Filed Pursuant to Rule 433
Registration Statement No. 333-251992
Issuer Free Writing Prospectus dated January 11, 2021
Relating to Preliminary Prospectus dated January 8, 2021

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This presentation 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 the drug development process 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 words such as "targets," "objectives" (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 preliminary prospectus, dated January 8, 2021, on file with the Securities and Exchange Commission. You may access our January 8, 2021 preliminary 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. Furthermore, we operate in a competitive and rapidly changing environment. New risks and uncertainties emerge from time to time, and it is not possible for us to predict all risks and uncertainties that could have an impact on the forward-looking statements contained in this presentation. You should read this presentation, the preliminary prospectus we have filed with the SEC and the documents we reference in the preliminary prospectus and have filed as exhibits to the registration statement of which the preliminary prospectus is a part completely and with the understanding that our actual future results may be materially different from what we expect. All forward-looking statements in this presentation 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.

Lantern Pharma

FREE WRITING PROSPECTUS

- We have filed a registration statement (including a prospectus) with the SEC for the offering to which this communication relates. Before you invest, you should read the prospectus in that registration statement and other documents the issuer has filed with the SEC for more complete information about us and this offering. You may get these documents for free by visiting EDGAR on the SEC website, www.sec.gov. Alternatively, we, any underwriter or any dealer participating in the offering will arrange to send you the prospectus if you contact ThinkEquity, a division of Fordham Financial Management, Inc., located at 17 State Street, 22nd Floor, New York, NY 10004, by telephone at (877) 436-3673 or by email at prospectus@think-equity.com.
- All investors viewing these materials should first access the prospectus by clicking on the following link:

https://www.sec.gov/Archives/edgar/data/1763950/000121390021001239/ea132545-s1_lanternpharm.htm

MARKET AND INDUSTRY DATA

- This presentation and the preliminary prospectus made available to you herewith contains estimates, projections and other information concerning our industry, our business and the markets for our drug candidates, including data regarding the estimated size of such markets and the incidence of certain medical conditions. We obtained the industry, market and similar data set forth in this presentation and the preliminary prospectus from our internal estimates and research and from academic and industry research, publications, surveys and studies conducted by third parties, including governmental agencies. In some cases, we do not expressly refer to the sources from which this data is derived. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances that are assumed in this information. While we believe our internal research is reliable, such research has not been verified by any third party.
- This presentation highlights basic information about us and the offering. Because it is a summary, it does not contain all of the information that you should consider before investing. This offering may only be made by means of the prospectus. Except as otherwise indicated, this presentation speaks only as of the date hereof.
- This presentation does not constitute an offer to sell, nor a solicitation of an offer to buy, any securities by any person in any jurisdiction in which it is unlawful for such person to make such an offering or solicitation. Neither the Securities and Exchange Commission (the "SEC") nor any other regulatory body has approved or disapproved of our securities or passed upon the accuracy or adequacy of this presentation. Any representation to the contrary is a criminal offense.

Lantern Pharma

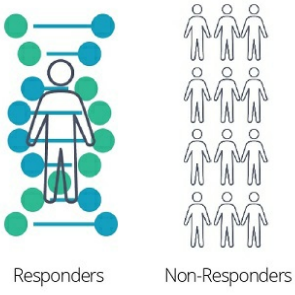
Lantern leverages A.I. to rescue and develop cancer therapies and has the potential to transform the cost, risk and timeline of drug development

Failed or Abandoned Drug Assets

Drugs that have failed clinical trials or have been abandoned by pharma and biotech companies in late stage trials

RADR®

- Big data (genomic, clinical, response) assembled and analyzed
- Patient subgroups identified through machine learning and artificial intelligence
- Mechanisms of action clarified
- Potential combinations identified
- Potential for faster and more efficient path to relaunching in the clinical trial setting



Responders Non-Responders

- Patient stratification based on A.I. enabled genomic biomarker discovery
- New patient populations for failed or abandoned drugs based on validated biomarker signatures
- Aimed to shorten time to market
- Designed to reduce risk in development
- Potential for orphan or fast track status
- New Chemical Entities designed and filed

Current oncology drug development is costly, risky, and inefficient … a perfect problem area for artificial intelligence & machine learning

Challenges in drug development …

3.3%[1]
Avg. success rate of oncology drugs

$2.8B[2]
R&D investment to bring new cancer drug to market 2009-2018

17,000+
Oncology trials conducted from 2001-2015

2X
Success rate of oncology trials using biomarker

…are being met by data-driven, and A.I. approaches

Note 1: https://globalforum.diaglobal.org/issue/may-2019/what-are-the-chances-of-getting-a-cancer-drug-approved/
Note 2: https://www.biopharmadive.com/news/new-drug-cost-research-development-market-jama-study/573381/
Source: Wong CH et al.. *Biostatistics* (2018)

Lantern Pharma

There is a critical need to rescue drugs that failed *or* bring abandoned therapeutic assets to market in order to create ROI for biopharma

ROI Among The Top 12 Pharma – *Continuous Decade of Decrease*

Source: Deloitte research, 2019

1. "… low efficacies of cancer drugs might be attributed to the heterogeneity of the tested patient population, which essentially dilutes the strong therapeutic effect that a drug might have on a specific patient subgroup."
Thiebault Geoux, Ph.D.
Chemistry - Elsevier 11/9/2015

2. "The ever-increasing catalog of genetic changes involved in cancer development is fueling a new generation of targeted drugs that are designed to address specific weaknesses in tumor cells. But these drugs will only work in a subset of patients – creating a demand for genetic stratification.
Allison Halliday, Ph.D.
Cancer Research, 01/31/2020
Cancer Biomarkers: Powering Precision Medicine

RADR® Precision Medicine Platform

- Our A.I. platform helps to solve these two central problems in oncology drug development with unprecedented speed and cost
- This allows us to increase the potential for success and improve trial design

Lantern's focus on oncology, and advancing the portfolio where we own the therapeutic rights makes us uniquely positioned and differentiated

Scalable, Unique Artificial Intelligence Platform – RADR®

- **1+ Billion** datapoints covering over **140+ drug/tumor** interactions
- Validated in multiple case studies with **over 80%+ blinded accuracy**
- Integration of **real-world, patient data** from thousands of patients
- Active **collaboration with NCI** in oncology therapeutics
- Use of **genomic, transcriptomic, clinical and drug sensitivity** data
- Guides development of **patient stratification and CDx** strategy
- Published posters and studies at **ASCO and AACR** (2018, 2019, 2020)
- Helped drive first **out-licensing deal for LP-100**
- **Helped identify ADC program for potential development**

Rapidly Accelerating Our Portfolio Value

1. Guided the genetic signature to determine patient response for LP-100 which was out-licensed within one year
2. Expanded LP-100 for use in cancers that have a DNA damage repair gene mutation (ERCC 2,3)
3. Uncovered potential mechanisms of action for LP-300 – which has shown notable and statistically significant results in prior trials, (with certain patient populations) but failed to meet broader endpoints
4. Highlighted potential pathways and genes involved in both the response to LP-184 and the biological mechanisms that are involved in activity across multiple tumors
5. Identified potential new candidates for rescue, repurposing and in-licensing – including ADC combinations

Lantern Pharma

Major pillars of shareholder and patient value at Lantern Pharma

High-Performance, Rapidly Growing A.I. Platform

- ✓ Has identified several indications for new, genomically validated programs for LP-184
- ✓ Provided insights and targets for pursuit using an ADC approach
- ✓ Scaled 4x+ since IPO, plan an increase of 3x to 5x during 2021 calendar year
- ✓ Potential to significantly reduce the complexity, cost and timeline associated with drug development

Unique Portfolio of Clinical Stage Targeted Cancer Therapeutics

- ✓ Programs in Phase 2 in targeted cancer indications
- ✓ Unique, patented small molecules being developed with biomarker signatures
- ✓ Phase 2 in mCRPC (prostate)
- ✓ Phase 2 (mid 2021) in NSCLC (lung)
- ✓ Targeted indications in GBM, Pancreatic and other solid tumors

Novel Highly Potent ADC Program

- ✓ Targeting novel programs with patented compounds and unique linker technologies
- ✓ Optimized for portfolio of Lantern's DNA damaging compounds
- ✓ Leveraged RADR to identify ideal targets and cancers that can benefit from the combination
- ✓ Ability to partner early with pharma based on market and technology demand for ADC programs

Lantern Pharma

Types of data:
- Complete transcriptome data
- RNA gene expression data
- Drug sensitivity data
- DNA copy number and mutation data
- Clinical stage of tumor/cancer
- Histology of tumor
- Patient age, sex, race and ethnicity
- Prior treatment history and response

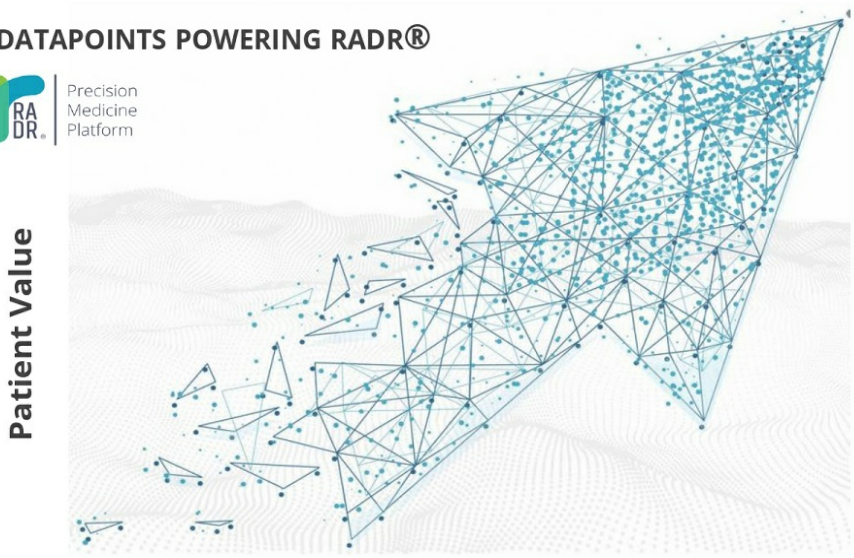
Sources of data:
- Clinical history of the drug
- Published research (e.g., ASCO, journals)
- Proprietary sequencing studies
- Partnerships/Collaborations
- Public sources (e.g., NCI)

Extensively Curated & Scored

* Historical datapoints are approximate and based on end of year analysis
** Future datapoints are based on Company's product development plans

DATAPOINTS POWERING RADR®

RADR® Precision Medicine Platform



10 Million >	125 Million >	1 Billion >	3-5 Billion >	10 Billion >
2018*	2019*	2020*	2021**	2022**

Lantern Pharma

Lantern's Unique & Rapidly Developing Pipeline

Indication	Drug	R&D	Preclinical	Phase I	Phase II	Phase III
Prostate Cancer *Successfully partnered & out-licensed*	LP-100 (Irofulven)					allarity THERAPEUTICS
Non-Small Cell Lung Cancer *(Focused on Never-Smokers)*	LP-300					
Solid Tumors *(Location agnostic tumors identified by RADR® defined genomic signature)*	LP-184					
Glioblastoma *(Responsiveness predicted by RADR® and confirmed in wet-lab studies)*	LP-184					
Select Solid Tumors *Leveraging novel linker library & with unique DNA-damaging agents with proven antibodies*	ADC Programs					

Accelerated Development by Leveraging the RADR® A.I. platform
80+ issued patents and pending applications across 14 patent families

Nearly 1 M patients annually worldwide with several Billion $USD in potential future oncology therapy sales

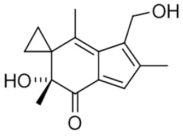
3 Drug Candidates in Development in Targeted Patient Segments With Clinical Need

Prostate Cancer	Ovarian, Pancreatic & Liver Cancer	Glioblastoma (GBM)	Non-Small Cell Lung Cancer (NSCLC)
1.3 million 2018 Estimated Global Incidence	**1.6 million** 2018 Estimated Combined Global Incidence	**240,000+** 2018 Estimate of new GBM cases globally	**2 million** 2018 Estimated Global Incidence
208,000 2018 Estimated Global metastatic hormone-resistant prostate cancer subpopulation	**400,000** 2018 Estimated Global cancer subpopulation non-responsive to or relapsed after chemotherapy and with potential biomarker signature for response	**11,000-13,000** 2019 estimated GBM Cases in the USA	**240,000+** 2018 Estimated Global never-smoker NSCLC adenocarcinoma subpopulation

Sources: American Cancer Society, Global Database, AANS, NCI, Lantern Pharma meta analysis

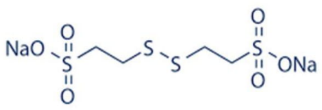
Overview of Lantern's Small Molecule Portfolio

LP-100, Irofulven



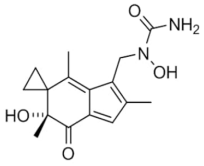
- DNA Damaging Agent
- Mediates cytotoxicity through multiple mechanisms such as DNA adduct formation, RNA polymerase stalling and redox protein modification
- Use in a precision medicine, genomic-signature guided Phase II trial (NCT03643107) for metastatic, castration-resistant prostate cancer (mCRPC)
- Expansion into cancers with ERCC2/ERCC3 mutations (both germline and inherited)

LP-300



- Disulfide bond disrupting agent with cysteine modifying activity on select proteins (ALK) and modulator of protein function (EGFR, MET, ROS1)
- Chemosensitizer for combination therapies by inactivating proteins modulating cell redox status and drug resistance (TRX, GRX, PRX)
- Chemoprotectant activity that reduces toxicities associated with taxane/ platin-based chemotherapies

LP-184

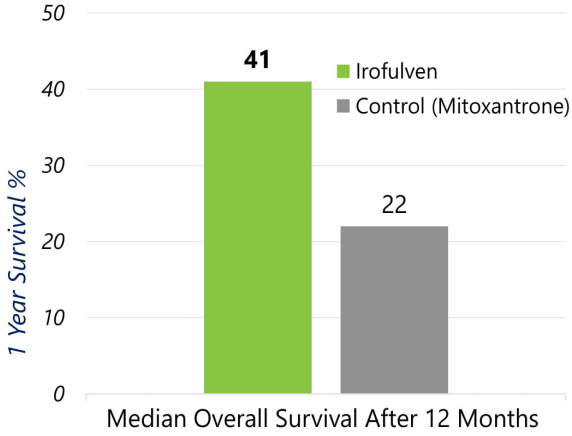


- Novel DNA Damaging Agent - member of the acylfulvene prodrug class
- Favorable *in vitro* and *in vivo* efficacy across multiple tumor types
- Broad anti-tumor agent that counteracts multi-drug resistance
- Nanomolar potency
- A.I. generated, validated and published gene signature for solid tumors
- Key payload for ADC programs

LP-100

LP-100 (Irofulven): Historical* phase II trial results in prostate cancer

Median 1 yr. survival was 86% greater in Irofulven in combination treated metastatic prostate cancer patients v. control



*Historical data from Hart et al., Randomized phase II trial of irofulven/prednisone, irofulven/capecitabine/prednisone, or mitoxantrone/prednisone in hormone refractory prostate cancer (HRPC) patients failing first-line docetaxel. European Journal of Cancer Supplements (2006)

Precision Phase II Trial

- Out-licensed to Allarity Therapeutics in 2016
- Patients screened using Irofulven-specific biomarker signature and eligible patients recruited with Hormone Refractory Prostate Cancer (HRPC)
- Allarity Therapeutics dosed first patient in HRPC in Q4 2018 in a Phase 2 trial using biomarker technology to ID and monitor patients
- Trial design estimates up to 27 patients to be enrolled
- Lantern Pharma can receive up to $14M or a specified percentage of future earnings from the sale or out-licensing of LP-100
- First patient dosed in mHRPC (metastatic, hormone-resistant prostate cancer) in Q4 2018 in a Phase II trial using biomarker screening technology on the tumor to select patients
- US patent directed to use of drug in combination with tumor biomarker signature (*filed by Allarity Therapeutics*) through 2036

LP-300

LP-300 in development for never-smokers with NSCLC adenocarcinoma based on strong historical data & biomarker studies

Mechanism of action

- Disulfide bond disrupting agent
- Disrupts by covalently modifying cysteine
- Inhibits and modulates activity of proteins in NSCLC pathways (ALK, EGFR, MET, ROS1)

Prior Clinical Experience

- Prior history in 5 phase 1 and 5 phase 2 and 3 clinical trials in lung and breast cancers as a combination agent
- LP-300 has been administered to over 1,000 patients and has been generally well tolerated
- Prior studies did not stratify or select patients based on biomarker or smoking status

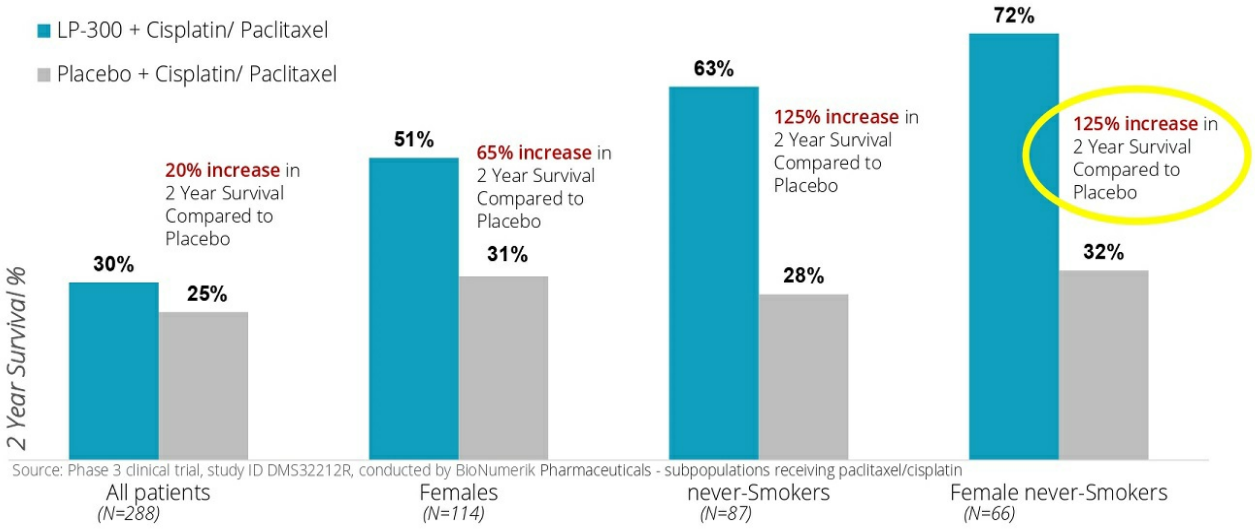
Current status

FOX CHASE CANCER CENTER
TEMPLE HEALTH

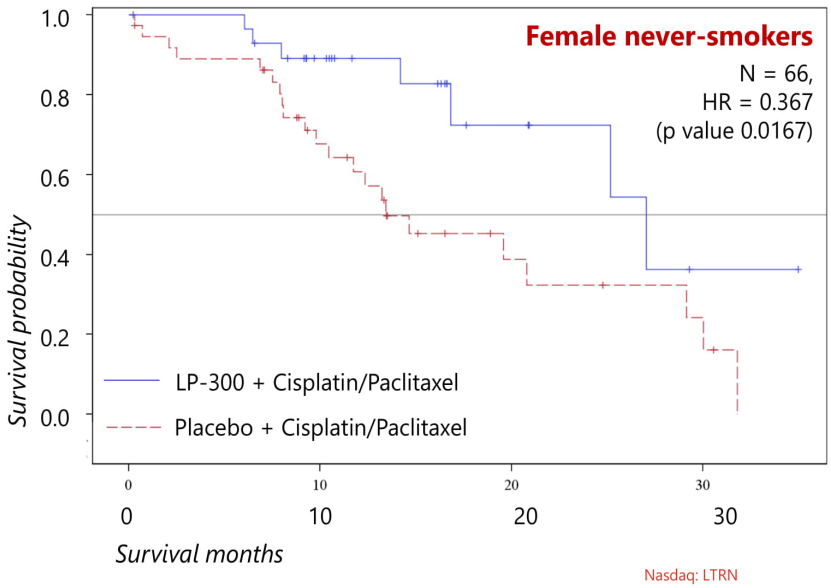
RADR®

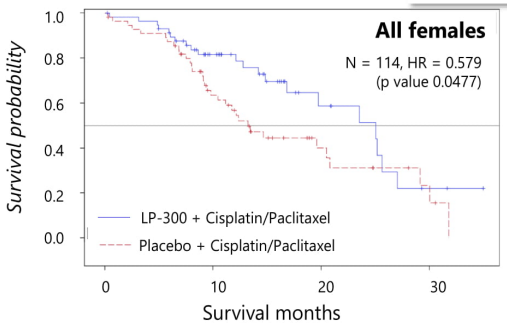
- Targeting never-smoker sub-population, as a potential target rare disease market (est. start mid-2021)
- Designing phase II clinical trial for use in non-smokers with NSCLC adenocarcinoma
- Exploring preclinical *in vivo* studies to characterize efficacy as a combination with approved targeted therapies
- Leveraging RADR® to develop biomarker signature that can be used to predict patients most likely to respond to combination therapy with LP-300

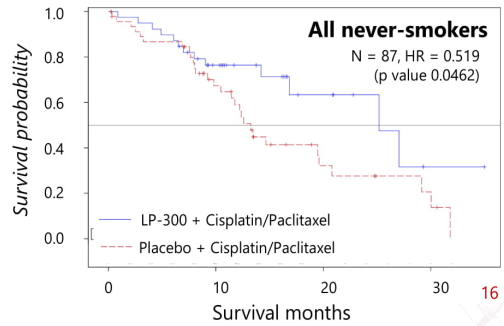
Lantern's precision oncology approach in the LP-300 Phase II trial will build on a prior Phase III trial that did not meet clinical efficacy endpoints but demonstrated survival benefit in a patient subgroup



Female never-smokers showed the clearest statistically significant positive outcome among subgroups in the LP-300 treatment arm in advanced adenocarcinoma patients in Phase III







LP-300

Proposed design for relaunching of Phase II clinical trial for LP-300 in a targeted patient population

Histology / demographic/ smoking history screening

Never-smoker NSCLC Adenocarcinoma patients

RADR Precision Medicine Platform

Collection of patient genomic and biomarker data for future stratification

50 – 75 stratified patients

LP-300 + standard of care *(Dosing every 3 weeks and up to 8 treatment cycles)*

Trial Design

- Non-Randomized
- Masking: None (Open Label)
- Primary Purpose: Treatment
- Study arms: Single experimental arm

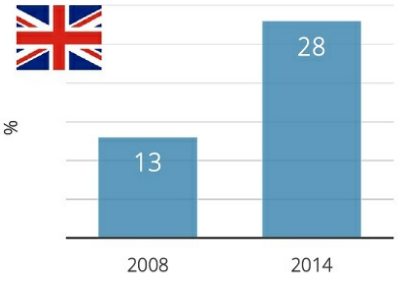
Efficacy Endpoints

- **Primary:** Overall Survival
- **Secondary:** Objective Response Rate/ Clinical Benefit Rate/ Progression-Free Survival/ Quality of Life

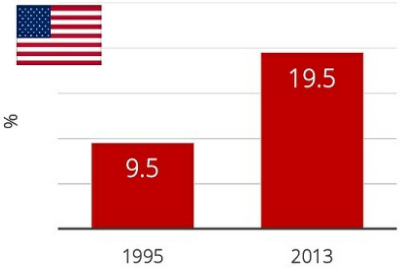
LP-300

Lung Cancer in Never-Smokers (LCINS) – a hidden but rising disease

Incidence of NSCLC in non-smokers in the U.K.*



Incidence of NSCLC in non-smokers in the USA*



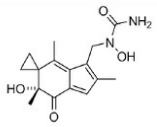
*Proli C et al., ASCO 2015; Pelosof L et al., ASCO 2015

- **7th leading cause of death** among patients with solid tumors
- **More frequent in women** with ~2/3 of patients with no reported smoking history
- **Adenocarcinoma is the most common histology** accounting for ~60% of non-smoking NSCLC patients
- **20% to 25% of global lung cancer cases and deaths** occur among never-smokers
- **LP-300 patent application** for use in never-smoking NSCLC patients (potential protection until 2039)
- **Significant mutational difference** in LCINS v. Smokers – esp. in EGFR, TP53, STK11 and KRAS**

**Mutation frequency data compiled by Lantern Pharma from 6 studies

LP-184 for solid tumors and certain PTGR1 expressing cancers & ADC program

Unique Features



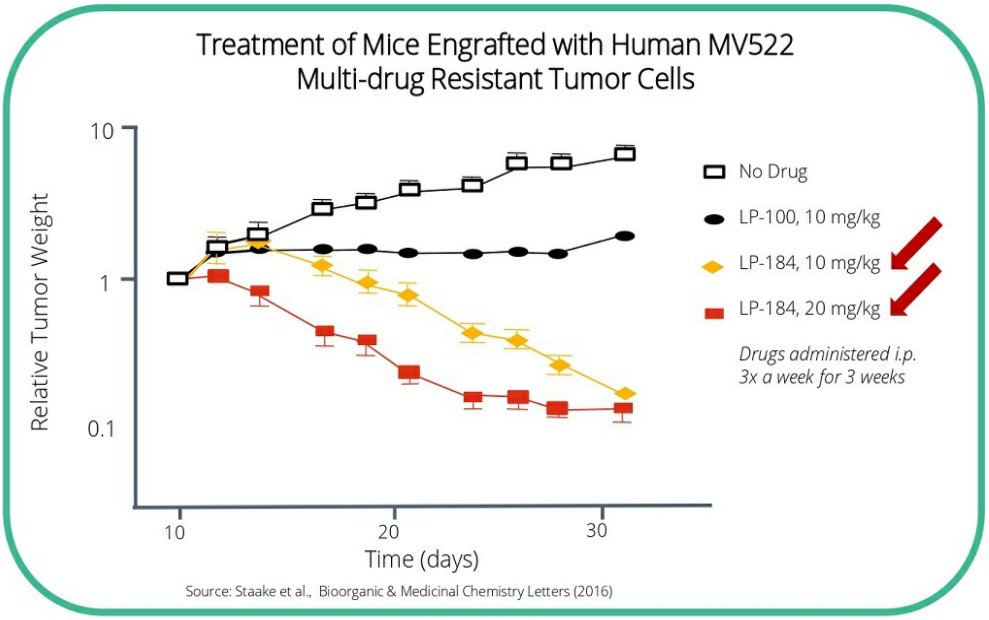
- Hydroxyurea Methylacylfulvene
- Nanomolar potency across multiple solid tumor (pancreas, prostate, liver) and glioblastoma cell lines
- Broad anti-tumor agent that counteracts multi-drug resistance and is independent of other mutations (p53, KEAP1)
- Favorable *in vitro* and *in vivo* efficacy allowing improved therapeutic index and pharmacokinetics
- Promising blood-brain-barrier (BBB) profile
- Key payload for ADC Program

Current status

GEORGETOWN UNIVERSITY · JOHNS HOPKINS MEDICINE · FOX CHASE CANCER CENTER, TEMPLE HEALTH

- 6 new patent filings: 2 new applications on synthetic manufacturing of new molecular entities
- Wet lab validated 16 gene signature leveraging NCI Cell Miner platform from our collaboration
- Validated BBB permeability in both nuerospheres and wet-lab experiments
- Q4 '20 collaboration with Georgetown in prostate cancer
- Q4 '20 collaboration with Johns Hopkins in GBM
- Q3' 20 collaboration with Fox Chase to advance targeted use in molecularly defined types of pancreatic cancer.
- Q3 '20 established manufacturing for phase 1 clinical trials in GBM and solid tumors.

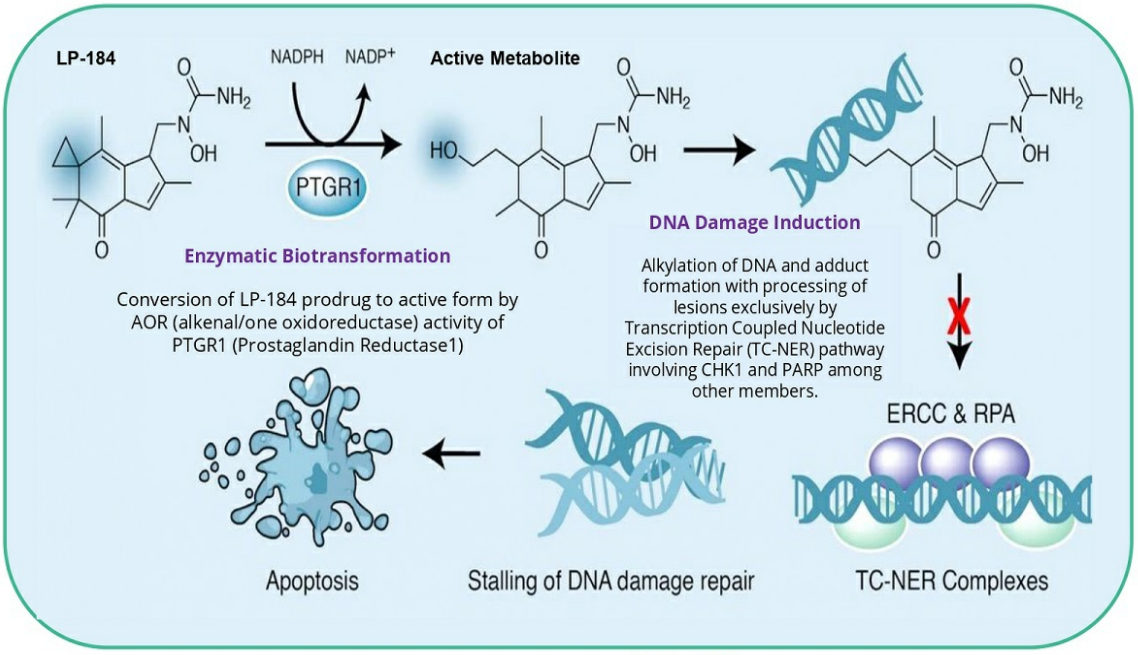
LP-184 treatment resulted in greater tumor regression in a mouse model with human cancer



Source: Staake et al., Bioorganic & Medicinal Chemistry Letters (2016)

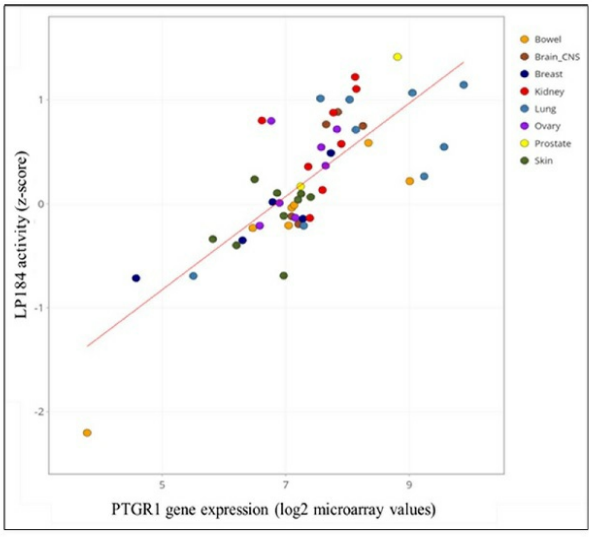
LP-184

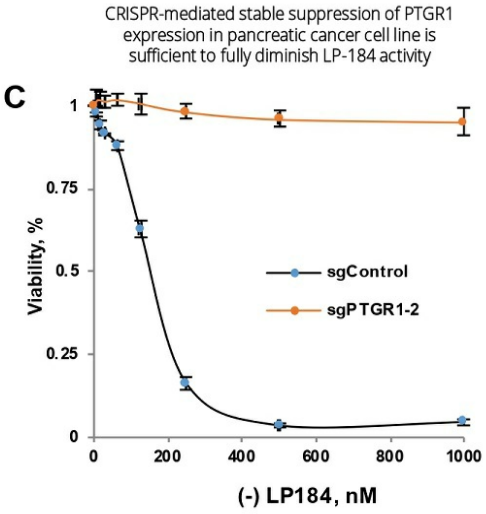
Proposed LP-184 mechanism of action based on acylfulvene drugs



1. Potential synergistic drug combinations due to involvement w/ DNA repair pathway and supported by gene correlation studies
2. Approved drugs in certain drug classes have been identified to be synergistic with LP-184 when used in combination for cancer treatment

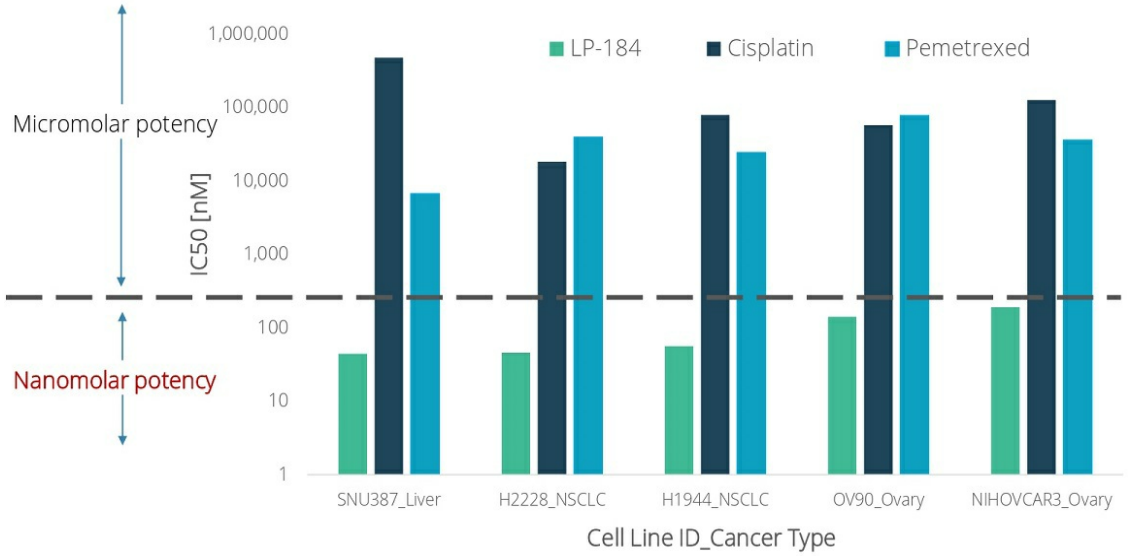
LP-184: High Positive Pan Tumor Correlation with PTGR1 Expression





Tumors with highest potential based on PTGR1 expression and gene signature activity
Lung
Prostate
Kidney
Colon
Brain / CNS

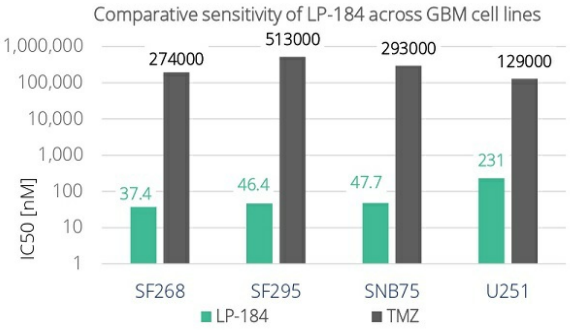
LP-184 shows a 10x – 3,800x increase in *in vitro* potency over approved chemotherapeutics in various solid tumors



LP-184 IC50 data from Lantern generated data, Cisplatin and Pemetrexed IC50s from GDSC database

LP-184 shows significant promise in improving patient outcomes in Glioblastoma (GBM) – a rare cancer with median survival of < 1 year

500x – 13,000x increase in *in-vitro* potency over TMZ, (the current standard in GBM)



LP-184 has a favorable CNS drug profile – blood brain barrier (BBB) permeability

Molecule	BBB permeability probability score	Developmental stage
LP-184	0.9694	Preclinical
TMZ	0.9879	Approved
Carmustine	0.9533	Approved
Cilengitide	0.9362	Phase II

Using **admetSAR2**, a tool for evaluating chemical ADMET (absorption, distribution, metabolism, excretion - toxicity) properties

The **current standard** of care for GBM consists of de-bulking surgery followed by combined treatments with fractionated ionizing radiation (IR) and the DNA alkylating agent **temozolomide (TMZ) which less than 50% of patients respond to***

Source: Genes & Disease, Volume 3, Issue 3, Sep. 2016 0 pp. 198-210

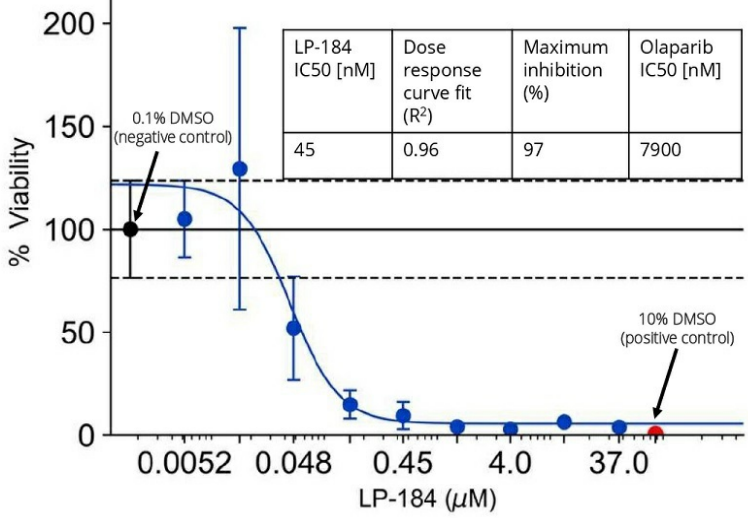
Lantern Pharma

LP-184

LP-184 is highly effective in *ex vivo* PDX models of DNA Damage Repair Deficient (HRD+) solid tumors

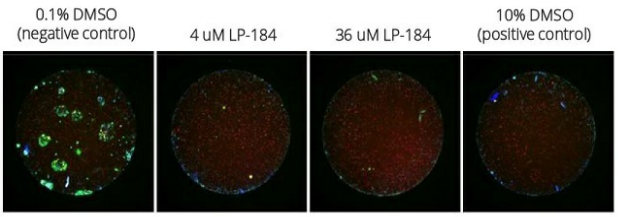
LP-184 response in a representative pancreatic cancer model with PARP1, ATR* and BRIP1 mutations

Post-treatment Day 5 Cell Viability Readout



LP-184 IC50 [nM]	Dose response curve fit (R^2)	Maximum inhibition (%)	Olaparib IC50 [nM]
45	0.96	97	7900

Post-treatment Day 5 Staining



Hoechst (all nuclei)
CellTracker Green (live cells)
p-γH2A.X (DNA damage)
EdU (S phase of cell cycle)

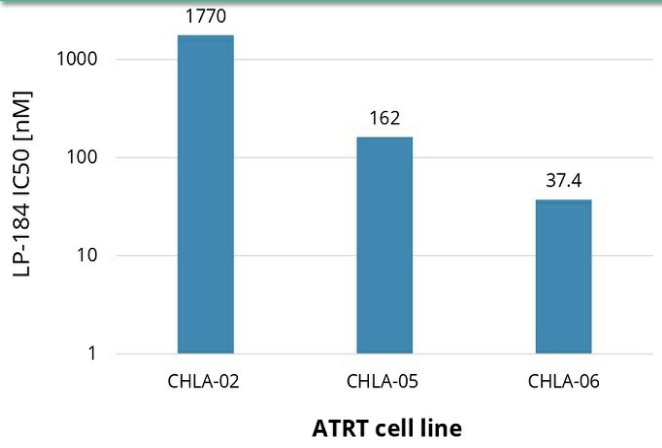
Patient was a non-responder to 5-Fluorouracil/ Irinotecan/ Oxaliplatin combination

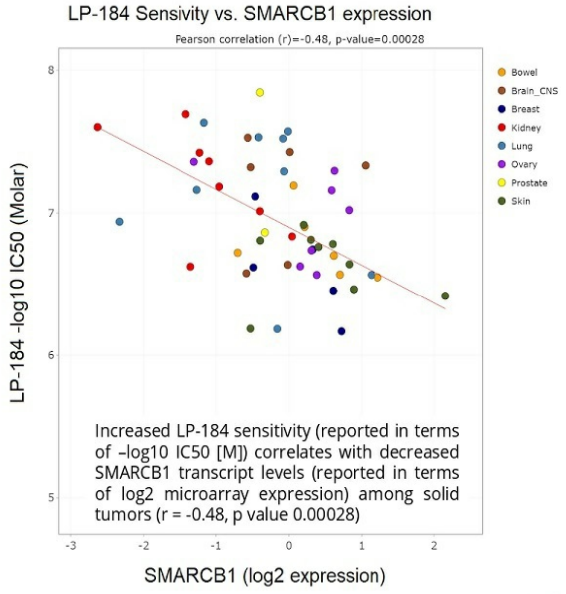
*high impact mutation

Lantern Pharma

LP-184 shows *in vitro* potency in ATRT - an ultra-rare CNS cancer mostly occurring in children driven by SMARCB1 expression as predicted by RADR

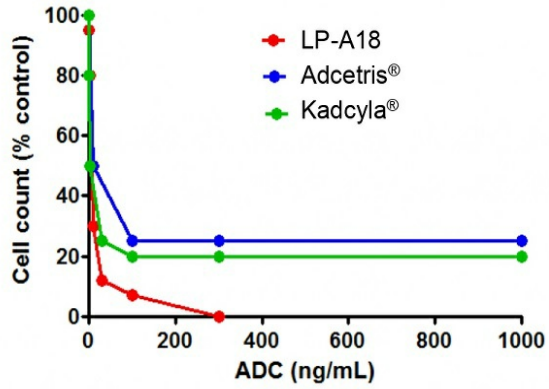
LP-184 IC50 values in multiple ATRT cell lines suggest that it is able to potently kill these cancers





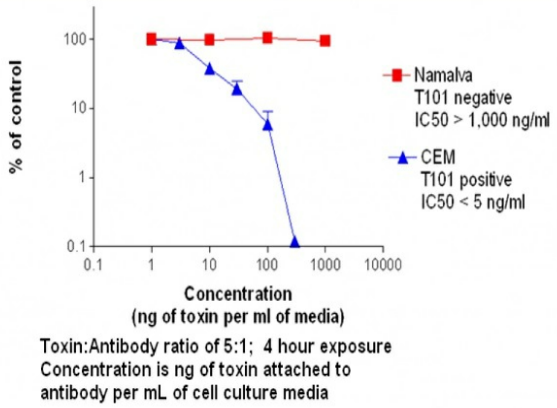
Initial data from ADC Program

LP-A18* v. other ADCs based on data submitted to FDA



LP-A18 has an LD50 of 7 nM versus IC50 2-7 nM for Adcetris® or Kadcyla®

Converted an antibody with no intrinsic biological activity to an ADC!



Toxin:Antibody ratio of 5:1; 4 hour exposure
Concentration is ng of toxin attached to antibody per mL of cell culture media

One can treat even MDR refractory leukemias (whether T-cell, B-cell, myeloid or myeloma leukemias)

RADR® - A robust and scalable platform for accelerating the development of targeted cancer therapy, precision trials and Companion Dx

Real World Applications

- Robust precision medicine/drug development
- Uncovering potential drug combinations
- Predicting synergy with Immuno-oncology agents
- Drug repositioning, revitalization & rescue
- Companion Dx development

Model Data Sets

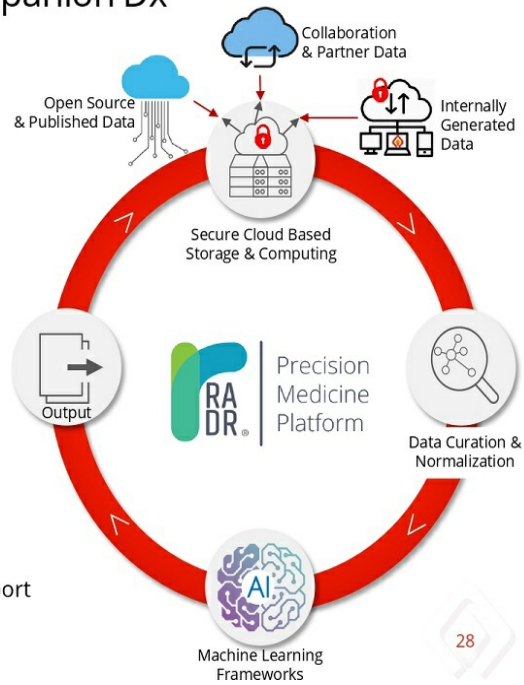
- > 1 Billion transcriptomic and drug sensitivity data points
- >144 drug-tumor interactions
- > 55,400 + real world patient data
- Using automation and AI to grow data-sets

Data Sources

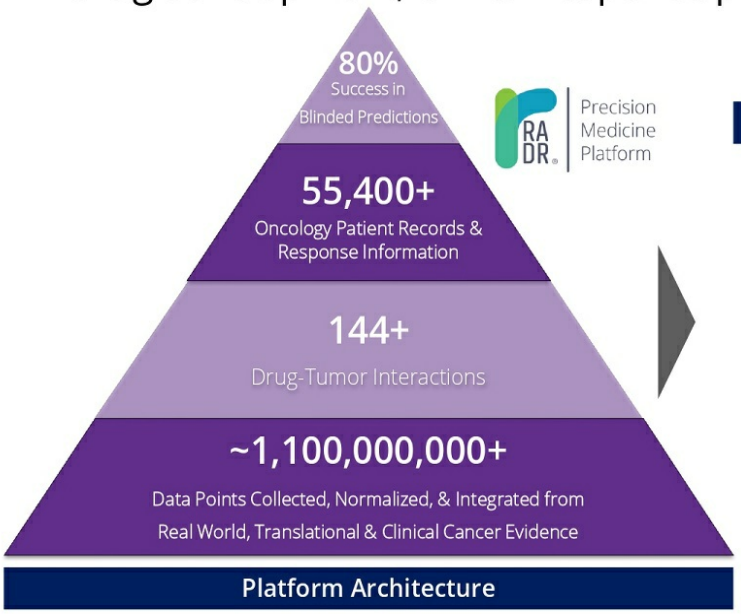
- Public Sources such as Gene Expression Omnibus (GEO), Cancer Cell Line Encyclopedia (CCLE), Genomics of Drug Sensitivity in Cancer (GDSC),
- Industry Data
- Proprietary Data

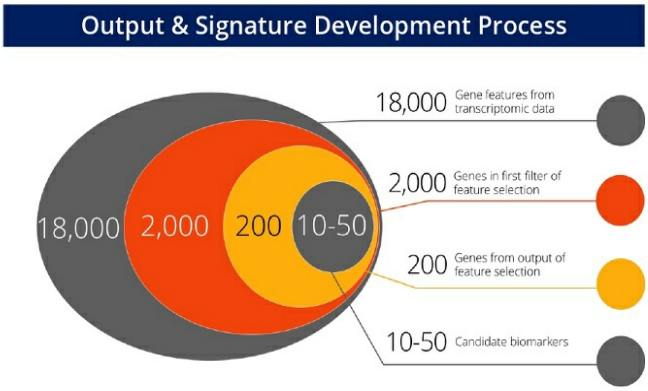
AI Methods Being Deployed

- Analytics: Integrated systems biology, statistical and descriptive analysis
- Machine Learning: Supervised ML (Neural Network & Support Vector), variations in established ML algorithms: XGBoost

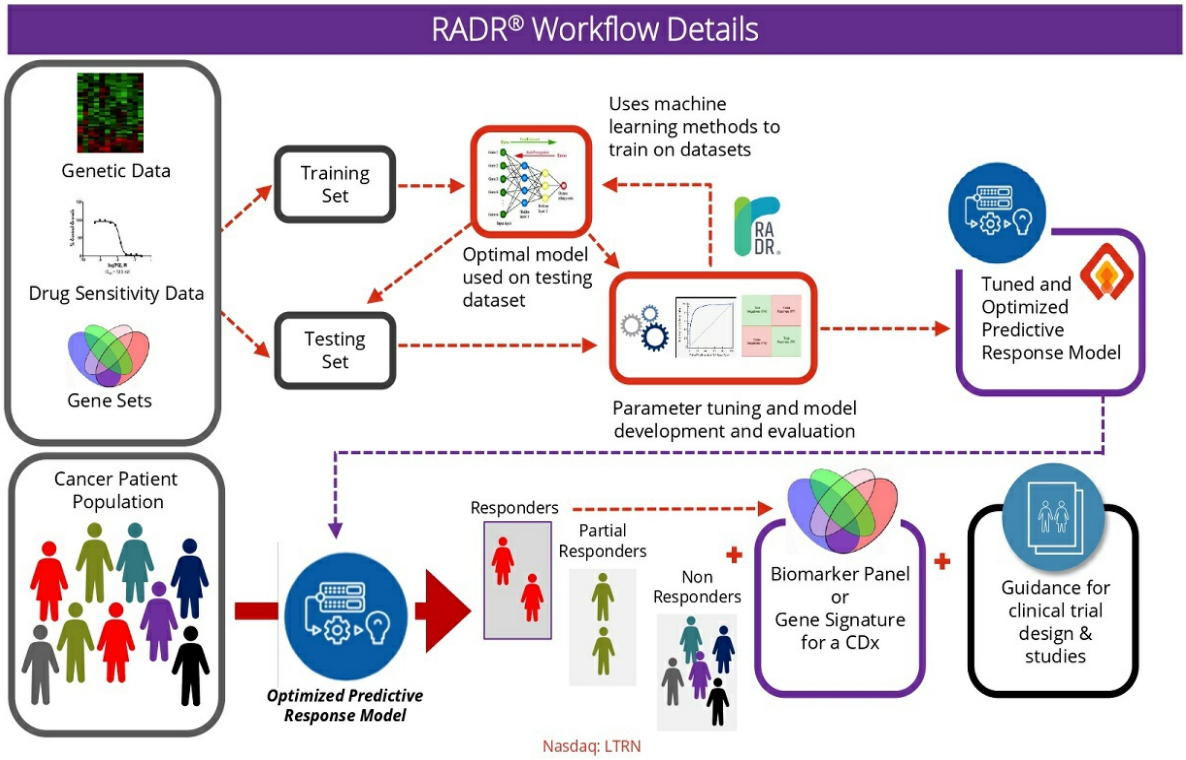


RADR® identifies genetic markers and signatures for precision oncology drug development, clinical response prediction and CDx enablement

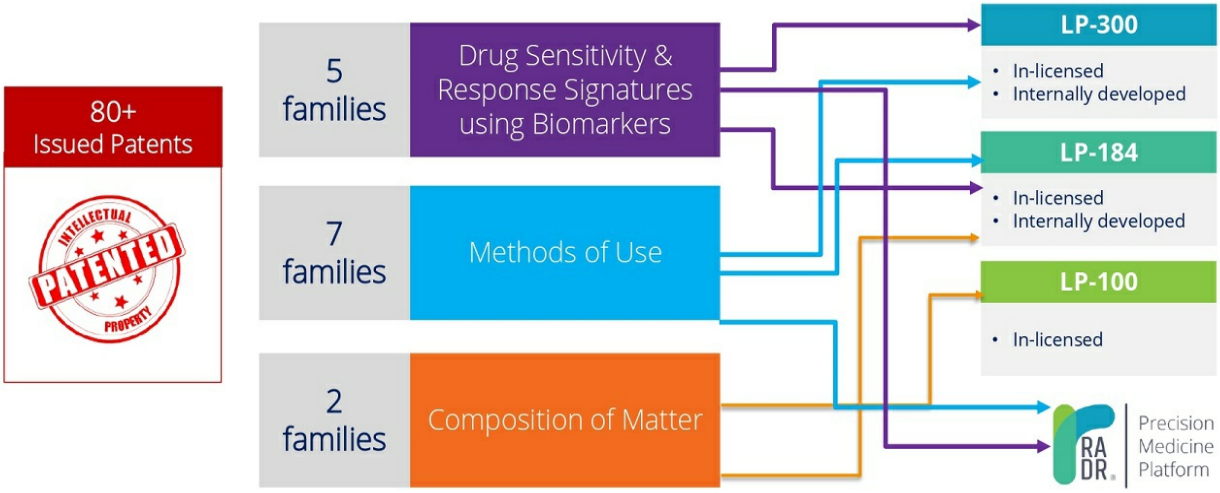




RADR® Workflow Details



Our Intellectual Property Portfolio – Extensive and continually growing position of over 80 issued patents & patent applications across 14 patent families



Studies & Collaborations With Top Tier Academic & Research Partners

Memorial Sloan Kettering Cancer Center

NIH NATIONAL CANCER INSTITUTE

FOX CHASE CANCER CENTER
TEMPLE HEALTH

Georgetown University

JOHNS HOPKINS MEDICINE
THE SIDNEY KIMMEL COMPREHENSIVE CANCER CENTER

Heavy investment & investor interest in A.I. driven drug development

Company	Investment	Valuation*	Pipeline Status
Lantern Pharma	Jun. 2020 IPO (NASDAQ: LTRN)	$115+ Million $26 M. raised at IPO	• Oncology Focus in 4 programs • Ph. 2 – Prostate, Ph. 2 - NSCLC • Pre-Clin. – Solid Tumors & GBM
BioXcel	Mar. 2018 IPO (NASDAQ: BTAI)	$1,300+ Million $65 M. raised at IPO 3 subsequent rounds	• Ph. 3 – Neuro • Ph. 2 – Immuno Oncology
SCHRÖDINGER	Feb. 2020 IPO (NASDAQ: SDGR)	$6,100+ Million $232 M. raised at IPO	• 5 compounds in early discovery • All oncology, targeted small molecule
RECURSION	$239+ M. total Latest 09/2020 Series D	$1,000+ Million (estimate based on last round)	• Various therapeutic areas • 3 Ph 3, 1 Ph 2, 17 in PC/discovery
Atomwise Better medicines faster.	$123+ M. total Latest 08/2020 Series B	$500+ Million (estimate based on last round)	• Partners w/ academic, pharma and agrochemical firms. • No captive pipeline
BenevolentAI	$290+ M. total Latest 09/2019 private raise	~$1,100 Million (pre-money based on last round)	• Partners w/ academic and pharma • Tech and service provider

*Source: Crunchbase, Pitchbook and Bloomberg
* Valuations of public companies as of January 7, 2021

Lantern Pharma

Value Building Milestones & Inflection Points

Foundational Year
Advance Platform
Trial Launches
Progress ADC Compounds

2021

- ✓ LP-300 Phase 2 Clinical Trial Launch
- ✓ Advancement of CNS Programs w/ LP-184 (GBM & ATRT)
- ✓ Data from key collaborations Fox Chase, Georgetown and Johns Hopkins
- ✓ Finalize IND-Enabling studies for LP-184 in select genomically defined tumors
- ✓ Launch initial ADC indications in pre-clinical
- ✓ RADR platform expected to reach over 3Bn datapoints

Multiple Streams of Value Creation
Launch Multiple Precision Trials
Leverage Platform for Pharma Partners
Secure Additional Compounds
Readout for multiple trials

2022

- ✓ LP-300 Phase 2 Interim Readout
- ✓ Launch clinical trials for GBM and other LP-184 Indications
- ✓ Finalize IND-Enabling studies for ADC & Launch Phase 1
- ✓ Develop or In-license additional programs in targeted indications
- ✓ Explore pharma and biotech partnerships/arrangements
- ✓ RADR platform expected to reach over 10Bn datapoints

Cap Table

LANTERN PHARMA INC. (LTRN)	
Common Shares Outstanding	6,217,577
Warrants (WAEP $3.13)	262,014
Underwriter Warrants (Exercise Price at $18.75)	70,000
Options (Employees, Management and Directors)	820,608
Fully Diluted Shares Outstanding	**7,370,199**

Cap Table as of September 30, 2020

- Management and Directors own ~51% of fully diluted shares outstanding.
- Committed to creating enduring growth and value for LTRN shareholders.

Highly experienced in innovation for pharma, drug development & oncology

Management Team

Panna Sharma President & CEO
- *Former* President & CEO at Cancer Genetics (Nasdaq: CGIX)
- Led IPO, Private investment round and multiple global acquisitions
- Led CGIX to five years on Deloitte Fast 500
- Founder & CEO TSG Partners (Life Sciences Investment Bank & Strategy Consulting)
- Chief Strategy Officer, iXL (Nasdaq: IIXL)
- Analyst & Consultant, BankofAmerica, Putnam Investments, Interactive Solutions

Kishor Bhatia, Ph.D., FRC Path Chief Scientific Officer

A highly skilled scientist, inventor, manager, and administrator with over thirty years of experience building research programs and teams to create innovative treatments for cancer. Dr. Bhatia has expertise in DNA repair mechanisms, including contributions to understanding UV damage repair, the cloning of the PARP gene and its expression and the contribution of p53 gene in resistance to therapy.

Former:
- Director AIDS Malignancy Program. Office of HIV and AIDS Malignancy, National Cancer Institute
- Director, Cancer Children's Cancer Research Center, KFSHR&C, Riyadh
- Director, International Network for Cancer Treatment and Research, Brussels
- 1st to clone PARP gene involved in DNA damage
- Over 250 publications with global collaborators & researchers

David Margrave, J.D. Chief Financial Officer
- 20+ years of oncology focused management experience.
- Former President and as Chief Administrative Officer, BioNumerik Pharmaceuticals
- Expertise in biotech deal structuring, and corporate management
- Chairman of the Texas Healthcare and Bioscience Institute
- Chairman of the State of Texas Product Development & Small Business Incubator Board
- Univ. of Texas and Stanford graduate

Kerry Barnhart, Ph.D., V.P. of Clinical Development

Accomplished drug development professional and executive specializing in designing and directing oncology clinical programs from novel and breakthrough discoveries

Former:
- SVP of Development - CerRx
- President & CEO – Transmed Oncology
- President & CEO – Bradmer Pharma
- CSO, Aptamera
- B.S., M.S. – University of Arizona
- Ph.D. & Post Doctoral Studies – Cornell University Graduate School of Medicine, Memorial Sloan Kettering, Salk Institute & U.C. San Diego

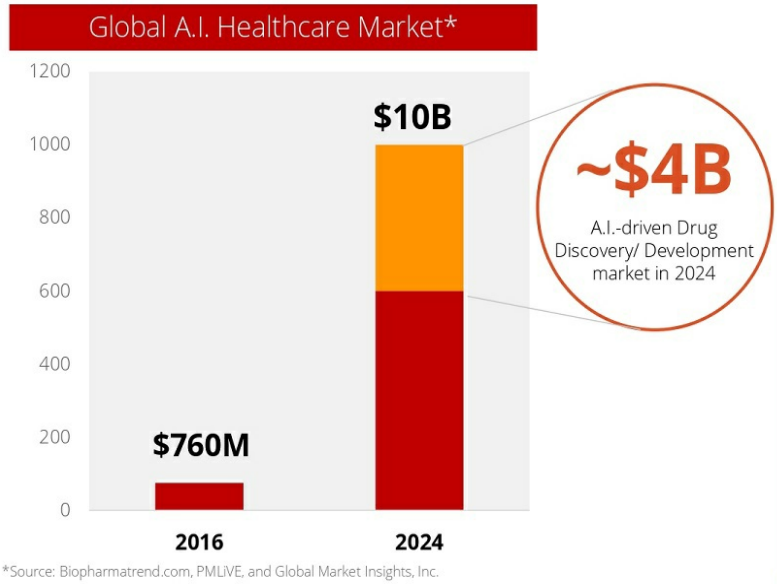
Investment Highlights - Lantern Pharma has a unique, growing and validated foundation for the future of cancer therapy and patient care

- Active drug rescue process and in the clinic with 2 compounds and accelerating additional compounds and combinations to clinical trials...potentially saving tens of millions and years of development
- Multiple compounds in place with the potential for Orphan Disease Designation and LP-184 to be submitted for ODD in pancreatic and GBM which can help accelerate development
- Growing A.I. based platform with clear roadmap to 6+ Bn. datapoints focused exquisitely on cancer therapeutic development and companion Dx in a high growth, high demand $4 Bn market
- Proven and growing library of A.I. & machine-learning methodologies published at ASCO, AACR and used to generate novel IP & patents and accelerate discovery by potentially years
- Focused on cancer drug market segments with clear clinical need, understood mechanisms, targeted patient populations that exceed 1 Million , and multi-billion USD in annual sales potential
- Experienced and innovative management team w/ 60+ years experience in cancer and a passion to change the cost and outcome for cancer patients by using A.I. and genomics – *paradigm changing technologies*
- A novel ADC platform with the potential to develop and out-license or partner ADC assets in early phases
- Industry leading collaborations with National Cancer Institute, Georgetown, Johns Hopkins & Fox Chase Cancer Center

Appendix Items

- Global A.I. Healthcare and Drug Discovery Market
- Mega Trends Shaping the Future of Cancer Therapy
- Source of Irofulven, LP-100
- Board of Directors – Biographical sketches
- Select recent publications and posters

Drug discovery and development driven by A.I. is a rapidly growing market in response to fundamental shifts in the industry and a re-tooling of R&D



*Source: Biopharmatrend.com, PMLiVE, and Global Market Insights, Inc.

Images Sources: Lantern Pharma as featured in *ZDNet* & *Fortune*

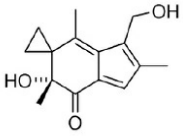
Solving unmet needs and creating opportunities in personalizing cancer therapy by capitalizing on emerging technologies and industry trends

Mega Trends Shaping Drug Development

1. Increased access to validated genomic & biomarker data
2. Increased sharing and collaboration globally among research groups, industry consortiums and companies
3. Rapidly decreasing cost (and increasing quality) of sequencing and biomarker data and other health-monitoring data
4. Rapid evolution & implementation of A.I. and machine learning technologies
5. Availability of well tolerated and clinically active but failed or abandoned compounds
6. Economic pressure to reposition & rescue drug investments
7. Rising need to develop and manage combination and drug-resistance addressing therapies
8. Increasing use of precision medicine and genomics to identify, treat and manage patients

Irofulven, LP-100, is derived from the Jack O'Lantern mushroom

LP-100, Irofulven



- DNA Damaging Agent
- Derived from highly toxic substance found in Jack o'Lantern mushroom – Illudin S
- Company name "Lantern" is also derived from this origin of the compound
- LP-100 is a highly potent semi-synthetic derivative of the active toxic compound found in this fungi

Board of Directors

Jeff Donald Keyser, Ph.D., J.D., MPA
- Board Chairman
- Founder of Renibus Therapeutics and ZSPharma

Franklyn Prendergast, M.D., Ph.D.
Emeritus
- Board of Governors and Board of Trustees, Mayo Clinic
- Professor and Director –Mayo Clinic Comprehensive Cancer Center
- Emeritus Member of Eli-Lily Board of Directors
- Board of Directors, Lantern Pharma, Cancer Genetics, and TGEN
- Distinguished Alumnus Mayo Clinic

Vijay Chandru, Ph.D.
- Co-Founder, Chairman Scientific Advisory Board, Strand Life Sciences
- Fellow Indian Academies of Sciences and Engineering
- Technology Pioneer, World Economic Forum
- Co-Founder, Yantri Labs and other AI Compnies
- Research Professor: IISc, Purdue, MIT, UPenn, Stanford

David Silberstein, Ph.D., MPH
Former
- Director, Astra Zeneca
- Sr. Director, MedImmune
- Asst. Professor of Medicine, Harvard Medical School
- Currently Principal Investigator of an NCI funded clinical trial in patients with multiple brain metastases

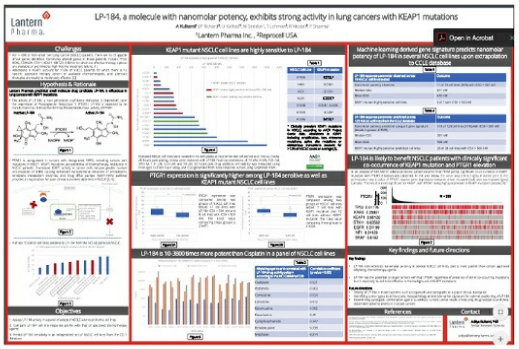
Leslie (Les) W. Kreis
- Managing Partner & Co-Founder, BIOS Partners
- Principal & Founder, Steelhead Capital Management
- Co-Founder, Cowtown Angels
- Vice President, HRK Investments

Panna Sharma
- President & CEO, Lantern Pharma

Lantern Pharma

Select Other Publications & Posters

https://www.lanternpharma.com/wp-content/uploads/2020/06/AACR-2020-LP-Reprocell-poster-final-pdf.pdf



https://cancerres.aacrjournals.org/content/79/13_Supplement/4789

https://ascopubs.org/doi/abs/10.1200/JCO.2020.38.15_suppl.e21660

https://www.lanternpharma.com/wp-content/uploads/2020/06/AACR-2020-LP-NCI-poster-final-pdf-1.pdf