NEWS RELEASE

Lantern Pharma Expands Portfolio of Cancer Opportunities for LP-184 with ATRT Pediatric Brain Tumor Collaboration with Johns Hopkins

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- Initiates studies in collaboration with pediatric brain cancer expert, Dr. Eric Raabe, M.D., Ph.D
- Collaboration will leverage Dr. Raabe's large panel of brain cancer cell lines and xenografts
- ATRT may qualify under the Rare Pediatric Disease Designation which Lantern will pursue

DALLAS, April 1, 2021 /PRNewswire/ -- Lantern Pharma Inc. (NASDAQ: LTRN), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to transform oncology drug discovery and development, today announced a collaboration with Johns Hopkins Pediatric Oncology Division of The Sidney Kimmel Comprehensive Cancer Center and Dr. Eric Raabe, M.D., Ph.D. focused on Lantern's drug candidate LP-184 in the area of brain tumors, and specifically in Atypical Teratoid Rhabdoid Tumors ("ATRT"), an ultra-rare and fast-growing cancerous tumor of the brain that presents primarily in children.

"As we enriched our RADR® A.I. platform for additional cancer indications, we began to discover common molecular pathways that drive response to our drug candidate, LP-184, across multiple additional CNS cancers," stated Panna Sharma, President and CEO of Lantern Pharma. "Chief among these newly identified CNS cancers was ATRT, an ultra-rare and fast-growing cancerous tumor of the brain that presents primarily in children with no effective therapies. The urgency of directing LP-184 towards helping children battle this particularly aggressive cancer was self-evident, as was the opportunity to collaborate with the Johns Hopkins' pediatric oncologist, Dr. Eric Raabe, who has devoted his career to studying pediatric brain cancers, including ATRT."

Rhabdoid tumors (RTs) can emerge in the brain, kidneys, liver and all compartments of the central nervous system ("CNS"). Approximately 66% of RTs occur in the CNS and are called ATRTs. ATRTs predominantly affect infants and young children, with up to 15% of ATRTs arising in the brain. Incidence of ATRT is between 1.4 and 3.0 per million, and the survival rate is between 10% and 15% depending on the age at diagnosis. Pediatric brain cancer is the second-leading cause of pediatric cancer death with the incidence rate growing at ~2.7% per year in the United States.

Dr. Eric Raabe, M.D., Ph.D., is assistant professor of oncology in the Division of Pediatric Oncology at Johns Hopkins and a co-principal investigator at the Pacific Pediatric Neuro-Oncology Consortium. A physician-scientist, Dr. Raabe has devoted his career to the pursuit of treatment options for the most high-risk pediatric brain cancers, including ATRT where Dr. Raabe uses a unique and highly curated panel of cell lines and xenografts in preclinical studies for drug development and research. These models have had extensive molecular and genomic profiling including biomarker studies to help better understand the ATRT and other related CNS cancers.

Over 90% of cases of ATRT are caused by a mutation which drives a partial or whole loss of chromosome 22, resulting in the inactivation of the SMARCB1 gene (Switch/sucrose nonfermentable [SWI/SNF] related, Matrix-associated, Actin-dependent Regulator of Chromatin, subfamily B1). SMARCB1 is a protein encoding and tumor suppressor gene which drives downstream production of the SMARCB1 protein and other SWI/SNF protein subunits which are thought to act as tumor suppressors. While ATRT is diagnosed with standard immunochemistry staining to detect loss of the respective protein(s), no standard of care currently exists for ATRT and ATRT in the brain is typically unresectable. Treatment options are typically limited to only chemotherapy agents since radiotherapy is not advised in children.

"To support the discovery and development of innovative medicines that may help children diagnosed with rare diseases, the U.S. FDA has created a Rare Pediatric Disease Designation. We believe that the rarity of incidence of ATRT in the U.S and its prevalence in children supports the potential for LP-184 to qualify in the future for a possible grant by the US. FDA for a Rare Pediatric Disease Designation for use of LP-184 for ATRT," continued Mr. Sharma. "Moreover, if we are successful in receiving a Rare Pediatric Disease Designation, we believe LP-184, if it receives ultimate approval, may possibly qualify for the granting by the U.S. FDA of a Rare Pediatric Disease Priority Review Voucher ("PRV"). We believe the award of a PRV would represent a significant value enhancing milestone for Lantern Pharma."

Lantern Pharma plans on continuing to use RADR® to potentially uncover and develop other indications in brain and CNS cancers where LP-184 has the potential to show efficacy.

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About Lantern Pharma

Lantern Pharma (LTRN) is a clinical-stage biopharmaceutical company leveraging its proprietary RADR® A.I. platform and machine learning to discover biomarker signatures that identify patients most likely to respond to its pipeline of genomically-targeted cancer therapeutics. RADR® A.I. platform is among the world's largest A.I. oncology datasets. Once a drug candidate is identified and validated in silico, our collaborator-centered business model seeks out industry partners and leading scientific advisors to capital-efficiently develop genetically-targeted cancer therapeutics in areas of high unmet clinical need. Lantern is currently developing four drug candidates and an ADC program across seven disclosed tumor targets, including two phase 2 programs. 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. More information is available at: www.lanternpharma.com and Twitter **@lanternpharma**.

About LP-184

LP-184 is currently in multiple research studies in collaboration with leading cancer research institutions. With the assistance of our RADR® A.I. platform, LP-184's mechanism of action has been well-characterized through numerous in silico and in vivo studies and described in published peer-reviewed articles. With observed nanomolar potency and blood brain barrier permeability, LP-184 is an alkylating agent that works by causing DNA damage in tumor cells. As shown by CRISPR gene editing techniques, LP-184 activity is dependent upon the expression of Prostaglandin Reductase 1 ("PTGR1"), which transforms LP-184 into its bioactive form by the oxidoreductase activity of PTGR1. Additional information on LP-184 is available at: **Oncology Drug Development Pipeline - Lantern Pharma**.

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; 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 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," "aim," "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 in the area of ATRT may not be successful; (iii) the risk that we may never receive a Rare Pediatric Disease Designation for LP-184 in ATRT and may never qualify for the grant of a Rare Pediatric Disease Priority Review Voucher (iv) 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; (v) 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 (vi) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the Securities and Exchange Commission on March 10, 2021. You may access our Annual Report on Form 10-K for the year ended December 31, 2020 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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