NEWS RELEASE

Lantern Pharma and TTC Oncology Establish AI Collaboration to Expand the Clinical Development of Drug Candidate TTC-352

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- Collaborative efforts are aimed at using Lantern's AI platform to accelerate and sharpen the drug development of TTC-352.
- The collaboration will utilize Lantern's AI-based capabilities and RADR® platform to uncover efficacy-associated biological signatures and biomarkers to advance the clinical development and strategic positioning of TTC Oncology's leading drug candidate, TTC-352.
- Phase 2 ready candidate, TTC-352, is a novel, first- and best-in-class selective human estrogen receptor (ER) partial agonist (ShERPA) for the treatment of patients with metastatic ER+ breast cancer.
- Lantern is receiving exclusive rights to license TTC-352 during an exclusive option period, which includes rights to intellectual property generated during the collaboration.

DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), a clinical stage biopharmaceutical company using its proprietary RADR® artificial intelligence ("AI") and machine learning ("ML") platform to transform the cost, pace, and timeline of oncology drug discovery and development, today announced that it has entered into a research and development collaboration with TTC Oncology. The collaboration will focus on leveraging RADR® AI insights to advance TTC Oncology's first- and best-in-class drug candidate TTC-352 for recurrent ER+ breast cancer patients and additional patient populations potentially identified by RADR®. In US women, breast cancer remains the most commonly diagnosed cancer and second leading cause of cancer related deaths. ER+ breast cancers are estimated to account for 75-80% of all breast cancer cases and can have a **recurrence rate between 13% and 41%**. Globally,

the treatment of ER+ breast cancer is estimated to have a **$44 billion market potential by 2027**.

”It is of the utmost importance for cancer drug development to understand targeted tumor biology and mechanisms of resistance in order to select the patient population that will benefit the most from novel therapy. We expect that by using Lantern’s RADR® AI platform it can save us time and costs in the further successful clinical development of TTC-352 while providing important information for precision patient selection,” said Dr. Arkadiusz Dudek, TTC Oncology Chief Medical Officer.

The collaboration will be powered by RADR®’s 25+ billion oncology-focused data points, 200+ advanced ML algorithms, as well as its 4 multi-faceted AI drug discovery and development modules. The initial aims of the collaboration will be to 1) identify biomarker or gene signatures to power potential patient selection for an upcoming TTC-352 Phase 2 clinical trial, 2) further characterize TTC-352’s mechanism of action, and 3) discover additional treatment indications for TTC-352.

“Using AI insights generated by RADR®, we are able to both sharpen existing clinical programs and uncover additional unrealized clinical potential of Lantern’s and our collaborators’ drug candidates,” stated Panna Sharma, Lantern Pharma’s CEO and President. “We believe our AI-powered collaboration with TTC Oncology will accelerate the clinical development of TTC-352 for patients with metastatic ER+ breast cancer and will also identify new potential patient populations that can benefit from TTC-352 treatment,” continued Sharma.

Under the terms of the collaboration, Lantern Pharma is receiving an exclusive right to license TTC-352, including any collaboration intellectual property (IP), during an exclusive option period. Additionally, Lantern and TTC will each participate in upfront, milestone, and royalty payments in the event a third party licenses IP resulting from the collaboration. No further financial details were disclosed.

About RADR®

RADR® is one of the world’s largest AI and ML oncology drug discovery and development platforms, consisting of over 25+ billion oncology-focused data points. These data points consist of large-scale multi-omic data, derived from 130,000+ patient records, 150+ drug-tumor interactions, thousands of drug classes, and covering over 135 cancer subtypes. RADR® leverages this data and over 200+ advanced ML algorithms to power its drug discovery and development modules. RADR®’s data, capabilities, and insights have powered the development of new Lantern drug candidates, advancement of new indications for existing drugs, and identification of new combinations at a fraction of the cost and time of traditional development approaches.

About TTC-352

TTC-352 is a novel, first-in-class and best-in-class orally available small molecule being developed as a treatment for patients with metastatic estrogen receptor-positive (ER+) breast cancer who have failed 2 or more prior therapies. TTC-352 is a selective human ER partial agonist (ShERPA) that induces unfolded protein response leading to breast cancer cell death, and acts in a similar manner as hormone therapy by modulating estrogen actions. In the US there are estimated to be around 290,000 cases of breast cancer annually, 80% of which are ER+.

TTC-352 was recently evaluated in a Phase 1 accelerated dose escalation study (**NCT03201913**) for hormone receptor positive metastatic breast cancer. A total of fifteen patients (n=15) were enrolled in the study and five escalating doses were evaluated. Despite the small cohort size, TTC-352 showed early efficacy signals in heavily pretreated hormone refractory patients (Median PFS was 58 days (95% CI = 28,112)) and showed a favorable safety profile. Additional published trial results can be found **here**.

About TTC Oncology

TTC Oncology is an emerging biotechnology company founded in 2015. TTC Oncology's mission is to develop and bring to market a novel, small-molecule therapy, TTC-352, to address the unmet needs of breast cancer patients. TTC has a license from the University of Illinois at Chicago covering the therapy.

About Lantern Pharma

Lantern Pharma (NASDAQ: LTRN) is a clinical-stage oncology-focused biopharmaceutical company leveraging its proprietary RADR® AI 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® AI 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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