



NEWS RELEASE

Lantern Pharma Receives Pre-IND Feedback from the FDA, Clearing a Path for Drug Candidate LP-184's Phase 1 Clinical Trial in Q2 2023

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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 it has received guidance from the United States Food and Drug Administration (FDA) on Lantern's clinical development plans for its LP-184 program. LP-184 has shown nanomolar potency across a range of cancers including several solid tumors and multiple adult and pediatric central nervous system (CNS) cancers. The FDA feedback clears Lantern's path for an IND submission and the targeted initiation of a first-in-human clinical trial in Q2 2023.

During Q4 2022, Lantern requested a pre-investigational **new drug (pre-IND) meeting** with the FDA, requesting agency feedback in connection with its planned LP-184 IND application. The FDA's responses and guidance have been aligned with the company's clinical, CMC, and preclinical development plans and solidifies Lantern's timeline for an IND submission and clinical trial initiation in Q2 2023. The upcoming LP-184 Phase 1 trial is expected to enroll patients with pancreatic cancer, select solid tumors with DNA damage repair deficiency, and malignant gliomas—including glioblastoma (GBM). The FDA previously granted Lantern Orphan Drug Designations (ODD) for LP-184 in both pancreatic cancer and malignant gliomas.

The upcoming LP-184 first-in-human Phase 1 trial is expected to include patients across a range of solid tumor

types, including adult brain and central nervous system (CNS) cancers. CNS cancer patients have some of the lowest 5-year cancer survival rates and have had little to no meaningful treatment progress in nearly two decades. LP-184's anti-tumor synthetic lethality mechanism of action, favorable blood brain permeability, and compelling pre-clinical efficacy for CNS cancers give it the potential to become the next generation standard-of-care agent for CNS cancer patients.

"We expect to have multiple cancer indications and sub-types in this upcoming LP-184 trial that have been identified with the help of our A.I. platform, RADR[®]. The identification and preclinical validation of these indications has been accomplished in timelines that are typically unheard of in oncology drug development. This gives us a unique advantage of generating multiple meaningful and clinically needed programs that we can develop, partner, and monetize for the benefit of our shareholders and for cancer patients," stated Panna Sharma, Lantern's President and CEO. "Our team has been very focused on aligning multiple workstreams to make for an impactful launch of our LP-184 Phase 1 program later this year across multiple cancer types that have the molecular characteristics for sensitivity to this exciting new drug candidate," continued Sharma.

Lantern's LP-184 program has benefitted from involvement and collaboration with top academic centers including the Kennedy Krieger Institute at Johns Hopkins, Fox Chase Cancer Center, The Danish Cancer Society Research Center, and the Greehey Children's Cancer Research Institute at University of Texas Health Science Center, San Antonio. These collaborations have been a key component of further validating and focusing the clinical potential of LP-184 for patient groups with high unmet need.

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. 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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