NEWS RELEASE

Lantern Pharma Announces PCT Patent Application Publication for Innovative, High Performing, Machine Learning Model for Predicting Blood Brain Barrier Permeability of Drug-Candidates

2025-02-19

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), an artificial intelligence (AI) company dedicated to developing cancer therapies and transforming the cost, pace, and timeline of oncology drug discovery and development, today announced the publication of its PCT patent application (PCT/US2024/019851) covering a novel machine learning solution for predicting blood-brain barrier (BBB) permeability. The application received a favorable PCT search report indicating no significant prior art, substantially strengthening its path to approval.

The technology has demonstrated to-date exceptional performance in predicting BBB permeability across a wide range of chemical compounds, processing up to 100,000 molecules per hour with industry-leading accuracy. Notably, Lantern's AI algorithms for BBB permeability prediction currently hold five of the top eleven positions on the Therapeutic Data Commons Leaderboard[1]. Lantern believes that this breakthrough capability can accelerate the drug development process by rapidly identifying compounds likely to cross the blood-brain barrier, a critical factor in developing treatments for central nervous system disorders and brain cancers. These identified compounds can then be accelerated and further developed by researchers in cancer drug development and other fields saving time and cost in early-stage molecular characterization.

"The publication of this PCT patent application represents a significant advancement in our AI-driven approach to

drug development," stated Panna Sharma, Chief Executive Officer of Lantern Pharma. "This innovative technology not only enhances our internal development capabilities but also offers transformative potential for our partners and collaborators across the pharmaceutical industry. The system's exceptional speed and accuracy in predicting BBB permeability positions Lantern at the forefront of CNS-targeted therapeutic development. We look forward to deploying this high-performing BBB model in collaboration with pharmaceutical partners and techbio-driven companies who seek to accelerate their development timelines while working with a partner committed to excellence, especially in the area of high-performing, predictive models for drug development."

The proprietary technology integrates advanced molecular representation techniques with synthetic data augmentation from features engineered from the chemical structure and bioactivity data which are then processed by leading-edge machine learning algorithms. Through integration with Lantern's RADR® AI platform, the system enables rapid and comprehensive assessment of both drug candidates and other molecules of interest for BBB permeability.

Lantern's wholly-owned subsidiary, **Starlight Therapeutics**, intends to implement this technology to advance the development of STAR-001 and evaluate additional drug candidates. In addition, Lantern is actively expanding the system's capabilities through the development of sophisticated sub-models that account for complex biological factors affecting BBB permeability. These enhancements are expected to further refine predictions by incorporating advanced features such as protein binding, active transport mechanisms, and disease-state modifications of the blood-brain barrier. This continued evolution of the technology demonstrates Lantern's commitment to maintaining its leadership position in AI-driven drug development.

The PCT application enables Lantern to pursue patent protection in major markets worldwide, with potential coverage extending 20 years from the filing date. The company has initiated expedited review in the United States to accelerate market deployment.

This technological advancement reinforces Lantern's position as an innovator in AI-driven drug development and strengthens its ability to develop more effective, targeted CNS cancer therapies. The company expects this development to significantly impact both its internal drug development pipeline and future collaboration opportunities.

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) platform, RADR®, leverages over 100 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 that span multiple cancer indications, including both solid tumors and blood cancers and an antibody-drug conjugate (ADC) program. Our lead development programs include a Phase 2 clinical program and multiple Phase 1 clinical trials. 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: @lanternpharma

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: the potential advantages of our novel machine learning solution for predicting blood-brain barrier (BBB) permeability covered by PCT patent application (PCT/US2024/019851); the likelihood that the claims covered by PCT patent application (PCT/US2024/019851) will be subject to an issued patent in the U.S. or any foreign country; the potential advantages of our RADR® platform in identifying drug candidates and patient populations that are likely to respond to a drug candidate; and our intention to leverage the proprietary technology covered by PCT patent application (PCT/US2024/019851) 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. 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 no U.S. or foreign patents are issued with respect to the novel machine learning solution for predicting blood-brain barrier (BBB) permeability covered by PCT patent application (PCT/US2024/019851); (ii) if we are able to secure issued patents, the risk that we do not realize the expected advantages of any such patents; (iii) the risk that we may not be able to secure sufficient future funding when needed and as required to advance and support our existing and planned clinical trials and operations, (iv) the risk that we may not be successful in licensing potential candidates or in completing potential partnerships and collaborations, (v) 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, (vi) 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 (vii) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the Securities and Exchange Commission on March 18, 2024. You may access our Annual Report on Form 10-K for the year ended December 31, 2023 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.

[1]Therapeutics Data Commons is a resource to access and evaluate AI methods, supporting the development of AI methods, with a strong bent towards establishing the foundation of which AI methods are most suitable for drug discovery applications and why. It can facilitate algorithmic and scientific advances and accelerate AI method development, validation and transition into biomedical and clinical implementation. The Commons curates benchmarks for key therapeutic tasks. Every benchmark has a carefully designed ML task, ML-ready dataset, a public leaderboard, and a set of performance metrics to support model evaluation, providing effective indicators of the performance of ML methods in real-world scenarios. Visit **https://tdcommons.ai**

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Source: Lantern Pharma Inc.

Released February 19, 2025