Lantern Pharma Receives Notice of US Patent Allowance for Drug Candidate LP-184 for the Treatment of Rare Pediatric Brain Cancer, ATRT

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- LP-184 is the first of Lantern's drug candidates developed by leveraging Lantern's AI platform, RADR®
- US FDA previously granted LP-184 Rare Pediatric Disease Designation and Orphan Drug Designation (ODD) for the treatment of pediatric patients with ATRT

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), an artificial intelligence (AI) company developing targeted and transformative cancer therapies using its proprietary RADR® AI and machine learning (ML) platform with multiple clinical-stage drug programs, received a notice of allowance from the United States Patent and Trademark Office (USPTO) covering a method of treatment for Atypical Teratoid Rhabdoid Tumor (ATRT) using LP-184, an aggressive and rapidly growing form of cancer of the central nervous system (CNS).

"This patent allowance further fortifies Lantern Pharma's intellectual property portfolio, providing us with an additional layer of protection for our potential blockbuster LP-184 program, which is being developed for multiple targeted oncology indications, including ATRT in pediatric patients," said Panna Sharma, CEO of Lantern Pharma. "Historically, pediatric ATRT has been treated with a combination of surgery, radiation, and chemotherapy, but unfortunately, these approaches have often resulted in unfavorable long-term outcomes for the children affected."

Drs. Kosj and Jaymi Yamoah, Co-founders of Hope4ATRT, a research entity dedicated to directing resources and research to families in the fight against ATRT, commented, "As parents of a child who did not survive ATRT, we are

compelled to advocate for more effective and less toxic treatment options for children still in this battle, and we are always thrilled to see progress in ATRT research. The work by Lantern scientists to rapidly develop new therapies with potential to treat ATRT brings us hope for the future."

Sharma continued, "The urgent need for new treatment options for pediatric brain cancers cannot be overstated. Our in-silico and in-vivo observations indicate that LP-184 has the potential to become an essential part of the treatment options for these patients, and this patent allowance provides a further assurance of protection for our advances in the treatment of this devastating disease."

LP-184 is the first of Lantern's drug candidates developed by leveraging Lantern's AI and ML platform, RADR®, to advance to a first-in-human Phase 1 basket trial. Lantern has rapidly advanced the clinical development of LP-184, activated the initial clinical trial sites, and has begun screening patients. Indications for the LP-184 trial are anticipated to include relapsed/refractory advanced pancreatic cancer, glioblastoma (GBM), brain metastases (brain mets), and multiple other recurring, advanced solid tumors with DNA damage response deficiencies.

The dosage and safety data obtained in the Phase 1 trial will be used to advance the CNS indications, including ATRT, for a future Phase 2 trial to be sponsored by Lantern's wholly-owned subsidiary, Starlight Therapeutics Inc. Globally, the aggregate annual market potential of LP-184's target indications is estimated to be approximately $10+ billion, consisting of $5+ billion for CNS cancers and $6+ billion for other solid tumors.

The U.S. Food and Drug Administration (FDA) has previously granted LP-184 Rare Pediatric Disease Designation and Orphan Drug Designation (ODD) for the treatment of pediatric patients with ATRT. The FDA has also previously granted LP-184 ODD for the treatment of pancreatic cancer and for the treatment of malignant glioma, including GBM.

A notice of allowance is issued after the USPTO determines that the prosecution on the merits of a patent has been completed and grants the patent upon payment of the patent issuance fee. Additional corresponding patent applications are pending in Europe, Japan, Canada, and Australia.

About ATRT

ATRT is an aggressive and rare form of cancer of the central nervous system that predominantly affects children under the age of three. The National Cancer Institute (NCI) **classifies ATRT** as Grade IV tumors, meaning they are malignant (cancerous), aggressive, and fast-growing. The root genetic cause of ATRTs is attributed to bi-allelic mutations that inactivate either SMARCB1 (also known as INI1) or SMARCA4. Approximately 90 percent of pediatric ATRTs can be attributed to alterations in the SMARCB1 gene. SMARCB1 was included among several genes whose expression negatively correlated with LP-184 sensitivity in tumors. This in silico correlation was confirmed by in

vitro and in vivo assessments of LP-184 in ATRT, with the highest potency of LP-184 in vivo having been seen in ATRT xenografts.

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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