and continue on

therapy.

These signals in DDR-deficient tumors further support LP-184's synthetic lethal mechanism and highlight its potential in precision oncology.

"On behalf of our dedicated team, we extend our sincere gratitude to the patients, families, investigators, and clinical staff whose commitment drove the success of our Phase 1a LP-184 trial, establishing a robust safety profile with encouraging signals of activity at therapeutic doses," said Panna Sharma, Chief Executive Officer of Lantern Pharma. "Leveraging our RADR® AI platform, we're now positioning LP-184 for targeted Phase 1b and Phase 2 studies. Our goals are to position LP-184 to address critical unmet needs in TNBC, NSCLC, and other DDR-deficient cancers, which can unlock significant value for patients and investors alike."

Recommended Phase 2 Dose and LP-184 Future Development Plan

The Safety Review Committee supported an RP2D of 0.39 mg/kg in this regimen, with provisions for intra-patient escalation, based on the trial's evaluation of safety, tolerability, and PK data. Building on these results, Lantern is developing plans to advance multiple Phase 1b/2 trials, prioritizing the following disease indications:

- TNBC in combination with Olaparib (a PARP inhibitor), with potential for ctDNA as an early response biomarker to support accelerated approval pathways.
- NSCLC with STK11/KEAP1 co-mutations, with or without immunotherapy.
- Bladder cancer in a trial to be conducted as an investigator-led study in Denmark with patients harboring DNA damage repair genetic alterations.

These initiatives target high-value indications with substantial market potential and high clinical need.

Data Cutoff Date and Future Publications and Presentations

The data cutoff for the observations described in this release is August 26, 2025. Comprehensive results from the LP-184 Phase 1a trial are being prepared for peer-reviewed publications and presentations at upcoming oncology conferences.

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 200 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. Our lead development programs include a Phase 2 clinical program and multiple Phase 1 clinical trials. 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.

Please find more information at:

- Website: **www.lanternpharma.com**
- LinkedIn: **https://www.linkedin.com/company/lanternpharma/**
- X: @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; 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 the observations from the LP-184 Phase 1a clinical trial described in this release are preliminary and not final; (ii) 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, (iii) 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, (iv) the risk that our research and the research of our collaborators may not be successful, (v) the risk that we may not be successful in licensing potential candidates or in completing potential partnerships and collaborations, (vi) 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, (vii) 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 (viii) 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 **http://www.lanternpharma.com/** or on the SEC's website at **http://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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Source: Lantern Pharma Inc.