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Lantern Pharma Advances Prostate Cancer Drug Development Research Collaboration with Georgetown University for LP-184, a Next-Generation, Targeted DNA-Damaging Agent

DALLAS, Oct. 5, 2020 /PRNewswire/ --**Lantern Pharma** (NASDAQ: LTRN), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") platform to improve drug discovery and development, and identify patients who will benefit from its portfolio of targeted oncology therapeutics, announced the advancement of its collaboration with Georgetown University for LP-184, a small molecule drug candidate currently in preclinical development for certain genomically defined solid tumors, including prostate and pancreatic cancers.

The first phase of the joint research activities with Georgetown which began in the 4th quarter of 2019 generated strong evidence of the efficacy of LP-184 in certain solid tumors and linked the anti-tumor activity to the presence of specific biomarkers. Phase one of the collaboration was a proof of concept study that demonstrated LP-184 had nanomolar potency across a wide variety of cell lines specifically engineered to study prostate cancer. LP-184 demonstrated increased efficacy in killing prostate cancer cells that overexpress PTGR1, a gene that is often upregulated in aggressive cancer tumors as well as higher anti-cancer activity in cells lines that had targeted DNA damage repair gene mutations. LP-184 was further tested in 3D organoid cultures, which are derived from patient tumor samples and more closely represent the actual biology of human tumors than cell lines, resulting in

dose-dependent cell death in multiple patient-derived xenograft (PDX) prostate cancer models. Additional genomic, transcriptomic and drug sensitivity data from the cell lines and 3D organoids was also obtained, which is helping to refine the response signature, and is providing insights into which DNA repair deficiencies are more likely to be highly sensitive to LP-184. Since aggressive cancers can frequently over express PTGR1, this important insight regarding the observed efficacy of LP-184 in such tumors will be further validated in the next phase of the collaboration.

Mr. Sharma added: "I am very excited about the results of the first phase of our collaboration with Georgetown University as it validates that LP-184 is a highly potent agent in cancers that exhibit certain molecular features. This fact is highly significant as it suggests LP-184 could develop into a first-in-class compound for the treatment of certain prostate and pancreatic cancers and potentially other solid tumors. Moreover, LP-184 seems to work specifically by damaging and blocking a pathway critical for cancer cell proliferation; it could potentially be a perfect drug for use in combination with existing therapies for these prostate and pancreatic cancers as well as other solid tumors where we can exploit this molecular feature. We will be working alongside Dr. Banerjee to further elucidate this mechanism and generate a signature that we can use for future patient selection in trials and patient treatment."

The next phase of the collaboration and research program with Georgetown will focus on a larger set of PDX models and help pinpoint the specific mechanism of action, and seek confirmatory validation of the role of PTGR1 and the genetic mutations driving the DNA damage repair pathways that make the drug highly potent in these cancers. Research will also focus on completing the acquisition of detailed genomic information in prostate cancers, which will involve work in animal models and cell lines that have been edited to under and over express key driver genes.

Dr. Partha Banerjee, a world-renowned expert in molecular oncology and prostate cancer, and lead investigator for LP-184 at Georgetown University, commented: "There is currently a lack of approved therapeutic options for metastatic castration resistant prostate cancer (mCRPC), which affects ~33,000 men per year in the U.S. alone. It is a highly lethal disorder with increasing incidence in the US and a 5-year survival rate of 26%, as compared to 91% for localized prostate disease. LP-184 has the potential to preferentially target DNA damage repair pathway in cancer cells that express certain biomarkers, like PTGR1. Thus, if LP-184 is able to demonstrate efficacy in future human clinical trials and meaningfully increase the survival rate, this would be extremely important for patients." In addition to Dr. Partha Banerjee, Dr. Shiv Shrivastava, who previously served as the Co-Director of the Center for Prostate Disease Research at Walter Reed National Military Medical Center is also advising Lantern Pharma in the development strategy in this precision oncology approach for LP-184.

LP 184 has been advanced using Lantern's proprietary RADR® A.I. platform that uses machine learning, genomics, and computational biology to accelerate the discovery of potential mechanisms of action and genomic and biomarker signatures that correlate to drug response in cancer patients.

The goal of phase two of the collaboration is to create a more biologically relevant and robust gene signature in preparation for clinical trials, with the objective of

allowing future prostate cancer patients to experience the benefit of a more personalized cancer treatment approach. Ultimately, Lantern's A.I. driven approach could save millions of dollars in drug development costs while significantly accelerating the path to commercialization.

Panna Sharma, CEO of Lantern Pharma, said: "I am excited about the potential of LP-184, particularly as it relates to a more targeted therapy for patients with prostate cancer. If we can further develop this potent compound as a novel therapeutic agent, it would constitute an important breakthrough in the treatment of this deadly form of prostate cancer. I look forward to our continued collaboration with Dr. Banerjee and Georgetown University."

About Lantern Pharma

Lantern Pharma (LTRN) is a clinical-stage biopharmaceutical company innovating the repurposing, revitalization and development of precision therapeutics in oncology. We leverage advances in machine learning, genomics, and artificial intelligence by using a proprietary A.I. platform to discover biomarker signatures that help identify patients more likely to respond to our pipeline of cancer therapeutics. Lantern's focus is to improve the outcome for patients by leveraging our technology to uncover, rescue and develop abandoned or failed drugs. Our current pipeline of three drugs, with two programs in clinical stages and two in preclinical, focuses on cancers that have unique and unmet clinical needs with a clearly defined patient population. We believe that the use of machine learning, genomics and computational methods can help accelerate the revitalization, refocusing and development of small molecule-based therapies. By targeting drugs to patients whose genomic profile identifies them as having the highest probability of benefiting from the drug, this approach represents the potential to deliver best-in-class outcomes. Our team seeks out experienced industry partners, world-class scientific advisors, and innovative clinical-regulatory approaches to assist in delivering cancer therapies to patients as quickly and efficiently as possible. For more information, please visit the company's website at www.lanternpharma.com or follow the company on Twitter @lanternpharma.

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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; estimates regarding the development timing for our drug candidates; our strategic plans to expand the number of data points that our RADR® platform can access and analyze; 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 to the effect that Lantern Pharma Inc. or our management "believes", "expects", "anticipates", "estimates", "plans" (and 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 the impact of the COVID-19 pandemic, the results of our clinical trials, and the impact of competition. Additional factors can be found in the Risk Factors section in our final prospectus, dated June 10, 2020, for our initial public offering, on file with the Securities and Exchange Commission. You may access our June 10, 2020 final prospectus 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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