NEWS RELEASE

Lantern Pharma Expands AI Capabilities of RADR® Platform to Accelerate the Clinical Development of Immune Checkpoint Inhibitors

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- Expansion of RADR® platform adds new AI capabilities for the automated identification of new and effective combination therapy regimens for immune checkpoint inhibitors (ICI)
- Additional functionality includes the creation and testing of molecular signatures of ICI response and resistance with a highly scalable, machine-learning based system designed to improve ICI clinical trial outcomes
- Worldwide, ICIs generated $41.5 billion in annual sales in 2022 and are projected to reach $67.8 billion by 2025, according to GlobalData
- Future ICI growth hinges on new approvals for novel ICI candidates and biomarker-guided strategies to position ICI combination regimens in new cancer indications, in earlier lines of treatment, and in historically difficult to treat populations

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), an artificial intelligence (AI) company developing targeted and transformative cancer therapies using its proprietary AI and machine learning (ML) platform, RADR®, with multiple clinical stage drug programs, today announced a substantial increase in the power and capabilities of RADR® focused on improving the drug development process for immune checkpoint inhibitors (ICIs). These capabilities are expected to address the multiple challenges facing the increased usage of ICIs in cancer therapy. Since gaining regulatory approval in 2011, ICIs have improved the lives of tens of thousands of cancer patients as either monotherapies, and more recently, in combination regimens with other therapies. The success of ICIs has

resulted in multiple competing ICI molecules, often from the same class, in overlapping cancer indications. Additionally, recent clinical trial failures reveal headwinds to the desired expansion of ICIs for a broader range of cancers and patient groups. Currently, there are over 5,200 ongoing clinical trials involving ICIs, many of these lacking adequate biomarker strategies or guidance from AI enabled approaches to optimize the selection of patient responder populations.

"We are expanding the functionality of our RADR® AI platform in ways that aim to solve the very meaningful and important challenges of future checkpoint inhibitor development. We initially began this effort by identifying meaningful combinations with checkpoint inhibitors that might be the most effective with our LP-184 and LP-284 drug candidates," stated Panna Sharma, Lantern's CEO and President. "Our latest RADR® advancements add a new level of speed, scalability, and precision in the identification of rational combination therapies that have the potential to overcome known shortcomings of ICIs. The current clinical trial landscape of ICIs is at a critical juncture, with dozens of new indications being pursued. Unfortunately, the majority of these trials are unlikely to succeed unless the right cancer subtypes are pinpointed and unless the right combinations with other molecules are pursued. ICIs have the potential to benefit from the ability to predict which patient groups and which cancer subtypes will respond to the drug or drug combination, which is a fundamental part of our AI platform, RADR®, as we recently demonstrated in our collaborative 2023 ASCO poster."

In a recent study presented at the **2023 ASCO meeting**, RADR's® algorithms demonstrated an 88% accuracy rate in predicting which melanoma (skin cancer) patients exhibiting resistance to anti-PD1 therapy will respond to Elraglusib, a GSK-3β inhibitor being developed by Actuate Therapeutics, which previously entered into a **multi-year research and development collaboration** with Lantern Pharma to leverage the RADR® platform.

The continued growth of ICIs, especially the approval of new ICIs, will be predicated on: 1) efficiently identifying new biomarker or molecular signatures for optimal patient selection, stratification, and management, and 2) rapidly developing combination regimens that overcome treatment challenges facing current and emerging solid and hematological cancer indications. Lantern's latest RADR® AI developments will focus on addressing these challenges by building automated and highly scalable computational analytics to generate clinically relevant tumor-specific and tumor-agnostic molecular signatures to guide the identification and development of drug combinations that can prolong ICI durability of response and improve patient survival. These developments will leverage RADR® to uncover molecular drivers of response and resistance influencing ICI treatment outcomes by coupling pathway and network-based analytics with the simultaneous screening of millions of targets from complex clinical and biological data sets. This capability will be powered by tens of billions of new data points from immunotherapy and checkpoint inhibitor studies that Lantern has begun to add to its RADR® platform.

Lantern plans to deploy its new RADR® ICI predictive module with biopharma partners and to identify potential

combinatorial strategies for LP-184 and LP-284, the first of Lantern's drug candidates developed internally with the assistance of the RADR® AI platform. The ICI market is projected to reach $67.8 billion in annual sales by 2025, according to GlobalData, with future growth dependent on approvals from precision-based approaches guiding the development and positioning of new combination therapies.

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) RADR® platform leverages over 34 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 including eleven cancer indications and an antibody-drug conjugate (ADC) program. On average, our newly developed drug programs have been advanced from initial AI insights to first-in-human clinical trials in 2-3 years and at approximately $1.0-2.0 million per program.

Our lead development programs include two Phase 2 clinical programs and multiple upcoming Phase 1 clinical trials anticipated for 2023. We have also established a wholly-owned subsidiary, Starlight Therapeutics Inc., to focus exclusively on the clinical execution of our promising therapies for CNS and brain cancers, many of which have no effective treatment options. 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/Twitter: **@lanternpharma**
Newsletter – The Spark: Sign-up **here**

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 biomarker 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 risk that our research and the research of our collaborators may not be successful, (ii) 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, (iii) 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 (iv) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the Securities and Exchange Commission on March 20, 2023. You may access our Annual Report on Form 10-K for the year ended December 31, 2022 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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