NEWS RELEASE

Lantern Pharma Announces Publication in Clinical Cancer Research Highlighting the Enhanced Efficacy of LP-184 in Glioblastoma

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DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), an artificial intelligence (AI) company developing targeted and transformative cancer therapies using its proprietary AI and machine learning (ML) platform, RADR®, with multiple clinical stage drug programs, today announced that in vivo data highlighting the enhanced efficacy of Lantern's drug candidate LP-184 in glioblastoma (GBM) were published in Clinical Cancer Research, a journal of the American Association for Cancer Research. LP-184 is a unique small molecule with low nanomolar activity and favorable CNS penetration. LP-184 utilizes its powerful mechanism of action, known as synthetic lethality, to exploit common vulnerabilities in solid tumor and CNS cancers with DNA damage repair (DDR) deficiencies. In addition, Lantern's AI platform, RADR®, has highlighted overlapping gene dependency profiles between GBM tumorigenesis and sensitivity to LP-184, such as EGFR activation pathways.

"The data highlighted in Clinical Cancer Research solidify LP-184 as a promising therapeutic for GBM, with LP-184 having inhibited the viability and growth of multiple GBM models including temozolomide-resistant and MGMT-expressing cells," stated Panna Sharma, Lantern's President and CEO. "The rapid advancement of LP-184 into a first-in-human Phase 1 trial provides strong validation of the power of our AI-enabled approach to drug development. This approach is about more than just developing new treatments, it's about making them more targeted, more effective, and ultimately doing all of this more efficiently. This publication demonstrates our ability to deliver on these aspirations and introduce new therapeutic programs in areas where there is significant unmet patient need."

The article, entitled “Preclinical Efficacy of LP-184, a Tumor Site Activated Synthetic Lethal Therapeutic, in Glioblastoma” can be accessed **here**.

A Phase 1 clinical trial (**NCT05933265**) evaluating LP-184 in patients with advanced solid tumors is underway. The single arm multicenter trial is assessing the safety and tolerability of escalating doses of LP-184 to determine the maximum tolerated dose (MTD) and the recommended Phase 2 dose (RP2D) in patients with advanced solid tumors and recurrent high-grade gliomas, including GBM. The study has been designed as a 35 patient trial with patients receiving LP-184 infusion on Day 1 and Day 8 of each 21-day cycle, for a minimum of two cycles. Patients will be monitored for safety, pharmacokinetics, and clinical activity, and dose escalation is planned with a minimum of three patients per cohort. Lantern anticipates the Phase 1A portion of the trial to be completed in the first half of 2024 and a Phase 2 trial in GBM and other CNS cancers to begin in the second half of 2024. The anticipated Phase 2 trial will be conducted by Starlight Therapeutics, a wholly owned subsidiary of Lantern focused entirely on CNS and brain cancer indications. Lantern estimates that LP-184 has a global aggregate market potential of approximately $11-13 billion, consisting of $6-7 billion for solid tumors and $5-6 billion for CNS cancers.

About LP-184:

LP-184 is a unique small molecule that utilizes its powerful mechanism of action, known as synthetic lethality, to exploit common vulnerabilities in solid tumor and CNS cancers with DNA damage repair (DDR) deficiencies. The anti-tumor potential of LP-184 has been demonstrated across an extensive number of in-vitro and in-vivo cancer models, including pancreatic, prostate, lung, triple-negative breast cancer (TNBC), glioblastoma (GBM), brain metastases, and ATRT. In addition to LP-184’s promise as a single agent, its antitumor potency has the potential to be enhanced when used in combination with existing FDA-approved agents and other treatment modalities including spironolactone, PARP inhibitors, and radiation therapy. Results validating LP-184’s anti-tumor potential have been published at leading conferences and journals including, the American Association for Cancer Research (AACR) annual meeting, Clinical Cancer Research, an AACR journal, the Society for Neuro-Oncology annual meeting, the San Antonio Breast Cancer Symposium, and the Frontiers in Drug Discovery Journal.

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) RADR® platform leverages over 34 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 including eleven cancer indications 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 $1.0-2.0 million per indication focused program.

Our lead development programs include two Phase 2 clinical programs and recently initiated Phase 1 clinical programs for two additional product candidates with potential in multiple important cancer indications. We have also established a wholly-owned subsidiary, Starlight Therapeutics Inc., 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.

Please find more information at:

Website: **www.lanternpharma.com**

LinkedIn: **https://www.linkedin.com/company/lanternpharma/**

X/Twitter: **@lanternpharma**

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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 biomarker 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 our research and the research of our collaborators may not be successful, (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® AI 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, 2022, filed with the Securities and Exchange Commission on March 20, 2023. You may access our Annual Report on Form 10-K for the year ended December 31, 2022 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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Nicole Leber
Investor Relations Associate
ir@lanternpharma.com

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