November 22, 2022

Lantern Pharma Announces Positive Data Highlighting the Anti-Tumor Potency of Drug Candidate LP-184 for Glioblastoma at the Society for Neuro-Oncology Annual Meeting

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") and machine learning (“M.L.”) platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced that it presented positive preclinical data on the efficacy of its drug candidate LP-184 for glioblastoma (GBM), used alone or in combination with the Food and Drug Administration (FDA) approved agent spironolactone, at the Society for Neuro-Oncology (SNO) annual meeting.

LP-184 is a small molecule drug candidate with a synthetically lethal mechanism of action (MoA) that preferentially damages DNA in cancer cells that harbor mutations in DNA damage repair (DDR) genes and that overexpress the enzyme PTGR1. Lantern is developing LP-184 for several central nervous system cancers including GBM, which is diagnosed in around 13,000 patients in the US annually and has an estimated market potential of $1.5-2.0 billion.

“In our SNO poster, we demonstrated the exquisite in vitro/in vivo efficacy of LP-184 towards GBM as a single agent or in combination with spironolactone. LP-184 has the potential to become a key therapeutic for the armamentarium for GBM, where the current SOC agent Temozolomide (TMZ) can be ineffective in 50-70% of patients,” stated Kishor Bhatia, Ph.D., Lantern’s Chief Scientific Officer. “Our continued work with Johns Hopkins paves a path forward for progressing LP-184 to the clinic for GBM where there is an urgent and unmet need for novel therapeutics,” continued Dr. Bhatia.

The SNO poster, which was presented in collaboration with John Laterra, M.D., Ph.D., Co-Director of the Brain Cancer Program at Johns Hopkins University, shows data supporting LP-184’s superior anti-tumor efficacy over the current GBM SOC agent TMZ in GBM preclinical models. In mice implanted with TMZ resistant GBM patient derived xenografts, LP-184 was demonstrated to have an IC50 nanomolar potency of 209 nM, which was around 5,000X more potent than TMZ. Additional preclinical findings in the poster demonstrate that LP-184’s anti-tumor efficacy for GBM can be enhanced when combined with spironolactone, an FDA approved agent that can inhibit DDR mechanisms by degrading the protein ERCC3. Combining LP-184 with spironolactone not only enhances LP-184’s potency, but also has the potential to decrease the expected dose needed for treatment in patients. These results continue to validate LP-184’s potential as a promising therapeutic agent for GBM, which has had no effective therapy developed in over 17 years.

LP-184 has been granted Orphan Drug Designation by the FDA for the treatment of malignant gliomas, atypical teratoid rhabdoid tumors (ATRT), and pancreatic cancer, 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 a targeted IND submission in Q1 2023 and first in human Phase 1 clinical trials anticipated to commence in Q2 2023.

A full version of the poster presentation can be found on Lantern's website.

About Lantern's LP-184 and Johns Hopkins Collaboration:

Lantern and the research group of John Laterra, M.D., Ph.D., at Kennedy Krieger Institute, which is affiliated with Johns Hopkins University, initiated a research collaboration in 2020, which was recently extended until the second half 2023, and has focused on the development of LP-184 for several central nervous system cancers (CNS) including GBM and brain metastases. The collaboration has facilitated in identifying promising properties of LP-184 for CNS cancers, which have included, favorable blood brain barrier permeability, increased bioavailability in brain tumors compared to normal brain tissues, and demonstrated efficacy in preclinical CNS cancer models that are resistant to standard-of-care (SOC) agents. Future research will aim at progressing LP-184 toward a first in human Phase 1 clinical trial in early 2023 and identifying other CNS cancers where LP-184's MoA can be applied for therapeutic benefit.

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 eleven 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.

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 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 atwww.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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