Lantern Pharma

The Spark :: Lantern Pharma Monthly Newsletter

By Lantern Communications Team • Dec 20, 2022

The December 2022 edition of The Spark features exciting new company updates including:

- Lantern was ranked as one of the top 20 most productive AI drug development companies worldwide.
- Harmonic™ trial adds 8 new locations across NY to bolster patient recruitment with New York Cancer and Blood Specialists
- Interviews of never-smokers with lung cancer highlights needs for new therapies and trials targeted for never-smokers
- Expansion of LP-184's development for triple negative breast cancer increases its long-term value
- New positive LP-284 data for mantle cell lymphoma (MCL) advances it towards a Phase 1 trial in 2023

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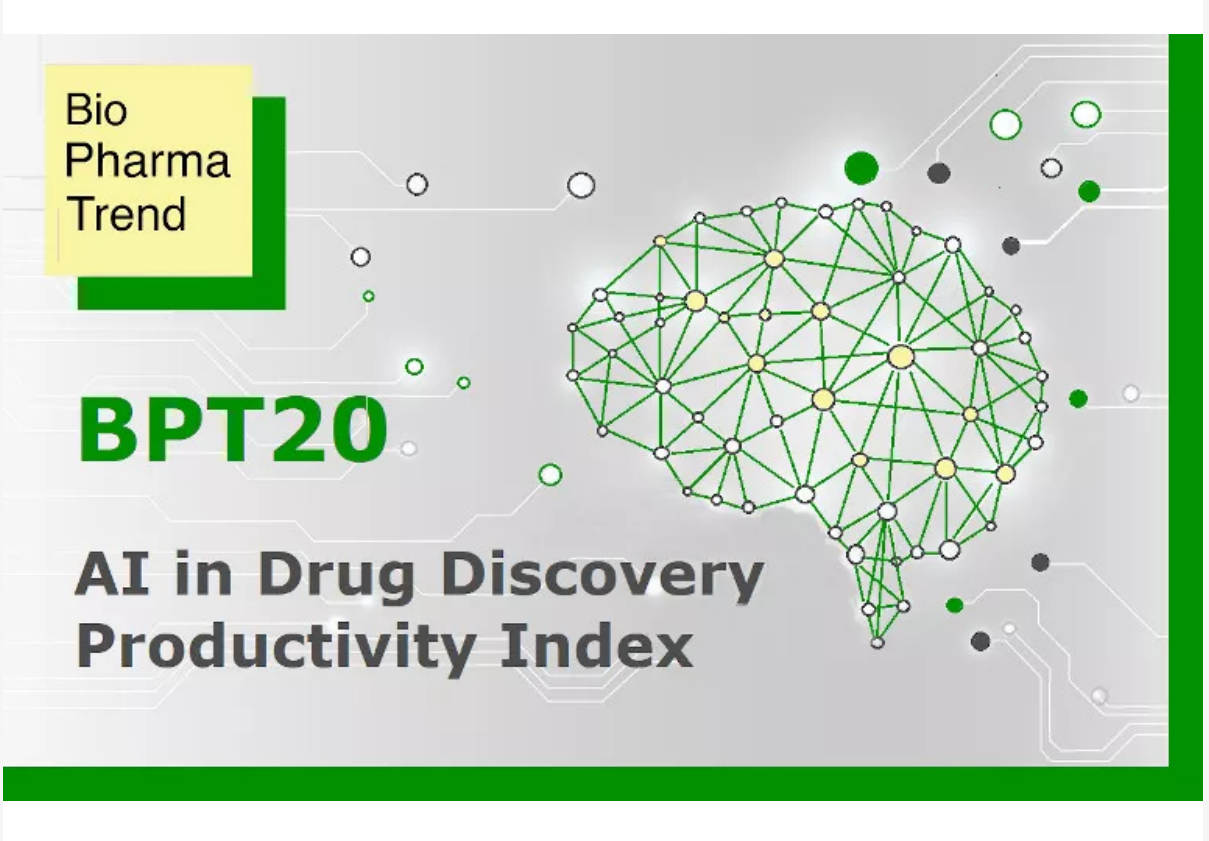
Lantern is one of the top 20 most productive companies for AI in drug discovery!



Lantern was ranked as the 16th (out of 380) most productive company for the use of AI in drug discovery by BioPharmaTrend, a top news provider of advanced technologies and AI for biopharma and biotech.

- **Why it matters:** The ranking further establishes RADR®, Lantern's AI platform, as one of the top oncology focused AI platforms for drug discovery and development. Read how Lantern is using RADR® to advance its drug candidates from initial RADR® insight to late stage IND enabling studies in record times.
- **Go deeper:** Read the BiopharmaTrend article with the full rankings and their white paper on the 2022 key trends for AI in drug discovery and biotech.

Harmonic™ trial adds 8 new locations across NY to bolster patient recruitment with New York Cancer and Blood Specialists

1) Lantern has activated a third Harmonic™ clinical trial site, New York Cancer and Blood Specialists, which will host the trial at 8 different locations across New York.

- **All three clinical trial sites**, Gabrail Cancer Center, Northwest Oncology and New York Cancer and Blood Specialists, are in the process of screening patients and are targeting to enroll the first patients in Q1 2023.
- Multiple additional sites are expected to be activated in Q1 2023.

2) Harmonic™ in the news - The Harmonic™ trial was recently featured in a clinical trial spotlight article on OncLive, a high impact news site for oncologists about oncology news, clinical trials, and drug candidates. Read the full article here.

Interviews of never-smokers with lung cancer highlights needs for new therapies and trials targeted for never-smokers

During Lung Cancer Awareness Month, Lantern partnered with the lung cancer advocacy group, Breath of Hope Kentucky (BOHKY), to raise awareness of issues facing never-smokers with lung cancer and to drive patient awareness for the Harmonic™ trial.

- As part of the campaign, Lantern and BOHKY featured the survivor stories of Dan and Brittany, who both received shocking diagnoses that they had lung cancer despite being never-smokers. Watch their inspirational survivor stories at the links below:
- Dan's survivor story
- Brittany's survivor story

What's next: Next year, in collaboration with BOHKY, we will continue to share additional survivor stories of never-smokers with lung cancer, which will further drive awareness of the Harmonic™ trial in the never smoker-lung cancer community.

Expansion of LP-184's development for triple negative breast cancer increases its long-term value

Triple negative breast cancer (TNBC) is one of the most aggressive and malignant forms of breast cancer. Patients with TNBC have urgent needs for new therapies as they have no effective standard-of-care (SOC) therapy.

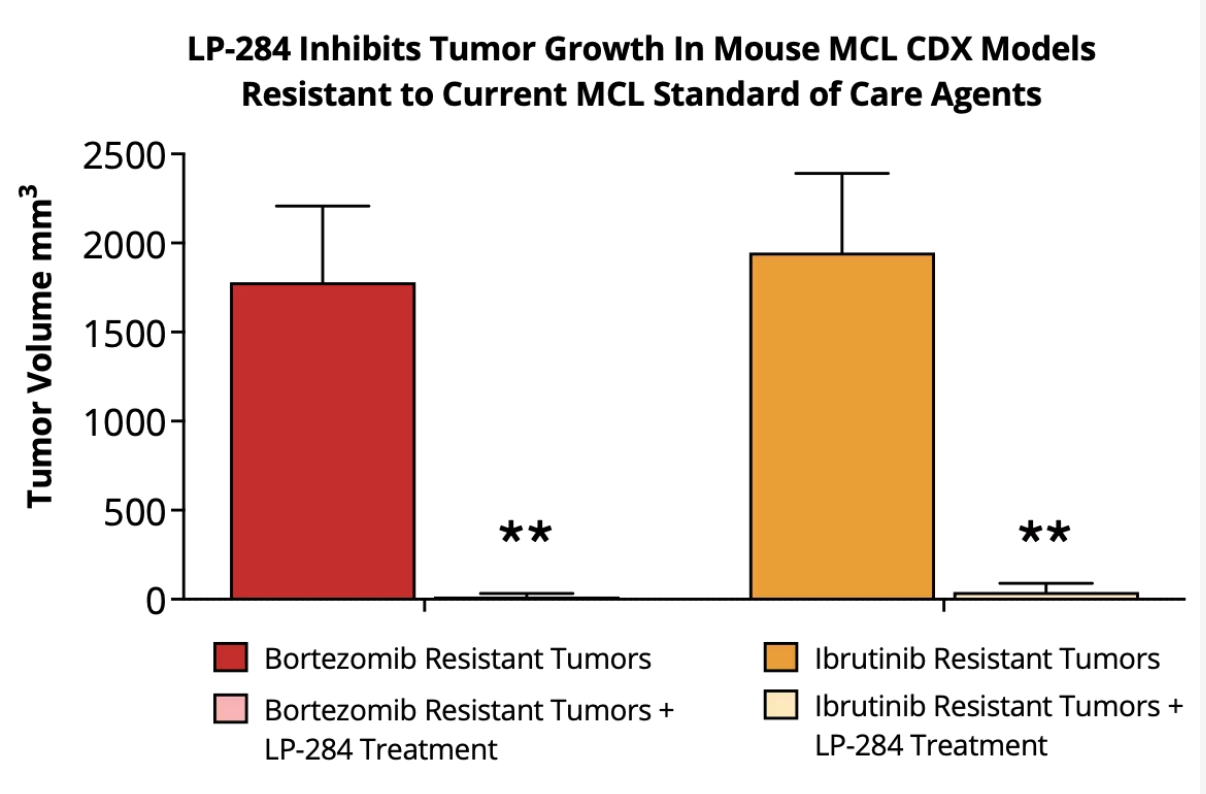
New LP-184 results were presented at the San Antonio Breast Cancer Symposium (SABCS) that demonstrated its anti-tumor potency in preclinical TNBC models:

- LP-184 had low nano-molar potency (average IC50 of 297nM) when tested across a panel of 4 TNBC breast cancer cell lines.
- LP-184 was additionally tested in 10 patient derived xenograft (PDX) mouse models of TNBCs, 7 of which were resistant to Olaparib, a current SOC agent for TNBC. **In all 10 TNBC PDX models, LP-184 treatment led to complete and durable tumor regression of 107-141%**.

Go deeper: In addition to LP-184's preclinical anti-tumor efficacy for primary TNBC tumors, LP-184 may also have added therapeutic potential to treat brain metastases (brain mets.) from TNBCs, which are found in ~14% of TNBC patients at their initial diagnosis.

Each year in the US, there are approximately 8,000 newly diagnosed TNBC patients with an additional 21,000 relapsed TNBC patients, representing an annual market potential of up to $1.7 billion USD.

New LP-284 data for mantle cell lymphoma (MCL) advances it towards a Phase 1 trial in 2023



In mice implanted with MCL CDX tumors that had been treated and then grown resistant to Bortezomib or Ibrutinib, subsequent LP-284 treatment of 4 mg/kg (i.v.) resulted in near complete tumor regression in the SOC resistant MCL CDX tumors (** p < 0.01).

New LP-284 preclinical data for mantle cell lymphoma (MCL), an aggressive subtype of B-cell non-Hodgkins lymphoma (NHL), were recently presented at the American Society of Hematology (ASH) annual meeting.

- LP-284 treatment was demonstrated to have between 91-105% greater tumor growth inhibition (TGI) in mice implanted with MCL cell derived xenograft (CDX) tumors, when compared to treatment with the standard-of-care (SOC) agents Ibrutinib or Bortezomib.
- In mouse MCL CDX tumors that had been treated and then grown resistant to either Ibrutinib or Bortezomib, subsequent LP-284 treatment of 4 mg/kg (i.v.) resulted in near complete tumor regression in the SOC resistant MCL CDX tumors (see figure above).
- In the large animal non-GLP toxicology portion of the IND enabling studies, the No Observed Adverse Effect Level (NOAEL) of LP-284 was found to be 0.3 mg/kg/dose.
- Taken together these results support the development of LP-284 as a novel agent for MCL and will help advance LP-284 towards a first in human Phase 1 clinical trial in mid 2023.
- The full results can be found on Lantern's website.

Why it matters: Therapies for aggressive NHL's, including MCL and double hit lymphoma's (DHL), rarely achieve cures and have a high percentage of relapse and resistance. There are significant needs for additional late stage options for these patients.

In the US and Europe, MCL and DHL are diagnosed in approximately 9,000 patients each year and have an estimated annual market potential of $1.2 billion USD.

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Forward-Looking Statements

This newsletter 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, our plans to advance the development of our drug candidates and antibody drug conjugate program, or our future financial performance. 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 newsletter 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.