NEWS RELEASE

Lantern Pharma Announces Development of Drug Candidate LP-184 for Triple Negative Breast Cancer (TNBC) at the San Antonio Breast Cancer Symposium (SABCS)

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- New preclinical results presented at SABCS demonstrate LP-184 has superior anti-tumor efficacy for TNBC, as compared to current TNBC standard of care agents.
- LP-184 has therapeutic potential not only for primary TNBCs, but also for brain metastases (mets.) stemming from primary TNBC tumors.
- Each year in the US, there are approximately 8,000 newly diagnosed TNBC patients with an additional 21,000 relapsed TNBC patients, representing an annual market potential of up to $1.7 billion USD.
- Expanding LP-184's development indications to include TNBC further increases the long-term, potential value of LP-184 across multiple solid tumors that have unmet or underserved patient needs.

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 has expanded development of its drug candidate LP-184 to include Triple Negative Breast Cancer (TNBC), one of the most aggressive and malignant forms of breast cancer. New positive preclinical data on the anti-tumor potency of LP-184 for TNBCs was recently presented at the San Antonio Breast Cancer Symposium (SABCS) 2022.

“As many as 20% of all breast cancers are TNBCs, which are tumors that do not express receptors for Estrogen, Progesterone, or HER2. Therefore, drugs targeted at these receptors are not a therapeutic option for TNBC patients. The prognosis of TNBC patients is considerably worse than HR positive breast cancers, with over 50% of patients relapsing in the first 3 to 5 years and metastatic TNBC patients having a median overall survival of less than a year. Due to the poor prognosis and high relapse rate of TNBC, it is imperative to develop new and effective drug candidates for these patients.” stated Kishor Bhatia, Ph.D., Lantern’s Chief Scientific Officer.

The **SABCS poster** highlights new preclinical results demonstrating LP-184’s potent in vitro and in vivo anti-tumor efficacy across a broad range of breast cancer models, including TNBC models that are resistant to Olaparib, a PARP inhibitor (PARPi) and a current standard of care (SOC) agent for TNBC. LP-184 had low nanomolar potency (average IC50 of 297nM) when tested across a panel of 4 TNBC breast cancer cell lines. Considering LP-184’s in vitro anti-tumor activity for TNBCs, LP-184 was additionally tested in 10 patient derived xenograft (PDX) mouse models of TNBCs, 7 of which were resistant to Olaparib. In all 10 TNBC PDX models, LP-184 treatment led to complete and durable tumor regression of 107-141%.

In addition to LP-184’s preclinical anti-tumor efficacy for primary TNBC tumors, LP-184 may also have added therapeutic potential to treat brain metastases (brain mets.) from TNBCs, which are found in ~14% of TNBC patients at their initial diagnosis. **LP-184 was previously shown to have anti-tumor activity in brain mets**. cell lines derived from breast, lung and skin cancers, and was additionally shown to have up to 6X more in vitro anti-tumor activity in comparison to multiple brain mets. SOC agents.

“Patients with primary and secondary TNBCs are in urgent need of new and effective therapies. The combined anti-tumor potency of LP-184 in PARPi resistant TNBC PDXs and LP-184’s distinct PARP independent mechanisms, strongly support the potential of LP-184 to be added to the treatment armamentarium for TNBC patients” continued Dr. Bhatia.

A full version of the poster presentation from the SABCS conference 2022 can be found on Lantern’s **website**.

About LP-184:

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 genetically defined solid tumors including TNBC, pancreatic, and bladder, as well as several central nervous system (CNS) tumors including glioblastoma, brain mets., and atypical teratoid rhabdoid tumors (ATRT).

LP-184 has been granted Orphan Drug Designation by the FDA for the treatment of pancreatic cancer, malignant

gliomas, 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 a targeted IND submission in Q1 2023 and first in human Phase 1 clinical trials anticipated to commence in Q2 2023.

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 twelve 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 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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