



NEWS RELEASE

## Lantern Pharma Announces Scientific & Preclinical Data Indicating Blood Brain Barrier Permeability for Drug Candidate LP-184 in Glioblastoma and Potentially Other CNS Cancers

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- LP-184 preclinical studies reinforce the drug compound's potential to effectively cross the blood-brain barrier with significant potency

- Continued progress in advancing glioblastoma indication towards IND enabling studies

- Multiple collaborations underway for GBM and potentially other CNS (Central Nervous System) & Brain cancers

DALLAS, Dec. 15, 2020 /PRNewswire/ -- Lantern Pharma (NASDAQ: [LTRN](#)), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to transform drug discovery and development, and identify patients who will benefit from its portfolio of targeted oncology therapeutics, announced today new scientific data that substantiates blood brain barrier permeability (BBB) for its drug candidate LP-184. LP-184 is being targeted for treating Glioblastoma Multiforme (GBM), an aggressive malignant form of brain cancer that comprises about 52% of all primary malignant brain tumors according to the American Association of Neurological Surgeons. GBM has a median survival rate of only 15 months and ranks among the most aggressive of human cancers. It is considered an orphan disease for which there is no cure. The global GBM treatment market is projected to reach \$3.3 billion by 2024, according to GlobalData, with the U.S. representing the largest market.

The ability of a drug candidate to cross the blood brain barrier is of critical importance in treatment outcomes for CNS and brain cancers. Many drugs fail in clinical trials because of their low blood brain barrier permeability.

Lantern's A.I. engine along with algorithms tuned to predict BBB permeability played an important role in helping determine which CNS cancers and which genomically-defined subtypes of CNS cancer should be prioritized for development.

The current standard of care for GBM consists of de-bulking surgery followed by combined treatments with fractionated ionizing radiation (IR) and the DNA alkylating agent temozolomide (TMZ). The effectiveness of standard therapy with TMZ is limited because the response of GBM to TMZ is dependent upon the expression of the DNA repair enzymatic protein, O<sup>6</sup>-alkylguanine DNA alkyltransferase (MGMT). Over the period of treatment, tumors can evolve and begin to overexpress MGMT and therefore become largely resistant to TMZ. At the stage of GBM relapse and recurrence, no effective therapy strategies currently exist. LP-184 has a different mechanism of action relative to TMZ and has not demonstrated limitations due to MGMT levels, the enzymatic protein associated with resistance to TMZ in GBM and gliomas.

LP-184 works by causing DNA damage in cancer cells that can be repaired exclusively by the nucleotide excision repair (NER) pathway, while TMZ causes damage that can be repaired exclusively by the base excision repair pathway (BER). These approaches to killing tumor cells may be complementary and represent the potential for future combination therapy applications. Using in-silico tools, and also generating further in-vitro data from both neuronal cell-plates, and neurospheres, LP-184 demonstrated permeability that was in line with TMZ and other therapies being used in GBM today, while also demonstrating nano-molar potency.

Panna Sharma, CEO of Lantern Pharma, stated: "This data is extremely significant as it provides evidence that opens up a range of brain cancers with high clinical need that we should pursue, and also provides evidence that our RADR<sup>®</sup> platform is working as was designed. Our mission is to transform and accelerate the cancer drug development process. If we can compress the time to clinical trials, and de-risk LP-184, we can save years of research and millions of dollars in developing treatments for GBM and potentially other CNS and brain cancers."

Mr. Sharma continued, "As part of our development strategy we will be providing updates on new collaborations and research studies with leading research and translational cancer centers to help us further validate our findings and guide the ideal clinical usage of the compound in GBM. Based on data from our RADR platform, the blood brain barrier profile validation, and information on the genomics that seem to drive response to LP-184 we are now targeting a broader range of central nervous system cancers, including cancers that metastasize to the brain, and pediatric brain tumors."

## About Lantern Pharma

Lantern Pharma (LTRN) is a clinical-stage biopharmaceutical company innovating the repurposing, revitalization and development of precision therapeutics in oncology. We leverage advances in machine learning, genomics, and

artificial intelligence by using a proprietary A.I. platform to discover biomarker signatures that help identify patients more likely to respond to our pipeline of cancer therapeutics. Lantern's focus is to improve the outcome for patients by leveraging our technology to uncover, rescue and develop abandoned or failed drugs. Our current pipeline of three drugs, with two programs in clinical stages and two in preclinical, focuses on cancers that have unique and unmet clinical needs with a clearly defined patient population. We believe that the use of machine learning, genomics and computational methods can help accelerate the revitalization, refocusing and development of small molecule-based therapies. By targeting drugs to patients whose genomic profile identifies them as having the highest probability of benefiting from the drug, this approach represents the potential to deliver best-in-class outcomes. Our team seeks out experienced industry partners, world-class scientific advisors, and innovative clinical-regulatory approaches to assist in delivering cancer therapies to patients as quickly and efficiently as possible. For more information, please visit the company's website at [www.lanternpharma.com](http://www.lanternpharma.com) or follow the company on 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<sup>®</sup> 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; estimates regarding the development timing for our drug candidates; our strategic plans to expand the number of data points that our RADR<sup>®</sup> platform can access and analyze; our research and development efforts of our internal drug discovery programs and the utilization of our RADR<sup>®</sup> 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 to the effect that Lantern

Pharma Inc. or our management "believes", "expects", "anticipates", "estimates", "plans" (and 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 results of our preclinical studies concerning blood brain barrier permeability for LP-184 may not be indicative of results obtained in future clinical trials; (ii) the risk that our LP-184 drug candidate may not advance through the preclinical development and clinical trial process on a timely basis, or at all; (iii) the risk that the results of such trials will not warrant submission for approval from the United States Food and Drug Administration or equivalent foreign regulatory agencies; (iv) the risk that the Company may not be able to successfully conclude clinical testing or obtain marketing approval for its LP-184 drug candidate, (v) 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 (vi) those other factors set forth in the Risk Factors section in our final prospectus, dated June 10, 2020, for our initial public offering, on file with the Securities and Exchange Commission. You may access our June 10, 2020 final prospectus under the investor SEC filings tab of our website at [www.lanternpharma.com](http://www.lanternpharma.com) or on the SEC's website at [www.sec.gov](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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