March 10, 2022

Lantern Pharma Reports Fourth Quarter and Fiscal Year 2021 Financial Results and Operational Highlights

-- RADR®, Lantern's proprietary A.I. and machine learning platform, grew from 1.2 billion to over 18 billion data points, enhancing its precision, insights, and capabilities for oncology drug discovery

-- Preparing for a 2022 launch of the Phase 2 trial for LP-300 in never smokers with NSCLC, which will be Lantern Pharma's second Phase 2 asset

-- Received Orphan Drug Designations for LP-184 for multiple indications and a Rare Pediatric Disease Designation for ATRT, accelerating LP-184 towards IND submission and multiple Phase 1 clinical trials in 2022

-- Expanded focus on leveraging RADR® for biopharma collaborations by increasing platform functionality, scale, and security

-- Strengthened intellectual property estate with addition of 12 new patent applications

-- $70.7 million of cash, cash equivalents and marketable securities as of December 31, 2021

-- Announced share repurchase program with plans to acquire up to $7 million of common stock

-- Conference call scheduled for 4:30 p.m. EST today

DALLAS, March 10, 2022 /PRNewswire/ --**Lantern Pharma Inc.** (NASDAQ: LTRN)**,** a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("A.I.") and machine learning (ML) platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced financial results and operational highlights for the fourth quarter and fiscal year ended December 31, 2021.

"2021 was a transformational year for Lantern Pharma as we strengthened our financial position, significantly expanded our A.I. platform, and achieved multiple key clinical milestones that further advanced our oncology portfolio," stated Panna Sharma, President and CEO of Lantern Pharma. "Our proprietary RADR® A.I. platform surpassed 18 billion data points and grew over 1,000% in 2021, significantly exceeding our growth expectations. This further development of RADR® is enabling an acceleration of the insights that are powering development decisions for our drug candidates and also support evaluation of drugs and drug candidates of other biopharma companies."

"Across our entire portfolio of late-stage drug programs, we are progressing towards launching Phase 1 and Phase 2 clinical trials in 2022, including the Phase 2 trial for LP-300, The Harmonic™ Clinical Trial, for advanced non-small cell lung cancer in never smokers. Our dedicated team is focused on completing the requirements and details to launch these trials including IND-enabling studies and submissions, clinical site selection, and patient enrollment," stated Sharma.

Operational Highlights:

RADR® Platform Growth and Development

- Surpassed 18 billion data points for RADR® platform, a significant growth of more than 1,000% from year-end 2020; forecasting to reach more than 25 billion data points by year-end 2022.
- The ongoing growth of RADR® data points is expected to drive continual improvement in Lantern's ability to rapidly identify new indications, combination therapies, and mechanisms of action for the Company's drug candidates.
- Expanding RADR's® capabilities with a focus on increasing the number of machine learning algorithms and self-learning algorithms.
- The Company expects to continue to expand its focus on building biopharma collaborations to utilize and expand on the growth of RADR®.

Lantern's Portfolio of Targeted Therapies

Lantern Pharma is currently developing four drug candidates and an Antibody-Drug Conjugate (ADC) program across eight disclosed tumor targets, and several undisclosed targets. Lantern's portfolio currently includes:

- **LP-100** - is in a Phase 2 trial for the treatment of metastatic castration resistant prostate cancer (mCRPC). We are evaluating possibilities for further enrollment in the current Phase II trial as well as other potential clinical development opportunities. Lantern reacquired global rights to LP-100 in July 2021.
- **LP-300** - is preparing to enter a Phase 2 clinical trial, the Harmonic™ Clinical Trial, during 2022. The Harmonic™ trial will be a 90 patient, two-arm, open label clinical trial focused on never smoker patients with relapsed primary adenocarcinoma of the lung, a type of NSCLC.
- **LP-184** - is in preparation for potentially multiple Phase 1 clinical trial launches for genomically defined cancers, including pancreatic, glioblastoma multiforme (GBM), bladder and atypical teratoid rhabdoid tumors (ATRT).

  The FDA granted LP-184 Orphan Drug Designations for the treatment of pancreatic cancer, GBM, and ATRT and a Rare Pediatric Disease Designation for treatment of ATRT. These designations will assist the advancement of LP-184 towards clinical studies. Under the Rare Pediatric Disease Priority Review Voucher Program companies may be eligible to receive a priority review voucher if the product satisfies certain conditions, including receipt of regulatory marketing approval following required clinical testing. Vouchers may be sold or transferred to another sponsor, and past transfers of vouchers have occurred at average prices of more than $100 million.

- **LP-284** - is in preclinical development and has demonstrated potency at low nanomolar levels in hematological cancer cell lines, including lymphoma, multiple myeloma, and leukemia. LP-284's indications in hematological cancers are distinct from the indications targeted by LP-184 and were generated with the assistance of RADR® insights.
- **Antibody Drug Conjugate (ADC) Program** – we have selected and ranked multiple targeting antibodies of interest with potential to be linked to selected cytotoxic payloads. We are currently evaluating various cytotoxic agents and classes of agents to be used as ADC payloads.

World-Class Scientific Collaborations

- Expanded collaboration with the National Cancer Institute to accelerate the path to first in-human clinical trials for drug candidates LP-184 and LP-284.
- Entered collaboration with The Greehey Children's Cancer Research Institute (GCCRI) at University of Texas Health Science Center-San Antonio to expand Lantern's drug portfolio research into several additional pediatric cancers.
- Continued GBM & brain cancer collaboration with Johns Hopkins & Kennedy Krieger Institute to develop Phase 1 clinical design and further validate LP-184's ability to works independently of MGMT (a DNA repair enzyme) status.
- Expanded collaboration with Fox Chase Cancer Center in pancreatic cancers with a focus on clinical design and strategy for LP-184.
- Launched a research collaboration with The Danish Cancer Society Research Center

to support development of drug candidates LP-100 and LP-184 in 9 solid tumor types that have a known deficiency in DNA repair mechanisms. LP-100 and LP-184 have both been shown to have a synthetically lethal impact on tumors deficient in DNA repair mechanisms.

Publications and Presentations

- Published two scientific articles in *Oncotarget* and *BMC Bioinformatics* highlighting the effectiveness of Lantern's drug candidate LP-184 in potential tumor indications.
- Presented positive preclinical data on the efficacy of LP-284 in hematologic cancers at the 63rd American Society of Hematology (ASH) Annual Meeting.
- Preclinical data supporting the effectiveness of LP-184 in select pancreatic cancers was presented at the American Association for Cancer Research (AACR) Virtual Special Conference**.**
- The effectiveness of LP-184 in multiple in vitro and in vivo Glioblastoma models was presented at the Society for Neuro-Oncology (SNO) 2021 Annual Meeting.
- On World Pancreatic Cancer Day, Lantern hosted a virtual KOL webinar on the potential of drug candidate LP-184 for pancreatic cancer.

Additional Highlights

- Strengthened intellectual property estate with 12 new patent applications, with the current total IP estate at over 80 active patents and patent applications across 14 patent families.
- Completed strategic hires to expand and strengthen Lantern's data science, research, management, and communications teams.

Financial Highlights:

- Raised gross proceeds of $69 million USD through January 2021 public offering and full exercise of underwriter's over-allotment option.
- Capital raised extends cash runway into 2025, allowing the Company to focus on efficiently developing its portfolio of promising oncology therapeutics.
- Authorized a share repurchase program to acquire up to $7 million of the Company's common stock. Repurchases of shares of common stock pursuant to the repurchase program amounted to $0.9 million during the quarter and year ended December 31, 2021 and an additional $2.2 million of repurchases from January 1, 2022 through March 1, 2022.

Fourth Quarter and 2021 Financial Overview:

- **Balance Sheet**: Cash, cash equivalents, and marketable securities were $70.7 million as of December 31, 2021, compared to $19.2 million as of December 31, 2020. The quarterly and annual cash burn for 2021 reflects our capital-efficient, collaborator-centered business model.
- **R&D Expenses**: Research and development expenses were $2.2 million and $7.6 million for the quarter and year ended December 31, 2021 compared to $1.4 million and $2.2 million for the quarter and year ended December 31, 2020, respectively. The annual increase was primarily attributable to increases in product candidate manufacturing related expenses of approximately $2.7 million, increases in research

studies of approximately $0.8 million, increases in research and development payroll expenses of approximately $0.7 million, and an increase of $1.0 million related to the upfront payment to Allarity Therapeutics under the Allarity Asset Purchase Agreement, which was a nonrecurring expense.

- **G&A Expenses**: General and administrative expenses were $1.4 million and $5.0 million for the quarter and year ended December 31, 2021 compared to $1.6 million and $3.7 million for the quarter and year ended December 31, 2020, respectively. The annual increase was primarily attributable to increases in business and corporate development expense of approximately $0.4 million, increases in corporate insurance expense of approximately $0.6 million, and increases in legal and patent related expenses of approximately $0.4 million.
- **Net Loss**: Net losses were $3.5 million (or $0.31 per share) and $12.4 million (or $1.13 per share) for the quarter and year ended December 31, 2021, compared to a net loss of $2.9 million (or $0.47 per share) and $5.9 million (or $1.37 per share) for the quarter and year ended December 31, 2020, respectively.

2022 Key Objectives:

- Launch of The Harmonic™ Trial - Ph. 2 clinical trial for LP-300 in NSCLC
- Advance LP-100 clinical trial
- Launch Ph. 1 clinical trial for LP-184 in solid tumors
- Launch Ph. 1/2 clinical trial for LP-184 in GBM
- Progress LP-184 in ATRT towards Ph. 1/2 clinical trial
- Advance pediatric cancer program
- Advance ADC preclinical studies to support future Phase 1 launch
- Explore potential combinations for LP-184 & LP-300 with other existing approved drugs
- Strategically grow RADR® A.I. platform to 25 billion datapoints
- Licensing and partnership opportunities

2022 Outlook:
"During 2022 we expect to reach over 25 billion data points and also grow the methods and algorithms powering the analysis and insights of our RADR® platform. Our team has been developing machine learning modules and algorithms that enable a wide range of analysis, correlations and predictions that are central to cancer drug development," added Sharma. "These additions to our platform are cornerstone to the advancement of our programs, and we believe this will be clearly demonstrated this year as we launch multiple clinical trials, report new data, and expand our collaborations."

"Our team will continue to advance our portfolio and our platform along with the development of new drug programs which we will be able to accomplish through our significant cash position, our focused strategy of collaborations and our data-driven drug development model. We are looking forward to a year of significant value creation for cancer patients and investors alike as we transform and accelerate the drug development process in oncology."

Earnings Call and Webinar Details
Lantern will host its fourth quarter and fiscal year 2021 earnings call and webinar today, Thursday, March 10 at 4:30 p.m. ET.

- https://zoom.us/webinar/register/6316442460324/WN_IpjiP_QpT5ClHzrW1U7GwA
- Related presentation materials will be accessible at: https://ir.lanternpharma.com

Replay Details

- A replay of the 2021 earnings call and webinar will be available at https://ir.lanternpharma.com

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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. Lantern is currently developing four drug candidates and an ADC program across eight 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.

Please find more information at:
Website: www.lanternpharma.com
LinkedIn: https://www.linkedin.com/company/lanternpharma/
Twitter: @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; 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," "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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