



NEWS RELEASE

Lantern Pharma Unveils Innovative AI-Powered Module to Improve the Precision, Cost and Timelines of Antibody-Drug Conjugate (ADC) Development for Cancer

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DALLAS--(BUSINESS WIRE)-- Lantern Pharma Inc. (NASDAQ: LTRN), an artificial intelligence (AI) company dedicated to developing cancer therapies and transforming the cost, pace, and timeline of oncology drug discovery and development, today announced advancements in the application of its RADR[®] AI platform to accelerate and optimize the development of antibody-drug conjugates (ADCs). The global ADC market is projected to reach \$30.4 billion by 2028, growing at a CAGR of 41.7%, with several recently approved ADCs achieving blockbuster status with annual sales exceeding \$1 billion. Major biotech and pharmaceutical companies have recently completed ADC-focused acquisitions valued at over \$10 billion, highlighting the sector's growing strategic importance. Lantern Pharma is actively advancing multiple ADC candidates through preclinical development, including a promising collaboration with the prestigious **MAGICBULLET::Reloaded Initiative** at the University of Bielefeld in Germany.

In a peer-reviewed study published in PLOS ONE, Lantern Pharma researchers demonstrated how their AI-driven approach successfully identified 82 promising ADC targets and 290 target-indication combinations, while also validating 729 potential payload molecules from a screening of over 50,000 compounds. Notably, 22 of these targets have already been validated in clinical or preclinical settings, demonstrating the platform's ability to identify clinically relevant targets. The remaining 60 novel targets represent significant potential for new intellectual property, portfolio development of ADC candidates at Lantern Pharma and licensing opportunities with other

biotech and pharma companies. The ADC module helped to characterize payload molecules with exceptional potency, exhibiting GI50 values from picomolar to 10 nM (nanomolar) ranges. These payload molecules can be further optimized by leveraging RADR's comprehensive molecular features database by mapping drug-response relationships with biochemical and molecular structure characteristics. This AI-driven optimization capability could potentially enhance both the selective targeting and therapeutic window of these ADC payload candidates. Lantern Pharma continues to advance the methods and automations outlined in the paper as part of its RADR™ AI platform and further enhance the data and computational precision of the module.

"This breakthrough demonstrates how AI can transform the traditionally costly and time-consuming process of ADC development," said Panna Sharma, CEO & President of Lantern Pharma. "By simultaneously analyzing multiple data types and integrating mutation profiles with target expression, our team was able to identify optimal therapeutic combinations that have the potential to be more effective and safer for specific patient populations. We believe that our data-driven and machine-learning ready approach could reduce ADC development timelines by 30 to 50% and cut associated costs by up to 60% compared to traditional methods of ADC development."

The research leverages Lantern's proprietary RADR® platform to analyze complex datasets including transcriptomics, proteomics, and mutation profiles across 22 tumor types. The platform's ability to predict mutation-specific responses could enable more precise patient stratification in clinical trials, potentially increasing success rates and reducing development costs. This precision approach to ADC development could be valuable for biotech and pharmaceutical companies looking to advance their ADC portfolio in more targeted indications and is also being actively used by Lantern in the development and modeling of their ADC candidates in preclinical testing and optimization.

"The implications of this research extend far beyond just expanding the repertoire of potential ADC targets," said Kishor Bhatia, Ph.D., Chief Scientific Officer at Lantern Pharma. "By leveraging our RADR® platform's advanced AI capabilities, we've created a systematic approach that could dramatically reduce both the time and cost of ADC development while increasing the probability of clinical success. Our platform is particularly well-suited for partnership opportunities with pharmaceutical companies looking to accelerate their ADC programs or expand their pipeline with novel targets."

Key Highlights of the AI-powered ADC module include:

- Demonstrated platform validation through the successful identification of 22 clinically proven targets with established therapeutic potential
- Discovered 60 novel targets that present significant opportunities for new intellectual property development, portfolio expansion, and strategic licensing partnerships
- Developed proprietary mutation-specific targeting capabilities that enable improved clinical trial design,

enhanced precision in indication selection, and more accurate patient response predictions

- Established a framework that could reduce ADC development costs by up to 60% and accelerate development timelines by 30-50% for both Lantern Pharma and its collaborators
- Created a highly scalable, machine-learning ready approach that leverages the RADR™ AI platform to systematically evaluate thousands of potential tumor sub-types and indications
- Designed a clear pathway to commercialization through strategic industry partnerships and collaborative development programs

The complete research paper, titled "Expanding the repertoire of Antibody Drug Conjugate (ADC) targets with improved tumor selectivity and range of potent payloads through in-silico analysis," is available in PLOS ONE at <https://doi.org/10.1371/journal.pone.0308604>. The paper outlines the approach and initial data-sets used in the development of the AI-powered ADC development module which continues to be enhanced, and is being further validated by Lantern Pharma.

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) platform, RADR®, leverages over 100 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 that span multiple cancer indications, including both solid tumors and blood cancers and an antibody-drug conjugate (ADC) program. Our lead development programs include a Phase 2 clinical program and multiple Phase 1 clinical trials. 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: @lanternpharma

FORWARD LOOKING STATEMENT:

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 risk that our research and the research of our collaborators may not be successful, (ii) the risk that observations in preclinical studies and early or preliminary observations in clinical studies do not ensure that later observations, studies and development will be consistent or successful, (iii) the risk that we may not be able to secure sufficient future funding when needed and as required to advance and support our existing and planned clinical trials and operations, (iv) the risk that we may not be successful in licensing potential candidates or in completing potential partnerships and collaborations, (v) 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, (vi) 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 (vii) those other factors set forth in the Risk Factors section in our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the Securities and Exchange Commission on March 18, 2024. You may access our Annual Report on Form 10-K for the year ended December 31, 2023 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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