UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

(Mark One)

☒ QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2022

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Lantern Pharma Inc.

(Exact name of registrant as specified in its charter)

Delaware	**001-39318**	**46-3973463**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

1920 McKinney Avenue, 7th Floor Dallas, Texas	**75201**
(Address of Principal Executive Offices)	(Zip Code)

(972) 277-1136

(**Registrant's telephone number, including area code**)

Securities registered pursuant to Section 12(b) of the Act: Common Stock

Title of each class	**Trading Symbol**	**Name of each exchange on which registered**
Common Stock, $0.0001 par value	LTRN	The Nasdaq Stock Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
Emerging growth company	☒		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☒

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of November 1, 2022 the registrant had 10,857,040 shares of common stock, $0.0001 par value per share outstanding.

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FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the U.S. Private Securities Litigation Reform Act, Section 21E of the Securities Exchange Act of 1934, as amended, and other federal securities laws. All statements, other than statements of historical fact, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future preclinical studies and clinical trials, future financial position, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words "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 are intended to identify forward-looking statements, although not all forward-looking statements contain these words. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties.

The forward-looking statements in this Quarterly Report on Form 10-Q include, among other things, statements relating to:

- 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 any of 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;
- the initiation, timing, progress, and results of our preclinical studies or clinical trials on any of our drug candidates;
- 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;
- 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;
- our expectations regarding our ability to fund our operating expenses and capital expenditure requirements with our existing cash and cash equivalents;
- our ability to secure sufficient funding and alternative sources of funding to support our existing and proposed preclinical studies and clinical trials;
- our estimates regarding the potential market opportunity for our drug candidates we or any of our collaborators may in the future develop;
- our anticipated growth strategies and our ability to manage the expansion of our business operations effectively;
- our expectations related to the use of proceeds from our initial public offering, which closed on June 15, 2020, and the use of proceeds from our follow-on public offering, which closed on January 20, 2021;
- our ability to keep up with rapidly changing technologies and evolving industry standards, including our ability to achieve technological advances;
- the potential impact the COVID-19 pandemic may have on our business plans;
- our ability to source our needs for skilled labor in the fields of artificial intelligence, genomics, biology, oncology and drug development; and
- the impact of government laws and regulations on the development and commercialization of our drug candidates.

We may not actually achieve the plans, intentions, or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions, and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q and in the Risk Factors section of our Annual Report on Form 10-K ("2021 Form 10-K"), for the year ended December 31, 2021 filed with the Securities and Exchange Commission, or the SEC, on March 10, 2022, and have identified other factors such as the impact of the COVID-19 pandemic, the results of our clinical trials, and the impact of competition, that we believe could cause actual results or events to differ materially from the forward-statements that we make. 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 Quarterly Report on Form 10-Q.

You should read this Quarterly Report on Form 10-Q and the documents that we file with the SEC with the understanding that our actual future results may be materially different from what we expect. These forward-looking statements are based on management's current expectations. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed elsewhere in this Quarterly Report on Form 10-Q and those listed under the Risk Factors section of our 2021 Form 10-K. You may access our 2021 Form 10-K 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 uncertainties, you should not rely on these forward-looking statements as predictions of future events. The forward-looking statements contained in this Quarterly Report on Form 10-Q are made as of the date of this Quarterly Report, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by applicable law.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report on Form 10-Q, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete. Our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

Unless the context requires otherwise, references to the "Company," "Lantern," "we," "us," and "our" in this Quarterly Report on Form 10-Q refer to Lantern Pharma Inc., a Delaware corporation, and, where appropriate, its wholly-owned subsidiaries.

PART I – FINANCIAL INFORMATION

Item 1. Financial Statements.

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Balance Sheets

	September 30, 2022 (Unaudited)	December 31, 2021
CURRENT ASSETS		
Cash and cash equivalents	$ 39,257,887	$ 51,524,295
Restricted cash	541,180	-
Marketable securities	18,568,725	19,201,152
Prepaid expenses and other current assets	3,651,968	1,990,953
Total current assets	62,019,760	72,716,400
Property and equipment, net	43,813	30,245
Operating lease right-of-use assets	82,918	185,943
Restricted cash	-	1,000,000
Other assets	17,889	17,889
TOTAL ASSETS	$ 62,164,380	$ 73,950,477
CURRENT LIABILITIES		
Accounts payable and accrued expenses	$ 3,046,972	$ 2,174,109
Operating lease liabilities, current	92,023	152,058
Total current liabilities	3,138,995	2,326,167
Operating lease liabilities, net of current portion	-	52,890
TOTAL LIABILITIES	3,138,995	2,379,057
COMMITMENTS AND CONTINGENCIES (NOTE 4)		
STOCKHOLDERS' EQUITY		
Preferred Stock – Par Value (1,000,000 authorized at September 30, 2022 and December 31, 2021; $.0001 par value) (Zero shares issued and outstanding at September 30, 2022 and December 31, 2021)	-	-
Common Stock – Par Value (25,000,000 authorized at September 30, 2022 and December 31, 2021; $.0001 par value) (10,857,040 shares issued and outstanding at September 30, 2022; 11,088,835 shares issued and outstanding at December 31, 2021)	1,086	1,109
Additional paid-in capital	95,361,099	96,685,924
Accumulated other comprehensive loss	(435,035)	(92,689)
Accumulated deficit	(35,901,765)	(25,022,924)
Total stockholders' equity	59,025,385	71,571,420
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	$ 62,164,380	$ 73,950,477

See accompanying Notes to Condensed Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Statements of Operations (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	**2021**	**2022**	**2021**
Operating expenses:				
General and administrative	$ 1,442,961	$ 1,184,486	$ 4,255,119	$ 3,671,945
Research and development	702,296	2,964,391	6,351,356	5,408,320
Total operating expenses	2,145,257	4,148,877	10,606,475	9,080,265
Loss from operations	(2,145,257)	(4,148,877)	(10,606,475)	(9,080,265)
Interest income	52,224	77,219	129,671	125,108
Other (expense) income, net	(171,648)	17,679	(402,037)	132,402
NET LOSS	$ (2,264,681)	$ (4,053,979)	$ (10,878,841)	$ (8,822,755)
Net loss per share of common shares, basic and diluted	$ (0.21)	$ (0.36)	$ (1.00)	$ (0.82)
Weighted-average number of common shares outstanding, basic and diluted	10,838,888	11,186,259	10,848,402	10,818,201

See accompanying Notes to Condensed Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Statements of Comprehensive Loss (Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
NET LOSS	$ (2,264,681)	$ (4,053,979)	$ (10,878,841)	$ (8,822,755)
Other comprehensive loss, net of tax				
Unrealized loss on available-for-sale securities, net of tax	(118,572)	(55,124)	(394,843)	(102,689)
Unrealized gain on foreign currency translation	32,018	-	52,497	-
Other comprehensive loss, net of tax	(86,554)	(55,124)	(342,346)	(102,689)
Comprehensive loss	$ (2,351,236)	$ (4,109,103)	$ (11,221,187)	$ (8,925,444)

See accompanying Notes to Condensed Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Statements of Stockholders' Equity (Deficit) (Unaudited)

	Preferred Stock Number of Shares	Preferred Stock Amount	Common Stock Number of Shares	Common Stock Amount	Additional Paid-in-Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance, December 31, 2020	-	$ -	6,220,927	$ 622	$ 32,358,068	$ -	$ (12,659,895)	$ 19,698,795
Common stock issued in equity financing, net of issuance costs	-	-	4,928,571	493	64,166,361	-	-	64,166,854
Common stock issued from warrant and option exercises	-	-	31,949	3	72,750	-	-	72,753
Stock-based compensation	-	-	-	-	245,519	-	-	245,519
Net loss	-	-	-	-	-	-	(2,452,295)	(2,452,295)
Balance, March 31, 2021	-	-	11,181,447	1,118	96,842,698	-	(15,112,190)	81,731,626
Common stock issued from warrant exercise	-	-	2,592	-	-	-	-	-
Stock-based compensation	-	-	-	-	245,684	-	-	245,684
Net loss	-	-	-	-	-	-	(2,316,481)	(2,316,481)
Other Comprehensive Loss	-	-	-	-	-	(47,565)	-	(47,565)
Balance June 30, 2021	-	-	11,184,039	1,118	97,088,382	(47,565)	(17,428,671)	79,613,264
Common stock issued from warrant exercise	-	-	2,960	1	(1)	-	-	-
Stock-based compensation	-	-	-	-	224,413	-	-	224,413
Net loss	-	-	-	-	-	-	(4,053,979)	(4,053,979)
Other Comprehensive Loss	-	-	-	-	-	(55,124)	-	(55,124)
Balance September 30, 2021	-	$ -	11,186,999	$ 1,119	$ 97,312,794	$ (102,689)	$ (21,482,650)	$ 75,728,574

	Preferred Stock Number of Shares	Preferred Stock Amount	Common Stock Number of Shares	Common Stock Amount	Additional Paid-in-Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity (Deficit)
Balance, December 31, 2021	-	$ -	11,088,835	$ 1,109	$ 96,685,924	$ (92,689)	$ (25,022,924)	$ 71,571,420
Common stock issued from warrant and option exercises	-	-	95,779	10	299,778	-	-	299,788
Stock-based compensation	-	-	-	-	267,004	-	-	267,004
Share repurchases	-	-	(353,667)	(36)	(2,482,250)	-	-	(2,482,286)
Net loss	-	-	-	-	-	-	(4,121,774)	(4,121,774)
Other comprehensive loss	-	-	-	-	-	(218,780)	-	(218,780)
Balance, March 31, 2022	-	-	10,830,947	1,083	94,770,456	(311,469)	(29,144,698)	65,315,372
Stock-based compensation	-	-	-	-	289,533	-	-	289,533
Net loss	-	-	-	-	-	-	(4,492,386)	(4,492,386)
Other comprehensive loss	-	-	-	-	-	(37,012)	-	(37,012)
Balance, June 30, 2022	-	-	10,830,947	1,083	95,059,989	(348,481)	(33,637,084)	61,075,507
Common stock issued from option exercises	-	-	26,093	3	(3)	-	-	-
Stock-based compensation	-	-	-	-	301,113	-	-	301,113
Net loss	-	-	-	-	-	-	(2,264,681)	(2,264,681)
Other comprehensive loss	-	-	-	-	-	(86,554)	-	(86,554)
Balance, September 30, 2022	-	$ -	10,857,040	$ 1,086	$ 95,361,099	$ (435,035)	$ (35,901,765)	$ 59,025,385

See accompanying Notes to Condensed Consolidated Financial Statements

Lantern Pharma Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows (Unaudited)

	Nine Months Ended September 30,	
	2022	**2021**
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	$ (10,878,841)	$ (8,822,755)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	7,321	4,770
Non-cash lease adjustments	108,451	21,553
Stock-based compensation	857,650	715,616
Amortization of investment premium	87,211	-
Gain on loan forgiveness	-	(109,223)
Realized loss on foreign currency translation	158,703	-
Realized loss on sale of marketable securities	76,326	-
Unrealized loss on investment securities	476,751	14,908
Changes in assets and liabilities:		
Prepaid expenses and other current assets	(1,759,848)	(493,647)
Accounts payable and accrued expenses	885,998	134,152
Operating lease liabilities	(118,351)	-
Other assets	-	(17,889)
Net cash flows used in operating activities	(10,098,629)	(8,552,515)
INVESTING ACTIVITIES		
Purchase of property and equipment	(20,889)	(15,498)
Purchase of marketable securities	(3,322,386)	(19,281,130)
Sale of marketable securities	2,919,682	-
Net cash flows used in investing activities	(423,593)	(19,296,628)
FINANCING ACTIVITIES		
Proceeds from issuance of common and preferred stock	-	68,999,994
Issuance costs	-	(4,783,816)
Repurchase of shares including commissions	(2,482,286)	-
Proceeds from stock option and warrant exercises	299,788	72,753
Net cash flows (used in) / provided by financing activities	(2,182,498)	64,288,931
Effect of foreign exchange rates on cash	(20,508)	-
CHANGE IN CASH, CASH EQUIVALENTS, AND RESTRICTED CASH FOR THE PERIOD	(12,725,228)	36,439,788
CASH, CASH EQUIVALENTS AND RESTRICTED CASH, BEGINNING OF PERIOD	52,524,295	19,229,232
CASH, CASH EQUIVALENTS AND RESTRICTED CASH, END OF PERIOD	$ 39,799,067	$ 55,669,020
RECONCILIATION OF CASH, CASH EQUIVALENTS AND RESTRICTED CASH TO THE CONSOLIDATED BALANCE SHEETS:		
Cash and cash equivalents	$ 39,257,887	$ 54,669,020
Restricted cash	541,180	1,000,000
CASH, CASH EQUIVALENTS AND RESTRICTED CASH	$ 39,799,067	$ 55,669,020
Non-cash investing and financing activities		
Application of deferred offering costs to public offering proceeds	$ -	$ (49,324)
Unrealized losses on debt securities	$ (394,843)	$ (102,689)

See accompanying Notes to Condensed Consolidated Financial Statements

NOTES TO FINANCIAL STATEMENTS

Note 1. Organization, Principal Activities, and Basis of Presentation

Lantern Pharma Inc., and Subsidiaries (the "Company") is a clinical stage biopharmaceutical company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from its targeted oncology therapies. The Company's portfolio of therapies consists of small molecule drug candidates that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that it is developing with the assistance of its A.I. platform and its biomarker driven approach. The Company's A.I. platform, known as RADR®, uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning. The Company's data-driven, genomically-targeted and biomarker-driven approach allows it to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates.

Lantern Pharma Inc. was incorporated under the laws of the state of Texas on November 7, 2013, and thereafter reincorporated in the state of Delaware on January 15, 2020. The Company's principal operations are located in Texas. The Company formed a wholly owned subsidiary, Lantern Pharma Limited, in the United Kingdom in July 2017 and a wholly owned subsidiary, Lantern Pharma Australia Pty Ltd, in Australia in September 2021.

Since inception, the Company has devoted substantially all its activity to advancing research and development, including efforts in connection with preclinical studies, clinical trials and development of its RADR platform. This now includes four drug candidates and an Antibody Drug Conjugate (ADC) program directed towards eleven disclosed therapeutic targets:

- LP-100 (irofulven) in a phase II trial for the treatment of prostate cancer;
- LP-300 (Tavocept), which we recently launched in a Phase II clinical trial, the Harmonic™ trial, focused on never smokers with advanced non-small cell lung cancer;
- LP-184 in preclinical studies for treatment of solid tumors including pancreatic, prostate, and bladder cancers and glioblastoma;
- LP-284, the stereoisomer (enantiomer) of LP-184, that has shown promising *in-vitro* anticancer activity in a range of hematological cancers, which are distinct from the indications targeted by LP-184; and
- Our ADC program commenced in early 2021, and is aimed at identifying targeted or therapeutic antibodies to conjugate with selected compounds.

The Company's fiscal year ends on December 31 of each calendar year. The accompanying interim condensed consolidated financial statements are unaudited and have been prepared on the same basis as the Company's annual consolidated financial statements for the fiscal year ended December 31, 2021. In the opinion of the Company's management, these interim condensed consolidated financial statements reflect all adjustments (consisting only of normal recurring adjustments) considered necessary for a fair statement of the Company's financial position, results of operations and cash flows for the periods presented. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the condensed consolidated financial statements and the reported amounts of expenses during the reporting periods. Actual results could differ from these estimates.

The December 31, 2021 year-end condensed consolidated balance sheet data in the accompanying interim condensed consolidated financial statements was derived from audited consolidated financial statements. These condensed consolidated financial statements and notes do not include all disclosures required by U.S. generally accepted accounting principles and should be read in conjunction with the Company's audited consolidated financial statements as of and for the year ended December 31, 2021 and the notes thereto included in the Company's Annual Report on Form 10-K, dated March 10, 2022, on file with the Securities and Exchange Commission.

The results of operations and cash flows for the interim periods included in these condensed consolidated financial statements are not necessarily indicative of the results to be expected for any future period or the entire fiscal year.

Any reference in these notes to applicable guidance refers to Accounting Standards Codification ("ASC") and Accounting Standards Update ("ASU") of the Financial Accounting Standards Board ("FASB"). To date, the Company has operated its business as one segment. The Company's condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries, Lantern Pharma Limited and Lantern Pharma Australia Pty Ltd. All intercompany balances and transactions have been eliminated in consolidation.

Note 2. Liquidity

The Company incurred a net loss of approximately $10,879,000 and $8,823,000 during the nine months ended September 30, 2022 and 2021, respectively. As of September 30, 2022, the Company had working capital of approximately $58,881,000. The Company has received funding in the form of periodic capital raises and also plans to apply for grant funding in the future to assist in supporting its capital needs. We may also explore the possibility of entering into commercial credit facilities as an additional source of liquidity. We believe that our existing cash as of September 30, 2022, and our anticipated expenditures and capital commitments, will enable us to fund our operating expenses and capital expenditure requirements for at least 12 months from the date of this quarterly report.

Note 3. Summary of Significant Accounting Policies

Use of Estimates and Assumptions

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The significant areas of estimation include determining research and development accruals and the inputs in determining the fair value of equity-based awards and warrants issued. Actual results could differ from those estimates.

Risks and Uncertainties

The Company operates in an industry that is subject to intense competition, government regulation and rapid technological change. Operations are subject to significant risk and uncertainties including financial, operational, technological, regulatory, and other risks, including the potential risk of business failure.

The extent of the impact and effects of the coronavirus (COVID-19) on the operation and financial performance of the Company's business will depend on future developments, including the duration and spread of the outbreak and varying virus mutations, related travel advisories and restrictions, the recovery time of disrupted research services, the consequential staff shortages, and research and development delays, or the uncertainty with respect to the accessibility of additional liquidity or capital markets, all of which are highly uncertain and cannot be predicted. If the Company's operations are impacted by the outbreak for an extended period, the Company's results of operations or liquidity may be materially adversely affected.

Research and Development

Research and development costs are expensed as incurred. These expenses primarily consist of payroll, contractor expenses, research study expenses, costs for manufacturing and supplies, and technical infrastructure on the cloud for the purposes of developing the Company's RADR platform and identifying, developing, and testing drug candidates. Development costs incurred by third parties are expensed as the work is performed. Costs to acquire technologies, including licenses, that are utilized in research and development and that have no alternative future use are expensed when incurred.

Cash and Cash Equivalents

The Company considers money market funds with a short-term maturity of less than one year to be cash equivalents.

Restricted Cash

The Company considers cash held in escrow for the purposes of contractual contingencies to be restricted cash. All of the restricted cash at September 30, 2022 and December 31, 2021, relates to escrow amounts in connection with the Asset Purchase Agreement entered into by the Company and Allarity Therapeutics in July 2021 (See Note 4) and is considered a current asset at September 30, 2022, as the escrow milestones that could require payments to be made to Allarity Therapeutics must be satisfied within the next 12 months.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets as of September 30, 2022 totaled approximately $3,652,000 and included approximately $2,304,000 of upfront payments for contractor fees, academic research studies and services, and subscriptions, approximately $281,000 of intellectual property related licensing and other fees, approximately $762,000 of prepaid annual insurance fees, and approximately $305,000 of interest and tax incentive receivable.

Leases

The Company determines whether an arrangement contains a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, current portion of operating lease liabilities, and net of current portion of operating lease liabilities on our consolidated balance sheets. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent an obligation to make lease payments arising from the lease. Lease ROU assets and lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at the commencement date. As the Company's leases do not provide an implicit rate, an incremental borrowing rate is used based on the information available at the commencement date in determining the present value of lease payments. The Company does not include options to extend or terminate the lease term unless it is reasonably certain that the Company will exercise any such options. Rent expense is recognized under the operating leases on a straight-line basis. The Company does not recognize right-of-use assets or lease liabilities for short-term leases, which have a lease term of twelve months or less, and instead will recognize lease payments as expense on a straight-line basis over the lease term.

Marketable Securities

The Company's marketable securities consist of government and agency securities, corporate bonds, and mutual funds. We classify our marketable securities as available-for-sale at the time of purchase and reevaluate such classification as of each balance sheet date. We may sell these securities at any time for use in current operations even if they have not yet reached maturity. As a result, we classify our investments, including securities with maturities beyond twelve months as current assets in the accompanying consolidated balance sheets. Available-for-sale debt securities are recorded at fair value each reporting period. Unrealized gains and losses are excluded from earnings and recorded as a separate component within accumulated other comprehensive income on the consolidated balance sheets until realized. Interest is reported within interest income and dividend income is reported within other income, net on the consolidated statements of operations. We evaluate our investments to assess whether the amortized cost basis is in excess of estimated fair value and determine what amount of that difference, if any, is caused by expected credit losses. Allowance for credit losses are recognized as a charge in other (expense) income, net on the consolidated statements of operations, and any remaining unrealized losses are included in accumulated other comprehensive loss on the consolidated balance sheets. There were no credit losses recorded for the three and nine months ended September 30, 2022 and 2021. There was no impairment charge for any unrealized losses for the three and nine months ended September 30, 2022 and 2021. We determine realized gains and losses on the sale of marketable securities based on the specific identification method and record such gains and losses in other (expense) income, net on the consolidated statements of operations.

New Accounting Pronouncements, Not Yet Adopted

Current Expected Credit Loss

In June 2016 the FASB issued Accounting Standard Update (ASU) 2016-13, Measurement of Credit Losses on Financial Instruments (Topic 326). This introduces new methodology for recognition of credit losses - the current expected credit loss ("CECL") method. The CECL method requires the recognition of all losses expected over the life of a financial instrument upon origination or purchase of the instrument, unless the company elects to recognize such instruments at fair value with changes in profit and loss. CECL is effective for the Company on January 1, 2023. The Company does not anticipate a material impact from the adoption of this new standard on its financial statements.

Note 4. Commitments and Contingencies

General

The Company has entered into, and expects to enter into from time to time in the future, license agreements, strategic alliance agreements, assignment agreements, research service agreements, and similar agreements related to the advancement of its product candidates and research and development efforts. Significant agreements are described in detail below (collectively, the "License, Strategic Alliance, and Research Agreements").

Set forth below are the approximate amounts expensed for License, Strategic Alliance, and Research Agreements during the three and nine months ended September 30, 2022 and September 30, 2021, respectively. These expensed amounts are included under research and development expenses in the accompanying condensed consolidated statements of operations.

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Amount Expensed for License, Strategic Alliance, and Research Agreements	$ (25,000)*	$ 2,077,000	$ 3,764,000*	$ 3,200,000

* Amounts expensed for License, Strategic Alliance, and Research Agreements during the three and nine months ended September 30, 2022 were reduced by $935,000 as a result of a payment we received in July 2022 from one of our service providers in connection with the resolution of a difference of views regarding the service provider agreement. This payment received by us offset other expenses for License, Strategic Alliance, and Research Agreements during these periods.

Set forth below at September 30, 2022 and December 31, 2021, respectively, are (1) the approximate amounts accrued and payable under the License, Strategic Alliance, and Research Agreements, and (2) the approximate amount of prepaid expenses and other current assets under the License, Strategic Alliance, and Research Agreements. These amounts are included in the accompanying condensed consolidated balance sheets.

	September 30, 2022	December 31, 2021
Amount accrued and payable under License, Strategic Alliance, and Research Agreements	$ 2,061,000	$ 1,493,000
Prepaid expenses and other current assets under License, Strategic Alliance, and Research Agreements	$ 2,286,000	$ 1,023,000

BioNumerik Pharmaceuticals

In January 2018, the Company entered into an Assignment Agreement (the "Assignment Agreement") with BioNumerik Pharmaceuticals, Inc. ("BioNumerik"), pursuant to which the Company acquired rights to domestic and international patents, trademarks and related technology and data relating to LP-300 (Tavocept) for human therapeutic treatment indications. The Assignment Agreement replaced a License Agreement that was entered into between the Company and BioNumerik in May 2016. The Company made upfront payments totaling $25,000 in connection with entry into the Assignment Agreement.

In the event the Company develops and commercializes LP-300 internally, the Company is required to pay to the BioNumerik-related payment recipients designated in the Assignment Agreement a percentage royalty in the low double digits on cumulative net revenue up to $100 million, with incremental increases in the percentage royalty for net cumulative revenue between $100 million and $250 million, $250 million and $500 million, and $500 million and $1 billion, with a percentage royalty payment that could exceed $200 million for net cumulative revenue in excess of $1 billion. The Company has the right to first recover certain designated portions of patent costs and development and regulatory costs before the payment of royalties described above.

If the Company enters into a third-party transaction for LP-300, the Company is required to pay the BioNumerik-related payment recipients a specified percentage of any upfront, milestone, and royalty amounts received by the Company from the transaction, after first recovering specified direct costs incurred by the Company for the development of LP-300 that are not otherwise reimbursed from such third-party transaction.

In addition, the Assignment Agreement provides that the Company will use commercially diligent efforts to develop LP-300 and make specified regulatory filings and pay specified development and regulatory costs related to LP-300. The Assignment Agreement also provides that the Company will provide TriviumVet DAC ("TriviumVet") with (i) specified data and information generated by the Company with respect to LP-300, and (ii) an exclusive license to use specified LP-300-related patent rights, trademark rights and related intellectual property to support LP-300 development in non-human (animal) treatment indications.

The Company is also required to pay all patent costs on covered patents related to LP-300. These patent costs are included in general and administrative expenses in the accompanying condensed consolidated statements of operations. These patent costs are fully recoverable at the time of any net revenue from LP-300, with up to 50% of net revenue amounts to be applied towards repayment of patent costs until such costs are fully recovered.

In addition to the recovery of patent costs, the Company has the right to recover the $25,000 upfront payments made in connection with entry into the Assignment Agreement, which payments are recoverable prior to making any royalty or third-party transaction sharing payments. The Company also has the right to recover previously incurred LP-300 development and regulatory costs, with up to a mid-single digit percentage of net revenue amounts to be applied towards repayment of development and regulatory costs until such costs are fully recovered.

AF Chemicals

In January 2015, the Company entered into a Technology License Agreement to exclusively license domestic and international patent rights from AF Chemicals, LLC ("AF Chemicals") for the treatment of cancer in humans for the compounds LP-100 (Irofulven) and LP-184. In February 2016, the Company and AF Chemicals entered into an Addendum (the "Addendum") providing for additions and amendments to the Technology License Agreement. In December 2020, the Company and AF Chemicals entered into a Second Addendum (the "Second Addendum") providing for further additions and amendments to the Technology License Agreement. The Technology License Agreement, Addendum and Second Addendum are collectively referred to as the "AFC License Agreement".

Pursuant to the Second Addendum, the Company made specified payments to AF Chemicals during the nine months ended September 30, 2021. The Second Addendum also provides that, from December 30, 2020 until January 15, 2025, the Company will have no obligation to pay annual licensing fees, development diligence extension payments, or patent maintenance fee payments to AFC under the AFC License Agreement.

As part of the Second Addendum, the Company has agreed to apply for specified orphan drug designations for LP-184 in the US and EU. The Second Addendum also amends and clarifies other provisions of the Technology License Agreement, and provides the Company with the ability to recover a portion of initial payments made under the Second Addendum from sublicense fees or royalty payments that may be made to AFC by the Company or third parties prior to January 15, 2025.

Pursuant to the AFC License Agreement the Company made annual licensing fee payments to AF Chemicals relating to LP-184 for periods prior to signing the Second Addendum. In addition, the Company is obligated to make milestone payments to AF Chemicals at the time of an Investigational New Drug Application ("IND") filing relating to LP-184 and also upon reaching additional specified milestones in connection with the development and potential marketing approval of LP-184 in the United States, specified countries in Europe, and other countries.

The AFC License Agreement also provides that the Company will pay AF Chemicals a royalty of at least a very small single digit percentage of specified net sales of LP-184 and other analogs. In addition, the AFC License Agreement contains specified time requirements for the Company to file an IND, enroll patients in clinical trials, and file a potential NDA with respect to LP-184, with the ability for the Company to pay AF Chemicals additional amounts ranging up to an amount in the low hundreds of thousands of dollars for each one, two, three and four year extension to such development time requirements, with additional extensions beyond four years to be negotiated by the Company and AF Chemicals.

Pursuant to the Second Addendum, no additional payments of annual licensing fees or development diligence extension payments related to LP-184 are required to be made by the Company until January 15, 2025, at which time these obligations will resume. The Company will also be obligated to make payments to AF Chemicals relating to LP-100 beginning January 15, 2025, as described below.

In the event of a sublicense of the LP-184 rights, the Company is obligated to pay AF Chemicals (a) a low double-digit percentage of the gross income and fees received by the Company with respect to the United States in connection with such sublicense, and (b) a lower double digit percentage of the gross income and fees received by the Company with respect to Europe and Japan in connection with such sublicense.

The amounts to be paid to AF Chemicals with respect to LP-100 under the AFC License Agreement are in many ways similar to the amounts to be paid with respect to LP-184 as described above. In addition, the AFC License Agreement contains specified time requirements for the Company to enroll patients in clinical trials and file a potential NDA with respect to LP-100. Extension fees may be paid by the Company to AF Chemicals from time to time related to these requirements. Pursuant to the Second Addendum with AF Chemicals, no additional payments of annual licensing fees or development diligence extension payments are required to be made by the Company with respect to LP-100 until January 15, 2025, at which time these obligations will resume.

Allarity Therapeutics (formerly known as Oncology Venture)

In May 2015, the Company licensed various rights to LP-100 to Oncology Venture (now known as Allarity Therapeutics) pursuant to a Drug License and Development Agreement. In February 2016, the Company and Allarity Therapeutics entered into an addendum and an amendment providing for additions and amendments to the Drug License and Development Agreement. In connection with the Drug License and Development Agreement, as amended (collectively, the "Allarity License and Development Agreement"), Allarity Therapeutics agreed to directly pay to AF Chemicals on behalf of the Company certain amounts to satisfy the Company's milestone obligations to AF Chemicals with respect to LP-100 under the AFC License Agreement. Amounts paid by Allarity Therapeutics to AF Chemicals on behalf of the Company would then be deducted from amounts owed by Allarity Therapeutics to the Company.

On July 23, 2021, the Company entered into an Asset Purchase Agreement to reacquire global development and commercialization rights for Irofulven (LP-100) from Allarity. The transaction includes global rights to LP-100, as well as the developed clinical protocol for an intended study in bladder and prostate cancer patients who have a mutation in the ERCC2/3 genes. As a result of this transaction, the Company has full authority to manage and guide future clinical development and commercialization of LP-100. Under the terms of the Asset Purchase Agreement, the Company paid an initial upfront payment of $1,000,000 to Allarity. The Company determined there was no planned alternative future use for these assets outside of the clinical development of LP-100 and therefore the full amount of the upfront payment was included in research and development expense. The Company released approximately $459,000 from escrow to Allarity related to recertification of LP-100 drug stock during the nine months ended September 30, 2022. Future payments of up to $500,000 currently held in escrow also have the potential to deliver an additional amount to Allarity based on drug trial enrollment milestones within the 24 months following the date of the transaction. Allarity is also eligible to receive additional milestone payments over the life of the program based on IP license milestones and regulatory filings and approvals in the US and EU, and low- to mid-single-digit royalties on future commercial net sales. As part of the Asset Purchase Agreement, the Allarity License and Development Agreement was terminated.

Califia Pharma

In December 2020, the Company entered into an Evaluation and Limited Use Agreement (the "Evaluation Agreement") with Califia Pharma, Inc. ("Califia"). The Evaluation Agreement provided for the Company and Califia to collaborate on the in vitro and in vivo testing and evaluation of novel Califia linker technology and related payloads to be conjugated to a Lantern targeting entity. The Evaluation Agreement also provided the Company with the right to negotiate with Califia for exclusive license rights to use LP-184 and related analogs as the payload with an affinity drug conjugate or small molecule drug conjugate targeting entity supplied by the Company. The Company also had the right under the Evaluation Agreement to negotiate for non-exclusive license rights to use a targeting entity from the Company with a payload and linker combination selected from novel specified Califia payloads and linkers. The Evaluation Agreement expired on December 31, 2021 and the Company determined not to extend it.

Patheon API Services

The Company has entered into agreements with Patheon API Services, Inc. ("Patheon") for the manufacture and supply of cGMP material to support the Company's Phase II clinical trial for its product candidate LP-300. In addition to producing LP-300 API (active pharmaceutical ingredient) under cGMP (current Good Manufacturing Practices) conditions, Patheon transferred previously validated manufacturing processes and analytical methods for LP-300 and produced non-GMP material for use in support of non-clinical studies for LP-300. The agreements provide for payments in stages as specified process and manufacturing milestones are achieved. Patheon, a part of Thermo Fisher Scientific, has previously developed and/or manufactured more than 700 pharmaceuticals for biopharma clients and has more than 55 locations around the world, providing access to a fully integrated global network of facilities. The Company expects to pay additional amounts to Patheon in future periods in accordance with specified process and manufacturing milestones under the Patheon agreements.

Southwest Research Institute

As part of the Company's research and development activities, the Company has engaged Southwest Research Institute ("SwRI") from time to time to assist with compound synthesis and manufacturing related activities for the Company's product candidates. The Company has entered into agreements with SwRI for the non-GMP and cGMP synthesis of LP-184 material and related analytical development. The Company expects to pay additional amounts to SwRI in future periods as additional work is conducted by SwRI under the agreements.

The Research Institute of Fox Chase Cancer Center

In September 2020, the Company entered into a research agreement with the Research Institute of Fox Chase Cancer Center ("FCCC"), which was amended in January 2022, as part of the Company's research and development activities, with a focus on advancing the targeted use of LP-184 in molecularly-defined sub-types of pancreatic cancer.

Piramal Pharma Solutions

In January 2021, the Company entered into an agreement with Piramal Pharma Solutions ("Piramal") for the fill and finish manufacture of LP-300 drug product at Piramal's Lexington, Kentucky site in support of future Phase II clinical testing. The agreement, as amended, provides for Piramal to conduct activities in support of the cGMP manufacturing of LP-300, including analytical and process transfer activities, manufacture of cGMP clinical batches, and performance of stability studies on cGMP batches of LP-300 drug product. The Company expects to pay additional amounts to Piramal in future periods in accordance with the payment schedule specified under the Piramal agreement.

vivoPharm

In September 2021, the Company's Australian subsidiary entered into an agreement with RDDT, a vivoPharm Company Pty Ltd ("vivoPharm"), for multiple preclinical studies, including animal studies, as part of an IND-enabling program for LP-184. The Company's Australian subsidiary entered into an additional agreement with vivoPharm in June 2022 as part of an IND-enabling program for LP-284. The Company expects that additional amounts will be paid to vivoPharm in future periods in accordance with the payment schedule specified under the vivoPharm agreements, as amended.

TD2

In October 2021, the Company entered into a Statement of Work, as amended in March 2022, with Translational Drug Development, LLC ("TD2") providing for TD2 to serve as the lead contract research organization (CRO) for the Company's Phase II clinical trial for its product candidate LP-300. The Company expects to make payments over the next 18 to 24 months in connection with services provided by TD2 as well as clinical trial site and other pass-through costs relating to the LP-300 Phase II clinical trial.

Berkshire Sterile Manufacturing

During the nine months ended September 30, 2022, the Company entered into agreements with Berkshire Sterile Manufacturing ("Berkshire") to support technical transfer and GMP drug product manufacturing of LP-300. The Company expects that additional amounts will be paid to Berkshire in future periods in accordance with the payment schedule specified under the Berkshire agreements.

Shilpa

In March 2022, the Company entered into an agreement with Shilpa Medicare Limited ("Shilpa") for fit-to-purpose process development and synthesis of a key starting material relating to the synthesis of LP-184 under cGMP. In July 2022, the Company entered into agreements with Shilpa Pharma Lifesciences for the cGMP synthesis of LP-184 API material as well as for drug product development and cGMP drug product manufacturing of LP-184. In August 2022, the Company entered into agreements with Shilpa for the cGMP synthesis of LP-284 API material as well as for drug product development and cGMP drug product manufacturing of LP-284. The Company expects that additional amounts will be paid to the Shilpa entities in future periods in accordance with the payment schedule specified under the Shilpa agreements.

Curia

In June 2022, the Company entered into an agreement with Curia Global, Inc. ("Curia") for the cGMP manufacture of LP-300 API. The Company expects that additional amounts will be paid to Curia in future periods in accordance with the payment schedule specified under the Curia agreement.

Cancer Insight

In May 2022, the Company entered into an agreement with Cancer Insight, LLC ("Cancer Insight") for IND filing, regulatory support, Phase I pre-trial startup activities, and strategic program consulting relating to LP-184. The Company expects that additional amounts will be paid to Cancer Insight in future periods in accordance with the payment schedule specified under the Cancer Insight agreement.

Other Research and Service Provider Agreements

In addition to the agreements described above, the Company has entered into other research and service provider agreements for the advancement of its product candidates and research and development efforts. The Company expects to pay additional amounts in future periods in connection with existing and future research and service provider agreements.

EU Grant

In September 2018, Lantern Pharma Limited, a wholly owned subsidiary of Lantern Pharma Inc., was awarded a grant by the UK government in the form of state aid under the Commission Regulations (EU) No. 651/2014 of 17 June 2014 (the "General Block Exemption"), Article 25 Aid for research and development projects, state aid notification no. SA.40154. The grant was awarded to conduct research and development activities for the prostate cancer biomarker analysis of the LP-184 drug candidate. Following the Company's research and development activities in Northern Ireland, the grant will reimburse the Company 50% of its research and development expenses not exceeding GBP 24,215 of vouched and approved expenditures within specific categories. The grant contains some reporting and consent requirements. The grant will remain in force for a period of five years. No payments to the Company have been made under the grant as of September 30, 2022 and December 31, 2021. No revenue has been recognized from this grant through September 30, 2022.

Actuate Therapeutics

In May 2021, the Company entered into a Collaboration Agreement with Actuate Therapeutics, Inc. ("Actuate"), a clinical stage private biopharmaceutical company focused on the development of compounds for use in the treatment of cancer, and inflammatory diseases leading to fibrosis. Pursuant to the agreement, the Company and Actuate are collaborating on utilization of the Company's RADR® platform to develop novel biomarker derived signatures for use with one of Actuate's product candidates. As part of the collaboration, the Company received 25,000 restricted shares of Actuate stock, subject to meeting certain conditions of the collaboration, as well as the potential to receive additional Actuate stock if results from the collaboration are utilized in future development efforts. The term of the Collaboration Agreement was recently extended to continue until March 31, 2023. Leslie W. Kreis, Jr., a director of the Company until June 8, 2022, is also a director of Actuate. Affiliates of Mr. Kreis hold substantial beneficial ownership interests in both the Company and Actuate. Through September 30, 2022, no revenues have been recognized under the Agreement.

The restricted shares of Actuate stock had a nominal value when acquired and, therefore, were recorded at a cost of $0. These shares do not have a readily determinable fair value, but will be adjusted for observable price changes, if any, in future periods. There were no adjustments to the carrying amount through September 30, 2022.

Note 5. Leases

The operating lease cost recognized in general and administrative expenses in our consolidated statements of operations was approximately $30,000 and $108,000 for the three and nine months ended September 30, 2022, respectively, and approximately $38,000 and $67,000 during the three and nine months ended September 30, 2021, respectively.

The following provides balance sheet information related to leases as of September 30, 2022 and December 31, 2021:

	September 30, 2022	December 31, 2021
Assets		
Operating lease, right-of-use asset, net	$ 82,918	$ 185,943
Liabilities		
Current portion of operating lease liabilities	$ 92,023	$ 152,058
Operating lease liabilities, net of current portion	-	52,890
Total operating lease liabilities	$ 92,023	$ 204,948

At September 30, 2022, the future estimated minimum lease payments under non-cancelable operating leases are as follows:

2022 (remaining three months)	$ 40,052
2023	53,403
Total minimum lease payments	93,455
Less amount representing interest	(1,432)
Present value of future minimum lease payments	92,023
Less current portion of operating lease liabilities	92,023
Operating lease liabilities, net of current portion	$ -

In April 2021, we entered into two operating leases for office space that commenced in May 2021. The leases expire in April 2023 and automatically renew month-to-month unless we provide three-months written notice to the landlord prior to initial expiration. The exercise of lease renewal options is at our sole discretion and is assessed as to whether to include any renewals in the lease term at inception.

Other supplemental information related to operating leases is as follows:

	As of September 30,	
	2022	2021
Weighted average remaining term of operating leases (in years)	0.58	1.58
Weighted average discount rate of operating leases	4.65%	4.65%

The Company also leased office space in Dallas, Texas under month-to-month lease arrangements during the three and nine months ended September 30, 2022. Under these short-term leases, the Company elected the short-term lease measurement and recognition exemption under ASC 842 and recorded rent expense as incurred.

Note 6. Stockholders' Equity

Common Stock

On January 20, 2021, the Company closed a public offering of 4,928,571 shares of its common stock at a public offering price of $14.00 per share, which amount included 642,856 shares sold upon full exercise of the underwriter's over-allotment option. Total gross proceeds from the offering were approximately $69,000,000, and net proceeds from the offering were approximately $64,167,000, after deducting underwriting discounts and commissions of approximately $4,554,000 and other offering expenses of approximately $279,000, including $101,000 of deferring offering costs previously recorded.

During the three and nine months ended September 30, 2021, the Company issued zero and 11,782 shares of common stock relating to the exercise of stock options. The shares were issued at a purchase price of $1.03 for total proceeds of $12,000.

During the three and nine months ended September 30, 2021, the Company issued zero and 19,367 shares of common stock relating to the cash exercise of warrants for total proceeds of approximately $61,000. During the three and nine months ended September 30, 2021, the Company also issued 2,960 and 6,352 shares of common stock, respectively, relating to the cashless exercise of warrants to purchase 3,832 and 8,047 shares, respectively. All of such warrants were exercisable at an exercise price of $3.13 per share of common stock.

In November 2021, the Company's Board of Directors authorized a share repurchase program to acquire up to $7,000,000 of the Company's common stock. During the three and nine months ended September 30, 2022, the Company repurchased zero and 353,667 shares of common stock, respectively, pursuant to the repurchase program for a total of approximately $2,482,000, including purchase fees. The share repurchase program terminated July 31, 2022.

During the three and nine months ended September 30, 2022, the Company issued 26,093 shares of common stock relating to the cashless exercise of stock options to purchase 32,538 shares of common stock.

During the three and nine months ended September 30, 2022, the Company issued zero and 95,779 shares of common stock relating to the cash exercise of warrants for total proceeds of approximately $300,000. All of such warrants were exercisable at an exercise price of $3.13 per share of common stock.

As of September 30, 2022 and December 31, 2021, the Company had 25,000,000 authorized shares of Common Stock, of which 10,857,040 and 11,088,835 shares were issued and outstanding, respectively.

Warrants

During the three and nine months ended September 30, 2021, the Company issued zero and 19,367 shares of common stock, respectively, relating to the cash exercise of warrants. During the three and nine months ended September 30, 2021, the Company also issued 2,960 and 6,352 shares of common stock, respectively, relating to the cashless exercise of warrants to purchase 3,832 and 8,047 shares, respectively.

During the three and nine months ended September 30, 2022, the Company issued zero and 95,779 shares of common stock, respectively, relating to the cash exercise of warrants that were expiring.

The Company had warrants to purchase 177,998 shares of common stock outstanding and exercisable as of September 30, 2022 at a weighted average exercise price of $9.27 per share, and with expiration dates ranging from March 7, 2024 to June 10, 2025. The Company had warrants to purchase 273,777 shares of common stock outstanding and exercisable as of December 31, 2021 at a weighted average exercise price of $7.12 per share, and with expiration dates ranging from March 17, 2022 to June 10, 2025.

Options

The Company recorded stock-based compensation of approximately $301,000 and $858,000 related to stock options during the three and nine months ended September 30, 2022, and approximately $224,000 and $716,000 related to stock options during the three and nine months ended September 30, 2021, respectively. These amounts are allocated between general and administrative and research and development expenses in the accompanying condensed consolidated statements of operations.

A summary of stock option activity under the Lantern Pharma Inc. 2018 Equity Incentive Plan, as amended and restated (the "Plan") during the nine months ended September 30, 2022 is presented below:

	Options Outstanding	
	Number of Shares	Weighted-Average Exercise Price Per Share
Outstanding December 31, 2021	890,826	$ 6.54
Granted	155,000	5.79
Exercised	(32,538)	1.03
Cancelled or expired	(12,335)	13.79
Outstanding September 30, 2022	1,000,953	$ 6.52

Options were exercisable for 715,782 shares of Common Stock at September 30, 2022 at a weighted average exercise price of $5.59.

In August 2022, the Company granted options relating to 100,000 shares of common stock to Panna Sharma, the Company's Chief Executive Officer. The options vest monthly over 36-months beginning September 8, 2022 and have an exercise price of $5.60 per share. Vesting of these options will accelerate if the closing price of the Company's common stock is at least $15.00 per share.

During the nine months ended September 30, 2021, no options were granted, options were exercised to purchase 11,782 shares of common stock, and 22,238 options expired or were canceled.

Note 7. Marketable Securities

At September 30, 2022, marketable securities consisted of the following:

	Amortized Cost	Unrealized Gains	Unrealized Losses	Aggregate Fair Value
Government & Agency Securities	$ 5,410,239	$ 77	$ (208,545)	5,201,771
Corporate Bonds	8,177,653	-	(279,249)	7,898,404
Marketable Securities - Debt	$ 13,587,892	$ 77	$ (487,794)	$ 13,100,175
Mutual Funds – Fixed Income	4,002,704	-	(334,004)	3,668,700
Mutual Funds – Alternative Investments	2,023,154	-	(223,304)	1,799,850
Marketable Securities – Mutual Funds	$ 6,025,858	$ -	$ (557,308)	$ 5,468,550

The contractual maturities of the investments classified as Government & Agency Securities and Corporate Bonds are as follows:

	As of September 30, 2022
Due within one year	$ 4,669,099
Due in one to two years	6,700,963
Due in two to five years	1,730,113
	$ 13,100,175

The following table presents gross unrealized losses and fair values for those marketable securities that were in an unrealized loss position as of September 30, 2022, aggregated by investment category and the length of time that individual securities have been in a continuous loss position:

	As of September 30, 2022			
	Less than 12 months		More than 12 months	
	Fair Value	Unrealized Loss	Fair Value	Unrealized Loss
Government & Agency Securities	$ 1,455,466	$ (54,070)	$ 3,001,090	$ (154,475)
Corporate Bonds	1,330,714	(34,791)	6,567,690	(244,458)
Mutual Funds - Fixed Income	1,836,000	(170,004)	1,832,700	(164,000)
Mutual Funds - Alternative Investments	-	-	1,799,850	(223,304)
	$ 4,622,180	$ (258,865)	$ 13,201,330	$ (786,237)

We do not believe the unrealized losses described above represent credit losses based on our evaluation of available evidence as of September 30, 2022, which includes an assessment of whether it is more likely than not we will be required to sell the investment before recovery of the investment's amortized cost basis. During the three and nine months ended September 30, 2022, bonds were redeemed for approximately $900,000 and $2,570,000, respectively, at a realized loss of approximately $27,000 and $76,000, respectively. During the three and nine months ended September 30, 2022, government and agency securities were redeemed for approximately $350,000 at their face value.

Note 8. Fair Value Measurements

We determine the fair values of our financial instruments based on the fair value hierarchy, which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value assumes that the transaction to sell the asset or transfer the liability occurs in the principal or most advantageous market for the asset or liability and establishes that the fair value of an asset or liability shall be determined based on the assumptions that market participants would use in pricing the asset or liability. The classification of a financial asset or liability within the hierarchy is based upon the lowest level input that is significant to the fair value measurement. The fair value hierarchy prioritizes the inputs into three levels that may be used to measure fair value:

Level 1 - Inputs are unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

Level 3 - Inputs are unobservable inputs based on our assumptions.

Financial Assets

When available, our marketable securities are valued using quoted prices for identical instruments in active markets. If we are unable to value our marketable securities using quoted prices for identical instruments in active markets, we value our investments using broker reports that utilize quoted market prices for comparable instruments. As of September 30, 2022, our available-for-sale debt securities were valued through use of quoted prices for comparable instruments in active markets and are classified as Level 2, and our mutual funds – alternative investments were valued using NAV, net asset value per share, under the practical expedient methodology.

Based on our valuation of our marketable securities, we concluded that they are classified in either Level 2 or NAV, and we have no financial assets measured using Level 1 or 3 inputs. The following table presents information about our assets that are measured at fair value on a recurring basis using the above input categories.

	Fair Value Measurements as of September 30, 2022				
Description	Total	Level 1	Level 2	Level 3	NAV*
Government & Agency Securities	$ 5,201,771	$ -	$ 5,201,771	$ -	$ -
Corporate Bonds	7,898,404	-	7,898,404	-	-
Mutual Funds – Fixed Income	3,668,700	-	3,668,700	-	-
Mutual Funds – Alternative Investments	1,799,850	-	-	-	1,799,850
	$ 18,568,725	$ -	$ 16,768,875	$ -	$ 1,799,850

* Certain marketable securities investments are measured at fair value using net asset value per share under the practical expedient methodology.

Note 9. Notes and Loan Payable

On May 1, 2020 (the "Origination Date"), the Company received $108,500 in aggregate loan proceeds (the "PPP Loan") from JPMorgan Chase Bank (the "Lender") pursuant to the Paycheck Protection Program under the Coronavirus Aid, Relief, and Economic Security (CARES) Act. The PPP Loan was evidenced by a loan application and payment agreement (the "PPP Loan Agreement") by and between the Company and the Lender. Subject to the terms of the PPP Loan Agreement, the PPP Loan bore interest at a fixed rate of one percent (1.0%) per annum. Payments of principal and interest were deferred for the first six months following the Origination Date, and the PPP Loan provided that it would mature two years after the Origination Date. The guidance under the Paycheck Protection Program was later updated so that payments of principal and interest were extended past the current fiscal year and maturity was extended past two years. The Company applied for forgiveness of the loan, and in April 2021 the Company received notice that the Small Business Administration (SBA) had authorized full forgiveness of the PPP Loan.

Note 10. Loss Per Share of Common Shares

Basic loss per share is derived by dividing net loss applicable to common stockholders by the weighted average number of shares of common stock outstanding during each period. Diluted loss per share includes the effect, if any, from the potential exercise or conversion of securities, such as warrants and stock options, which would result in the issuance of incremental shares of common stock unless such effect is anti-dilutive. In calculating the basic and diluted net loss per share applicable to common stockholders, the weighted average number of shares remained the same for both calculations due to the fact that when a net loss exists, dilutive shares are not included in the calculation. Potentially dilutive securities outstanding that have been excluded from diluted loss per share due to being anti-dilutive include the following:

	Outstanding at September 30,	
	2022	**2021**
Warrants to purchase Common Stock	177,998	298,204
Stock options	1,000,953	801,588
	1,178,951	1,099,792

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of our financial condition and plan of operations together with our condensed consolidated financial statements and the related notes appearing elsewhere in this Quarterly Report. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results may differ materially from the plans, intentions, expectations and other forward-looking statements included in the discussion below. Factors that could cause or contribute to such differences include, but are not limited to, those identified below, and those factors discussed in the Risk Factors section of our 2021 Form 10-K on file with the SEC.

Overview

We are a clinical stage biotechnology company, focused on leveraging artificial intelligence ("A.I."), machine learning and genomic data to streamline the drug development process and to identify the patients that will benefit from our targeted oncology therapies. Our portfolio of therapies consists of small molecules that others have tried, but failed, to develop into an approved commercialized drug, as well as new compounds that we are developing with the assistance of our proprietary A.I. platform and our biomarker driven approach. Our A.I. platform, known as RADR®, currently includes more than 25 billion data points, and uses big data analytics (combining molecular data, drug efficacy data, data from historical studies, data from scientific literature, phenotypic data from trials and publications, and mechanistic pathway data) and machine learning to rapidly uncover biologically relevant genomic signatures correlated to drug response, and then identify the cancer patients that we believe may benefit most from our compounds. This data-driven, genomically-targeted and biomarker-driven approach allows us to pursue a transformational drug development strategy that identifies, rescues or develops, and advances potential small molecule drug candidates at what we believe is a fraction of the time and cost associated with traditional cancer drug development.

Our strategy is to both develop new drug candidates using our RADR® platform, and other machine learning driven methodologies, and to pursue the development of drug candidates that have undergone previous clinical trial testing or that may have been halted in development or deprioritized because of insufficient clinical trial efficacy (i.e., a meaningful treatment benefit relevant for the disease or condition under study as measured against the comparator treatment used in the relevant clinical testing) or for strategic reasons by the owner or development team responsible for the compound. Importantly, these historical drug candidates appear to have been well-tolerated in many instances, and often have considerable data from previous toxicity, tolerability and ADME (absorption, distribution, metabolism, and excretion) studies that have been completed. Additionally, these drug candidates may also have a body of existing data supporting the potential mechanism(s) by which they achieve their intended biologic effect, but often require more targeted trials in a stratified group of patients to demonstrate statistically meaningful results. Our dual approach to both develop de-novo, biomarker-guided drug candidates and "rescue" historical drug-candidates by leveraging A.I., recent advances in genomics, computational biology and cloud computing is emblematic of a new era in drug development that is being driven by data-intensive approaches meant to de-risk development and accelerate the clinical trial process. In this context, we intend to create a diverse portfolio of oncology drug candidates for further development towards regulatory and marketing approval with the objective of establishing a leading A.I.-driven, methodology for treating the right patient with the right oncology therapy.

A key component of our strategy is to target specific cancer patient populations and treatment indications identified by leveraging our RADR® platform, a proprietary A.I. enabled engine created and owned by us. We believe the combination of our therapeutic area expertise, our A.I. expertise, and our ability to identify and develop promising drug candidates through our collaborative relationships with research institutions in selected areas of oncology gives us a significant competitive advantage. Our RADR® platform was developed and refined over the last five years and integrates billions of data points immediately relevant for oncology drug development and patient response prediction using artificial intelligence and proprietary machine learning algorithms. By identifying clinical candidates, together with relevant genomic and phenotypic data, we believe our approach will help us design more efficient pre-clinical studies, and more targeted clinical trials, thereby accelerating our drug candidates' time to approval and eventually to market. Although we have not yet applied for or received regulatory or marketing approval for any of our drug candidates, we believe our RADR® platform has the ability to reduce the cost and time to bring drug candidates to specifically targeted patient groups. We believe we have developed a sustainable and scalable biopharma business model by combining a unique, oncology-focused big-data platform that leverages artificial intelligence along with active clinical and preclinical programs that are being advanced in targeted cancer therapeutic areas to address today's treatment needs.

Our current portfolio consists of four compounds and an Antibody Drug Conjugate (ADC) program: two drug candidates in clinical phases, two in preclinical studies and our ADC program in research optimization. One of the two drug candidates in clinical development, LP-100, was previously out-licensed by us to Allarity Therapeutics A/S. In July 2021, we entered into an Asset Purchase Agreement to reacquire global development and commercialization rights for LP-100 from Allarity. All of these drug candidates and our ADC program are leveraging precision oncology, A.I. and genomic driven approaches to accelerate and direct development efforts. We currently have two drug candidates in clinical development, LP-100 and LP-300, where we are leveraging data from prior preclinical studies and clinical trials, along with insights generated from our A.I. platform, to target the types of tumors and patient groups we believe will be most responsive to the drug. Both LP-100 and LP-300 showed promise in important patient subgroups, but failed pivotal Phase III trials when the overall results did not meet the predefined clinical endpoints. We believe that this was due to a lack of biomarker-driven patient stratification. LP-300 has been studied in multiple randomized, controlled, multi-center non-small cell lung cancer, or NSCLC, trials that included administration of either paclitaxel and cisplatin and/or docetaxel and cisplatin, and we recently launched a targeted phase II trial for LP-300 in never smoker patients with NSCLC in combination with chemotherapy, under an existing investigational new drug application. LP-100 is in a Phase II clinical trial in metastatic, castration-resistant, prostate cancer that was previously managed by Allarity Therapeutics. As a result of the Asset Purchase Agreement we entered into with Allarity in July 2021, we obtained full authority to manage and guide future clinical development and commercialization of LP-100.

Additionally, our drug candidate LP-184 is in preclinical development for multiple potentially distinct indications where we are leveraging machine learning and genomic data to streamline the drug development process and to identify the patients and cancer subtypes that will best benefit from the drug, if approved. Our drug candidate, LP-284, the stereoisomer (enantiomer) of LP-184, is in preclinical development for multiple hematological cancers, which are distinct from the indications targeted by LP-184. Our ADC program commenced in early 2021 and is aimed at identifying targeted or therapeutic antibodies to conjugate with selected compounds.

Our development strategy is to pursue an increasing number of oncology focused, molecularly targeted therapies where artificial intelligence and genomic data can help us provide biological insights, reduce the risk associated with development efforts and help clarify potential patient response. We plan on strategically evaluating these on a program-by-program basis as they advance into clinical development, either to be done entirely by us, or with licensing partners, to maximize the commercial opportunity and reduce the time it takes to bring the right drug to the right patient.

To date, except for a prior research grant, we have not generated any revenue, we have incurred net losses and our operations have been financed primarily by sales of our equity securities. Our net losses were approximately $2,265,000 and $10,879,000 for the three and nine months ended September 30, 2022 and approximately $4,054,000 and $8,823,000 for the three and nine months ended September 30, 2021, respectively.

Our net losses have primarily resulted from costs incurred in licensing and developing the drug candidates in our pipeline, planning, preparing for and conducting clinical trials and preclinical studies, and general and administrative activities associated with our operations. We expect to continue to incur significant expenses and corresponding increased operating losses for the foreseeable future as we continue to develop our pipeline. Our costs may further increase as we conduct preclinical studies and clinical trials and potentially seek regulatory clearance for and prepare to commercialize our drug candidates. We expect to incur significant expenses to continue to build the infrastructure necessary to support our expanded operations, preclinical studies, clinical trials, commercialization, including manufacturing, marketing, sales and distribution functions. We have experienced and will continue to experience increased costs associated with operating as a public company.

As of the date of this report, although we believe we have effectively managed the impact of the COVID-19 pandemic on our operations, the ongoing effects of the pandemic could have a material impact on our business in the future. The timing of non-clinical research studies for our drug candidates by collaborators and service providers slowed during 2020 in connection with the pandemic. The timing of manufacturing for our LP-300 and LP-184 candidates has been impacted by supply chain delivery and COVID-related staffing issues, which extended the time to launch our Phase II clinical trial for LP-300 and extended the time to commence IND enabling studies and commence Phase I clinical testing for LP-184. Clinical sites conducting oncology clinical trials have also been impacted by COVID-related staffing issues. In addition, Allarity Therapeutics informed us that enrollment in the Phase II clinical trial for LP-100 slowed during the pandemic. While we believe we have been able to manage the disruption caused by the COVID-19 pandemic to date, there can be no assurance that our operations, including the development of our drug candidates, will not be disrupted and materially adversely affected in the future by the COVID-19 pandemic, or an epidemic or outbreak of an infectious disease like the outbreak of COVID-19.

Components of Our Results of Operations

Revenues

We did not recognize revenues for the three or nine month periods ended September 30, 2022 and September 30, 2021.

Expenses

Our research and development costs by project category for the three and nine months ended September 30, 2022 are as follows:

	Three Months Ended September 30, 2022	Nine Months Ended September 30, 2022
LP-300	$ 623,368	$ 2,393,055
LP-184	(328,997)*	1,778,023*
LP-100	30,904	665,749
LP-284	116,529	788,882
ADC Program	8,920	27,621
RADR® Platform	210,815	603,018
Other	40,757	95,008
Total research and development expenses	$ 702,296	$ 6,351,356

* Research and Development costs relating to LP-184 for the three and nine months ended September 30, 2022 were reduced by $935,000 as a result of a payment we received in July 2022 from one of our service providers in connection with the resolution of a difference of views regarding the service provider agreement. This payment received by us offset other LP-184 costs during those periods.

We expect that our research and development expenses will increase as we progress our clinical trial of LP-300, progress toward commencement of clinical trials of LP-184 and LP-284, advance clinical development of LP-100, and advance our other programs and drug candidates. We expect this increase to include additional expenses associated with research and service provider agreements for the advancement of our drug candidates and research and development efforts.

Because of the numerous risks and uncertainties associated with product development, we cannot determine with certainty the duration and completion costs of these or other current or future clinical trials of LP-300, LP-184, LP-284, LP-100 or our other drug candidates. We may never succeed in achieving regulatory approval for LP-300, LP-184, LP-284, LP-100 or any of our other drug candidates. The duration, costs and timing of clinical trials and development of our drug candidates will depend on a variety of factors, including the uncertainties of future clinical and preclinical studies, uncertainties in clinical trial enrollment rates and significant and changing government regulation. In addition, the probability of success for each drug candidate will depend on numerous factors, including competition, manufacturing capability and commercial viability.

General and Administrative

General and administrative expenses consist primarily of salaries and related costs for employees in executive, finance and administration, corporate development and administrative support functions, including stock-based compensation expenses and benefits. Other significant general and administrative expenses include accounting and legal services, the cost of various consultants, occupancy costs and information systems costs.

We expect that our general and administrative expenses will increase as we continue to operate as a public company. We expect increased administrative costs resulting from our ongoing and anticipated clinical trials and the potential commercialization of our drug candidates. We believe that these increases will likely include increased costs for insurance, hiring additional personnel to support future market research and future product commercialization efforts and increased fees for outside consultants, attorneys and accountants. We also expect to continue to incur increased costs to comply with corporate governance, internal controls, investor relations and disclosures and similar requirements applicable to a public company.

Summary Results of Operations for the Three and Nine Months Ended September 30, 2022 and September 30, 2021 (unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2022	2021	2022	2021
Operating expenses:				
General and administrative	$ 1,442,961	$ 1,184,486	$ 4,255,119	$ 3,671,945
Research and development	702,296	2,964,391	6,351,356	5,408,320
Total operating expenses	2,145,257	4,148,877	10,606,475	9,080,265
Loss from operations	(2,145,257)	(4,148,877)	(10,606,475)	(9,080,265)
Interest income	52,224	77,219	129,671	125,108
Other (expense) income, net	(171,648)	17,679	(402,037)	132,402
NET LOSS	$ (2,264,681)	$ (4,053,979)	$ (10,878,841)	$ (8,822,755)

Comparison of the Three Months Ended September 30, 2022 and September 30, 2021

General and Administrative Expenses

General and administrative expenses increased approximately $259,000, or 22%, from approximately $1,184,000 for the three months ended September 30, 2021 to approximately $1,443,000 for the three months ended September 30, 2022. The increase was primarily attributable to increases in office and administrative expense of approximately $18,000, increases in travel expense of approximately $58,000, increases in legal and patent related expenses of approximately $59,000, increases in other professional fees of approximately $74,000, increases in payroll and compensation related expense of approximately $175,000, and increases in net other expenses of approximately $5,000. This was partially offset by decreases in business development expenses of approximately $37,000 and decreases in corporate insurance expense of approximately $93,000.

Research and Development Expenses

Research and development expenses decreased approximately $2,262,000, or 76%, from approximately $2,964,000 for the three months ended September 30, 2021 to approximately $702,000 for the three months ended September 30, 2022. A substantial portion of this decrease in expenses related to a $935,000 payment we received in July 2022 from one of our service providers in connection with the resolution of a difference of views regarding the service provider agreement. The payment contributed to an approximately $1,555,000 decline in product candidate manufacturing related expenses during the three months ended September 30, 2022. In addition, we made a $1,000,000 upfront payment to Allarity Therapeutics during the three months ended September 30, 2021, which is nonrecurring. A smaller factor in the decrease in research and development expenses was an approximately $28,000 decline in patent costs. These decreases were offset, in part, by an increase in research and development payroll costs of approximately $56,000, an increase in non-manufacturing consulting costs of $34,000 and an increase of approximately $231,000 in research materials costs.

Interest and Other (Expense) Income, Net

Interest income decreased approximately $25,000, or 32%, from approximately $77,000 for the three months ended September 30, 2021 to approximately $52,000 for the three months ended September 30, 2022. Other income (expense), net decreased approximately $190,000, or 1,056%, from a gain of approximately $18,000 for the three months ended September 30, 2021 to a loss of approximately $172,000 for the three months ended September 30, 2022. This decrease was primarily attributable to an increase in realized and unrealized losses on marketable securities of approximately $132,000 and a loss on foreign currency translation of approximately $96,000, which was partially offset by an increase in dividend income of approximately $14,000 and tax incentives of approximately $24,000.

Comparison of the Nine Months Ended September 30, 2022 and September 30, 2021

General and Administrative Expenses

General and administrative expenses increased approximately $583,000, or 16%, from approximately $3,672,000 for the nine months ended September 30, 2021 to approximately $4,255,000 for the nine months ended September 30, 2022. The increase was primarily attributable to increases in office and administrative expense of approximately $71,000, increases in rent of approximately $49,000, increases in travel expense of approximately $118,000, increases in legal and patent related expenses of $41,000, increases in other professional fees of approximately $296,000, increases in payroll and compensation related expense of approximately $358,000, and increases in net other expenses of approximately $22,000. This was partially offset by decreases in business development expenses of approximately $114,000 and decreases in corporate insurance expense of approximately $258,000.

Research and Development Expenses

Research and development expenses increased approximately $943,000, or 17%, from approximately $5,408,000 for the nine months ended September 30, 2021 to approximately $6,351,000 for the nine months ended September 30, 2022. The increase was primarily attributable to increases in product candidate manufacturing related expenses of approximately $15,000, increases in research studies of approximately $1,183,000, an increase of approximately $101,000 in research and development payroll costs and increased non-manufacturing consulting costs of approximately $274,000. These increases were offset, in part, by a decrease in patent costs of $89,000 and a net decline in payments to Allarity Therapeutics of approximately $541,000. During the nine months ended September 30, 2021, we made a one-time $1,000,000 upfront payment to Allarity Therapeutics, and during the nine months ended September 30, 2022, we released an escrow payment of approximately $459,000 to Allarity Therapeutics. Manufacturing related expenses for the nine months ended September 30, 2022 were also reduced by $935,000 as a result of a payment we received in July 2022 from one of our service providers in connection with the resolution of a difference of views regarding the service provider agreement.

Interest and Other (Expense) Income, Net

Interest income increased approximately $5,000, or 4%, from approximately $125,000 for the nine months ended September 30, 2021 to approximately $130,000 for the nine months ended September 30, 2022. Other income (expense), net decreased approximately $534,000, or 405%, from a gain of approximately $132,000 for the nine months ended September 30, 2021 to a loss of approximately $402,000 for the nine months ended September 30, 2022. This decrease was primarily attributable to an increase in realized and unrealized losses on marketable securities of approximately $538,000 and an increase in foreign currency losses of approximately $136,000 during the nine months ended September 30, 2022, as well as a one-time gain on loan forgiveness of approximately $110,000 during the nine months ended September 30, 2021, which were partially offset by an increase in dividend income of approximately $66,000, and an increase in tax incentives of approximately $184,000.

Liquidity and Capital Resources

We incurred net losses of approximately $2,265,000 and $4,054,000 for the three months ended September 30, 2022 and 2021, respectively. We incurred net losses of approximately $10,879,000 and $8,823,000 for the nine months ended September 30, 2022 and 2021, respectively. As of September 30, 2022, we had working capital of approximately $58,881,000 and as of December 31, 2021 we had working capital of approximately $70,390,000.

On January 20, 2021, we closed a public offering of 4,928,571 shares of common stock at a public offering price of $14.00 per share, which amount included 642,856 shares sold upon full exercise of the underwriter’s over-allotment option. Total gross proceeds from the offering were approximately $69,000,000, and net proceeds from the offering were approximately $64,167,000.

We have not yet generated any revenues from operations, other than revenues from a research grant, and we have not yet achieved profitability. We expect that general and administrative expenses and our research and development expenses will continue to increase and, as a result, we will need to generate significant product revenues to achieve profitability. We may never achieve profitability.

Sources of Liquidity

Since our inception, our operations have been financed primarily through the sale of equity securities, and, to a much lesser extent, funds received by us from the PPP Loan and a 2017 grant from the Massachusetts Life Sciences Center. We plan to apply for grant funding in the future to assist in supporting our capital needs. We may also explore the possibility of entering into commercial credit facilities as an additional source of liquidity.

As of September 30, 2022 and December 31, 2021, we had cash and cash equivalents of approximately $39,258,000 and $51,524,000, respectively. Based on our anticipated expenditures and capital commitments as of the date of this report, we believe that our existing cash and cash equivalents as of September 30, 2022 will enable us to fund our operating expenses and capital expenditure requirements for at least 12 months from the date of this Quarterly Report.

Cash Flows

The following table summarizes our cash flow for the periods indicated:

	For the Nine Months ended September 30,	
	2022	2021
	(Unaudited)	
Net cash flows used in operating activities	$ (10,098,629)	$ (8,552,515)
Net cash flows used in investing activities	(423,593)	(19,296,628)
Net cash flows (used in) / provided by financing activities	(2,182,498)	64,288,931
Effect of foreign exchange rates on cash	(20,508)	-
Net (decrease) / increase in cash, cash equivalents and restricted cash	$ (12,725,228)	$ 36,439,788

Operating Activities

For the nine months ended September 30, 2022, net cash used in operating activities was approximately $10,099,000 compared to approximately $8,553,000 for the nine months ended September 30, 2021. The increase in net cash used in operating activities was primarily the result of the increase in the net loss for the nine months ended September 30, 2022.

Investing Activities

For the nine months ended September 30, 2022, net cash used in investing activities was approximately $424,000 compared to $19,297,000 for the nine months ended September 30, 2021. The decrease in cash used in investing activities during the nine months ended September 30, 2022 compared to the nine months ended September 30, 2021 was primarily attributable to differences in the levels of purchases of marketable securities, most of which were purchased during the nine months ended September 30, 2021.

Financing Activities

Net cash used in financing activities was approximately $2,182,000 during the nine months ended September 30, 2022, attributable primarily to repurchases of shares pursuant to the Company's share repurchase program. Net cash provided by financing activities during the nine months ended September 30, 2021 was approximately $64,289,000, attributable primarily to net proceeds from our equity financing in January 2021.

Operating Capital and Capital Expenditure Requirements

We expect to continue to incur significant and increasing operating losses at least for the next several years as we progress our clinical development of LP-300, commence our clinical trials of LP-184 and LP-284, advance clinical development of LP-100, pursue development of our other drug candidates, and seek potential future marketing approval for our drug candidates which could be several years in the future, if at all. We do not expect to generate operating revenue, other than possible license revenue, unless and until we successfully complete development and obtain regulatory approval for our therapeutic candidates. Our net losses may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our planned clinical trials and our expenditures on other research and development activities.

We have based our projections of operating capital requirements on assumptions that may prove to be incorrect and we may use all of our available capital resources sooner than we expect. Because of the numerous risks and uncertainties associated with research, development and commercialization of pharmaceutical products, we are unable to estimate the exact amount of our operating capital requirements. We anticipate that our expenses will increase substantially as we:

- continue the development of our drug candidates;
- initiate preclinical studies and clinical trials for any additional indications for our current drug candidates and any future drug candidates that we may pursue;
- continue to build our portfolio of drug candidates through the acquisition or in-license of additional drug candidates or technologies;

- continue to develop, maintain, expand and protect our intellectual property portfolio;
- pursue regulatory approvals for those of our current and future drug candidates that successfully complete clinical trials;
- ultimately establish a sales, marketing, distribution and other commercial infrastructure to commercialize any drug candidate for which we may obtain marketing approval;
- hire additional clinical, regulatory, scientific and accounting personnel;
- incur additional legal, accounting and other expenses in operating as a public company; and
- continue to develop, maintain, and expand our RADR® platform.

We expect that we will need to obtain substantial additional funding in order to complete our clinical trials. To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, the ownership interests of our existing stockholders may be materially diluted and the terms of these securities could include liquidation or other preferences that could adversely affect the rights of our existing stockholders. In addition, debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business. If we are unable to raise capital when needed or on attractive terms, we could be forced to significantly delay, scale back or discontinue the development or commercialization of LP-184, LP-300, LP-284, LP-100 and/or other drug candidates and programs, seek collaborators at an earlier stage than otherwise would be desirable or on terms that are less favorable than might otherwise be available, and relinquish or license, potentially on unfavorable terms, our rights to LP-184, LP-300, LP-284, LP-100 and/or other drug candidates and programs that we otherwise would seek to develop or commercialize ourselves.

Critical Accounting Estimates

There have been no changes to our critical accounting estimates during the three months ended September 30, 2022.

Quantitative and Qualitative Disclosure About Market Risk

Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates. Fixed rate securities may have their market value adversely affected due to a rise in interest rates. Accordingly, our future investment income may fluctuate as a result of changes in interest rates, or we may suffer losses in principal if we are forced to sell securities that decline in market value as a result of changes in interest rates.

Historically, we have raised capital through the issuance of equity securities. We had no long-term debt outstanding as of September 30, 2022 and December 31, 2021.

We do not believe that our cash and cash equivalents have significant risk of default or illiquidity. Our cash and cash equivalents consist primarily of cash and money market funds. Our exposure to market risk relating to cash and cash equivalents due to changes in interest rates is limited because our cash and cash equivalents have a short-term maturity and are used primarily for working capital purposes. Our marketable securities have had and may in the future have their market value adversely affected due to rises in interest rates. While we believe our cash, cash equivalents and marketable securities do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash at one or more financial institutions that are in excess of federally insured limits.

We formed a wholly owned subsidiary, Lantern Pharma Australia Pty Ltd, in Australia in September 2021 and experienced foreign currency losses of approximately $159,000 for the nine months ended September 30, 2022 in connection with this subsidiary. We will remain subject to the risk of foreign currency losses in future periods, although we do not expect the impact of any foreign currency losses to be material. We do not participate in any foreign currency hedging activities, and we do not have any other derivative financial instruments.

Inflation generally affects us by increasing our cost of labor and clinical trial and other research and development costs. We do not believe that inflation has had a material effect on our results of operations during the periods presented. Inflation has increased substantially in recent periods and could have a greater impact on our future results of operations if it remains at current levels or continues to increase.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

As a Smaller Reporting Company, we are exempt from the requirements of Item 3.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2022. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on the evaluation of our disclosure controls and procedures as of September 30, 2022, our Chief Executive Officer and Chief Financial Officer have concluded that, as of such date, our disclosure controls and procedures, as defined above, are effective.

Changes in Internal Control Over Financial Reporting.

There were no changes in our internal control over financial reporting that occurred during the three-month period ended September 30, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Inherent Limitations on Effectiveness of Controls.

Our management, including our principal executive officer and principal financial officer, do not expect that our disclosure controls or our internal control over financial reporting will prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

PART II – OTHER INFORMATION

Item 1A. Risk Factors.

As a Smaller Reporting Company, we are exempted from the requirements of Item 1A.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

Options

In September 2022, the Company issued 26,093 shares of common stock to one option holder relating to the cashless exercise of stock options.

The foregoing transaction did not involve any underwriters, underwriting discounts or commissions, or any public offering. We believe the issuance of our common shares upon exercise of the options was exempt from registration pursuant to Rule 701 under Securities Act. The recipient of the securities in this transaction represented their intentions to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof. The sale of these securities was made without any general solicitation or advertising.

Item 5. Other Information.

Not applicable.

Item 6. Exhibits.

Exhibit No.	Exhibit Description	Method of Filing
3.1	Amended and Restated Certificate of Incorporation	Incorporated by reference from the Registrant's Current Report on Form 8-K filed June 17, 2020
3.2	By-Laws	Incorporated by reference from the Registrant's Registration Statement on Form S-1 filed April 16, 2020
10.1	Third Amendment, dated August 1, 2022, to Employment Agreement with Panna Sharma dated July 23, 2018.	Filed electronically herewith
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.	Filed electronically herewith
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Furnished electronically herewith
32.2	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	Furnished electronically herewith
101.INS	Inline XBRL Instance Document.	Filed electronically herewith
101.SCH	Inline XBRL Taxonomy Extension Schema Document.	Filed electronically herewith
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.	Filed electronically herewith
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.	Filed electronically herewith
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.	Filed electronically herewith
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.	Filed electronically herewith
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).	Filed electronically herewith

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Lantern Pharma Inc.,

A Delaware Corporation

Dated: November 7, 2022

By: */s/ Panna Sharma*
Panna Sharma, Chief Executive Officer

Dated: November 7, 2022

By: */s/ David R. Margrave*
David R. Margrave, Chief Financial Officer

EXHIBIT 10.1

THIRD AMENDMENT TO
EMPLOYMENT AGREEMENT

This THIRD AMENDMENT TO EMPLOYMENT AGREEMENT (this "Amendment"), is entered into as of August 1, 2022 and amends the Employment Agreement (defined below), between Lantern Pharma Inc. (the "***Company***") and Panna Sharma ("***Executive***"). The Company and Executive may be referred to herein individually as a "***Party***" or collectively as the "***Parties***."

RECITALS

WHEREAS, the Company and Executive have entered into the Employment Agreement, dated as of July 23, 2018 and previously amended as of May 18, 2020 and January 1, 2022 (collectively, the "***Employment Agreement***"), wherein the Company is employing Executive as the Company's Chief Executive Officer and President; and

WHEREAS, the Company and Executive wish to amend the Employment Agreement to (i) extend the term of the Employment Agreement to July 31, 2024; and (ii) increase the annual pre-tax base salary level for Executive under the Employment Agreement to $510,000 commencing as of August 1, 2022.

NOW THEREFORE, in consideration of the mutual covenants set forth herein and other legal and valuable consideration, the Parties agree as follows:

1. The first sentence of Section 1.4 of the Employment Agreement is hereby amended to read in its entirety as follows:

"The term of Executive's employment under this Agreement shall begin on the Effective Date and, unless sooner terminated in accordance with Section 3, shall conclude on July 31st, 2024 (the "***Term***")."

2. Section II of Exhibit A to the Employment Agreement is hereby amended to read in its entirety as follows:

"Future Base Salary. Following the Company's completion of an initial public offering ("IPO") and listing of the Company's common stock on the NASDAQ Stock Market, the Company shall thereafter pay Executive a pre-tax base salary ("***Future Base Salary***") of $432,000 (Four Hundred Thirty-Two Thousand U.S. Dollars) per annum, less all applicable withholdings, with such Future Base Salary to be paid in accordance with the Company's standard payroll practices with respect to pay periods (or applicable portions thereof) during the Term of this Agreement that occur on or after June 15, 2020 and prior to January 1, 2022. Commencing January 1, 2022, the Future Base Salary shall be increased to $449,280.00 (Four Hundred Forty Nine Thousand Two Hundred Eighty U.S. Dollars) per annum, less all applicable withholdings, with such increased Future Base Salary (the "**Adjusted Future Base Salary**") to be paid in accordance with the Company's standard payroll practices with respect to pay periods (or applicable portions thereof) during the Term of this Agreement that occur on or after January 1, 2022 and prior to August 1, 2022. Commencing August 1, 2022, the Adjusted Future Base Salary shall be increased to $510,000.00 (Five Hundred Ten Thousand U.S. Dollars) per annum, less all applicable withholdings, with such increased Adjusted Future Base Salary to be paid in accordance with the Company's standard payroll practices with respect to pay periods (or applicable portions thereof) during the Term of this Agreement that occur on or after August 1, 2022."

3. All other terms of and conditions to the Employment Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the Parties have executed this Amendment to be effective as of August 1, 2022.

COMPANY:

Lantern Pharma Inc.

By: */s/ David R. Margrave*
David R. Margrave
Chief Financial Officer

EXECUTIVE:

/s/ Panna Sharma
Panna Sharma

EXHIBIT 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES
EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Panna Sharma, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Lantern Pharma Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2022

/s/ Panna Sharma
Chief Executive Officer *(Principal Executive Officer)*

EXHIBIT 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES
EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, David R. Margrave, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Lantern Pharma Inc.

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2022

/s/ David R. Margrave
Chief Financial Officer *(Principal Financial Officer)*

EXHIBIT 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Lantern Pharma Inc. (the "Company") hereby certifies, to his knowledge, that:

(1) the accompanying Quarterly Report on Form 10-Q of the Company for the fiscal quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 7, 2022

/s/ Panna Sharma

Chief Executive Officer *(Principal Executive Officer)*

EXHIBIT 32.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned officer of Lantern Pharma Inc. (the "Company") hereby certifies, to his knowledge, that:

(1) the accompanying Quarterly Report on Form 10-Q of the Company for the fiscal quarter ended September 30, 2022 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 7, 2022

/s/ David R. Margrave
Chief Financial Officer *(Principal Financial Officer)*