March 14, 2022

Lantern Pharma to Present Positive Preclinical Data on the Effectiveness of LP-184 in Brain Metastases at the American Association of Cancer Research (AACR) Annual Meeting

- LP-184 demonstrated anti-tumor activity in brain metastases cell models from lung, skin, and breast cancers.
- Brain metastases in the U.S. can occur in 10-30% of all cancer cases and are diagnosed in over 100,000 patients each year.
- Data supports continued development of LP-184 in CNS cancer indications where there is an urgent and unmet clinical need.

DALLAS, March 14, 2022 /PRNewswire/ --**Lantern Pharma Inc.** (NASDAQ: LTRN)**,** a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") and machine learning (ML) platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced that it will present positive preclinical data on the in vitro efficacy of its drug candidate LP-184 in brain metastases (mets) at the American Association of Cancer Research (AACR) annual meeting, April 8-13th, 2022, held in New Orleans, Louisiana.

LP-184 is a small molecule drug candidate and next generation acylfulvene that preferentially damages DNA in cancer cells that overexpress certain biomarkers and is therefore lethal in tumors that harbor mutations or deficiencies in DNA repair pathways. LP-

184 has already been demonstrated preclinically to have potent efficacy in several targeted central nervous system (CNS) cancer indications, including glioblastoma multiforme (GBM) and atypical teratoid rhomboid tumors (ATRT). The development promise for LP-184 in these indications is strengthened by LP-184's favorable blood brain barrier (BBB) permeability. LP-184 has also demonstrated potent tumor cell killing capabilities in vitro and in animal xenografts of tumors such as lung, breast, melanoma and colon, many of which frequently metastasize to the brain. The tumor specificity of LP-184 is driven by expression levels of PTGR1, and Lantern's RADR® analysis indicates that such expression levels are retained in brain mets of these primary tumors.

The virtual poster will be presented by Lantern Pharma in collaboration with Johns Hopkins School of Medicine and the Kennedy Krieger Institute and will describe positive preclinical data demonstrating the effectiveness of LP-184 treatment in brain mets cell models derived from patient lung, skin, and breast cancers. The poster will also show that in an in vitro model of brain mets from lung cancer, LP-184 treatment was found to be 6 times more potent than EGFR tyrosine kinase inhibitors (a widely used type of therapy).

Brain mets are more common than primary brain tumors (cancer that starts in the brain), and studies suggest that brain mets occur in about 10%-30% of patients with cancer. In the U.S., brain mets (from all cancers combined) are estimated to account for over 100,000 diagnoses annually and generally have a very poor prognosis even after radiation therapy. There is an urgent and unmet clinical need for novel therapies for brain mets due to a current lack of novel agents that can cross the blood brain barrier. LP-184's favorable BBB permeability paired with its observed preclinical efficacy in certain CNS cancers, underscore its potential to become a vital treatment option for patients relapsed from current standard of care treatment or for use in combination with other agents.

LP-184 was recently granted Orphan Drug Designation by the U.S. Food and Drug Administration for the treatment of malignant gliomas, pancreatic cancer, and ATRT, and was also granted a Rare Pediatric Disease Designation for ATRT. These designations and continued positive preclinical data will help to accelerate LP-184 towards IND submission and multiple Phase 1 clinical trials in 2022.

Details of the virtual poster presentation are listed below or can be found on the AACR website:

Title: LP-184, a tumor site activated small molecule synthetic lethal therapeutic, is effective in central nervous system cancers
Permanent Abstract number: 5442
Date and Time: April 8, 2022, 12:00pm-1:00pm CST
Session Category: Experimental and Molecular Therapeutics
Session Title: Small Molecule Therapeutic Agents
Presenter: Aditya Kulkarni, Ph.D., Lantern Pharma

About Lantern Pharma
Lantern Pharma (NASDAQ: LTRN) is a clinical-stage oncology-focused biopharmaceutical company leveraging its proprietary RADR® A.I. and machine learning platform to discover biomarker signatures that identify patients most likely to respond to its pipeline of genomically-targeted therapeutics. Lantern is currently developing four drug candidates and

an ADC program across eight disclosed tumor targets, including two phase 2 programs. By targeting drugs to patients whose genomic profile identifies them as having the highest probability of benefiting from the drug, Lantern's approach represents the potential to deliver best-in-class outcomes.

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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; our research and development efforts of our internal drug discovery programs and the utilization of our RADR® platform to streamline the drug development process; our intention to leverage artificial intelligence, machine learning and genomic data to streamline and transform the pace, risk and cost of oncology drug discovery and development and to identify patient populations that would likely respond to a drug candidate; estimates regarding potential markets and potential market sizes; sales estimates for our drug candidates and our plans to discover and develop drug candidates and to maximize their commercial potential by advancing such drug candidates ourselves or in collaboration with others. Any statements that are not statements of historical fact (including, without limitation, statements that use words such as "anticipate," "believe," "contemplate," "could," "estimate," "expect," "intend," "seek," "may," "might," "plan," "potential," "predict," "project," "target," "objective," "aim," "upcoming," "should," "will," "would," or the negative of these words or other similar expressions) should be considered forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated by the forward-looking statements, such as (i) the impact of the COVID-19 pandemic, (ii) the risk that our research and the research of our collaborators may not be successful, (iii) the risk that none of our product candidates has received FDA marketing approval, and we may not be able to successfully initiate, conduct, or conclude clinical testing for or obtain marketing approval for our product candidates, (iv) the risk that no drug product based on our proprietary RADR® A.I. platform has received FDA marketing approval or otherwise been incorporated into a commercial product, and (v) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission on March 10, 2022. You may access our Annual Report on Form 10-K for the year ended December 31, 2021 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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