



NEWS RELEASE

Lantern Pharma Announces Initial Patients Dosed in First-In-Human Clinical Trial for AI-Guided Drug-Candidate, LP-284

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- LP-284 is in a Phase 1 clinical trial, having been developed with guidance from Lantern's AI platform, RADR[®], as a potential therapy for relapsed or refractory non-Hodgkin's lymphoma and other solid tumors.
- LP-284 is the second of Lantern's synthetic-lethal franchise of molecules that have been shown to be synthetically lethal in DNA damage repair deficient cancers and has entered into first-in-human clinical trials.
- LP-284 is the third drug candidate brought to clinical trials by Lantern Pharma using AI, machine learning and computational biology approaches.
- Lantern estimates that LP-284 can have the potential to improve outcomes for 40,000 to 80,000 patients with blood cancers annually, with a global annual market potential of \$4 Billion USD.

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 the dosing of the first two patients in the Phase 1 clinical trial evaluating Lantern's investigational new drug LP-284 in patients with relapsed or refractory non-Hodgkin's lymphoma (NHL), including mantle cell lymphoma (MCL) and double hit lymphoma (DHL) and other high-grade B-cell lymphomas (HGBL) as well as other select solid tumors and sarcomas. Recently, Lantern Pharma's AI platform, RADR[®] is expected to exceed 100 billion data points during 2024, and has been crucial in uncovering and accelerating indications for LP-284 as well as other drug-candidates that are in development.

“Enrolling and treating initial patients in our Phase 1 trial for LP-284 is a major milestone and underscores the commitment of our team to advancing our pipeline of AI-driven therapies to patients,” stated Panna Sharma, Lantern's President and CEO. “We believe LP-284 has unique and breakthrough potential for patients with relapsed or refractory lymphomas and certain solid tumors with certain genomic signatures, many of which have no or limited effective therapeutic options.”

“LP-284 is a molecule which was advanced from initial concepts through IND-studies, manufacturing, multiple FDA-granted orphan indications, multiple patent filings, as well as presentations at major oncology conferences and into humans in a timeline and cost structure that is typically unheard of for a novel oncology-focused molecule. This milestone validates our unique approach of leveraging AI and machine learning to expedite cancer drug development,” said Sharma. “Insights from our proprietary AI and ML platform, RADR®, were instrumental in our development of LP-284 and aided in understanding its mechanism of action, identifying and prioritizing its cancer indications, and generating machine learning biomarker signatures to assist with patient selection in future clinical trials. We have been able to expedite its journey from a concept to a first-in-human clinical trial in a highly efficient and cost-effective manner - less than 3 years and under \$3 million - underscoring the power and potential of our AI platform RADR® to accelerate oncology drug discovery and development.”

The open-label Phase 1a/1b multicenter Phase 1 trial (**NCT06132503**) is evaluating the safety and tolerability of escalating doses of LP-284 and determining the maximum tolerated dose (MTD) and the recommended Phase 2 dose (RP2D) in patients with relapsed or refractory (R/R) lymphomas and solid tumors. The secondary objectives are to characterize the pharmacokinetics (PK) of LP-284 and to assess clinical activity of LP-284.

Patients will be enrolled and treated with LP-284 administered intravenously (IV) on Days 1, 8, 15 of a 28-day schedule. The study will be conducted in two parts: dose escalation with MTD and/or RP2D confirmation (Phase 1a) and dose expansion (Phase 1b). Up to 30 patients will be enrolled in Phase 1a; the total number of patients will depend on the number of dose levels explored. Additionally, Lantern may enroll up to 40 patients in each of the two cohorts of MCL and HGBL (including DLBCL) tumors in Phase 1b.

NHL is the leading hematological malignancy in the US and remains one of the leading causes of cancer deaths globally, with an estimated 500,000 new cases annually worldwide. Despite advances in NHL using combination and targeted therapies, nearly 20% to 40% of patients with certain subtypes still relapse after treatment. In aggressive subtypes of NHL, like MCL, nearly all patients relapse from standard-of-care (SOC) therapies. Globally, the annual market potential of LP-284 in NHL is estimated to be approximately \$4 billion USD.

About LP-284:

LP-284 is a novel small molecule with a synthetically lethal mechanism of action that preferentially damages cancer

cells that harbor mutations in DNA damage repair pathways. Lantern's LP-284 program has been accelerated and focused using AI insights and biological modeling powered by RADR®.

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 60 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. 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 - 2.5 million per program.

Our lead development programs include a Phase 2 clinical program and multiple Phase 1 clinical trials. We have also established a wholly-owned subsidiary, Starlight Therapeutics, 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.

Additional information:

Website: www.lanternpharma.com

LinkedIn: <https://www.linkedin.com/company/lanternpharma/>

X: [@lanternpharma](https://twitter.com/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: 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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