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

FORM 10-Q

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

For the quarterly period ended June 30, 2021

OR

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

For the transition period from to

Commission File Number: 001-38022

MATINAS BIOPHARMA HOLDINGS, INC.
(Exact name of registrant as specified in its charter)

Delaware **(State or other jurisdiction of incorporation or organization)**	**No. 46-3011414** **(I.R.S. Employer Identification No.)**

1545 Route 206 South, Suite 302
Bedminster, New Jersey 07921
(Address of principal executive offices) (Zip Code)

908-484-8805
(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock	MTNB	NYSE American

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted 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 and post 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 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 Act). Yes ☐No ☒

As of August 5, 2021, there were 214,741,422 shares of the registrant's common stock, $0.0001 par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

None.

MATINAS BIOPHARMA HOLDINGS, INC.
Form 10-Q
Quarter Ended June 30, 2021

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Matinas BioPharma Holdings, Inc.
Condensed Consolidated Balance Sheets

	June 30, 2021 (Unaudited)	December 31, 2020 (Audited)
ASSETS:		
Current assets:		
Cash and cash equivalents	$ 30,352,359	$ 12,432,481
Marketable securities	29,490,430	46,246,573
Restricted cash – security deposits	136,000	136,000
Prepaid expenses and other current assets	960,422	2,739,791
Total current assets	60,939,211	61,554,845
Non-current assets:		
Leasehold improvements and equipment - net	1,406,748	1,523,950
Operating lease right-of-use assets - net	3,034,155	3,276,639
Finance lease right-of-use assets - net	37,350	58,007
In-process research and development	3,017,377	3,017,377
Goodwill	1,336,488	1,336,488
Restricted cash - security deposit	200,000	200,000
Total non-current assets	9,032,118	9,412,461
Total assets	$ 69,971,329	$ 70,967,306
LIABILITIES AND STOCKHOLDERS' EQUITY:		
Current liabilities:		
Accounts payable	$ 450,461	$ 349,941
Accrued expenses	2,762,736	2,795,329
Operating lease liabilities - current	351,257	391,498
Financing lease liabilities - current	26,870	30,853
Total current liabilities	3,591,324	3,567,621
Non-current liabilities:		
Deferred tax liability	341,265	341,265
Operating lease liabilities - net of current portion	3,123,482	3,304,063
Financing lease liabilities - net of current portion	11,508	23,660
Total non-current liabilities	3,476,255	3,668,988
Total liabilities	7,067,579	7,236,609
Stockholders' equity:		

Series B Convertible preferred stock, stated value $1,000 per share, 8,000 shares authorized as of June 30, 2021 and December 31, 2020; 0 and 4,361 shares issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	-	3,797,705
Common stock par value $0.0001 per share, 500,000,000 shares authorized as of June 30, 2021 and December 31, 2020; 214,627,522 and 200,113,431 issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	21,462	20,010
Additional paid-in capital	180,929,263	167,192,003
Accumulated deficit	(118,098,218)	(107,507,193)
Accumulated other comprehensive income	51,243	228,172
Total stockholders' equity	62,903,750	63,730,697
Total liabilities and stockholders' equity	$ 69,971,329	$ 70,967,306

The accompanying notes are an integral part of these condensed consolidated financial statements

Matinas BioPharma Holdings, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
Unaudited

	Three Months Ended June 30, 2021	Three Months Ended June 30, 2020	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Revenue:				
Research and development	$ -	$ -	$ 33,333	$ -
Costs and expenses:				
Research and development	2,480,764	3,410,237	5,722,196	7,497,120
General and administrative	2,308,926	2,356,310	5,453,936	4,615,941
Total costs and expenses	4,789,690	5,766,547	11,176,132	12,113,061
Loss from operations	(4,789,690)	(5,766,547)	(11,142,799)	(12,113,061)
Sale of New Jersey net operating loss & tax credits	-	-	1,328,470	1,073,289
Other income, net	(1,415)	156,000	66,904	383,327
Net loss	$ (4,791,105)	$ (5,610,547)	$ (9,747,425)	$ (10,656,445)
Preferred stock series B accumulated dividends	(184,899)	(177,092)	(395,799)	(347,792)
Net loss attributable to common shareholders	$ (4,976,004)	$ (5,787,639)	$ (10,143,224)	$ (11,004,237)
Net loss available for common shareholders per share - basic and diluted	$ (0.02)	$ (0.03)	$ (0.05)	$ (0.06)
Weighted average common shares outstanding - basic and diluted	205,215,259	197,601,500	204,547,251	194,636,326
Other comprehensive (loss)/income, net of tax				
Net unrealized (loss)/gain on securities available-for-sale	(85,163)	(41,954)	(176,929)	481,303
Reclassifications to net loss	-	(2,708)	-	(2,719)
Other comprehensive (loss)/income, net of tax	(85,163)	(44,662)	(176,929)	478,584
Comprehensive loss attributable to shareholders	$ (4,876,268)	$ (5,655,209)	$ (9,924,354)	$ (10,177,861)

The accompanying notes are an integral part of these condensed consolidated financial statements

Matinas BioPharma Holdings, Inc.
Condensed Consolidated Statements of Stockholders' Equity
Unaudited

	Redeemable Convertible Preferred Stock B		Common Stock		Additional Paid - in	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Income (loss)	Equity
Balance, December 31, 2020	4,361	$ 3,797,705	200,113,431	$ 20,010	$ 167,192,003	$ (107,507,193)	$ 228,172	$ 63,730,697
Stock-based compensation	-	-	-	-	2,100,402	-	-	2,100,402
Issuance of common stock as compensation for services	-	-	17,804	2	15,874	-	-	15,876
Issuance of common stock in exchange for preferred stock	(4,361)	(3,797,705)	8,722,000	873	3,796,832	-	-	-
Issuance of common stock in public offering, net of stock issuance costs ($172,592)	-	-	3,023,147	302	5,580,169	-	-	5,580,471
Issuance of common stock from the exercise of Common Stock Options	-	-	1,062,883	106	1,400,552	-	-	1,400,658
Issuance of common stock from the exercise of Warrants	-	-	1,057	-	-	-	-	-
Stock dividend	-	-	1,687,200	169	843,431	(843,600)	-	-
Other comprehensive loss	-	-	-	-	-	-	(176,929)	(176,929)
Net loss	-	-	-	-	-	(9,747,425)	-	(9,747,425)
Balance, June 30, 2021	-	$ -	214,627,522	$ 21,462	$ 180,929,263	$ (118,098,218)	$ 51,243	$ 62,903,750

	Redeemable Convertible Preferred Stock B		Common Stock		Additional Paid - in	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Income (loss)	Equity
Balance, March 31, 2021	4,218	$ 3,673,176	204,283,972	$ 20,427	$ 175,189,608	$ (112,463,513)	$ 136,406	$ 66,556,104
Stock-based compensation	-	-	-	-	1,027,345	-	-	1,027,345
Issuance of common stock as compensation for services	-	-	10,244	1	7,937	-	-	7,938
Issuance of common stock in exchange for preferred stock	(4,218)	(3,673,176)	8,436,000	844	3,672,332	-	-	-
Issuance of common stock from the exercise of Common Stock Options	-	-	210,106	21	188,610	-	-	188,631
Stock dividend	-	-	1,687,200	169	843,431	(843,600)	-	-
Other comprehensive loss	-	-	-	-	-	-	(85,163)	(85,163)
Net loss	-	-	-	-	-	(4,791,105)	-	(4,791,105)
Balance, June 30, 2021	-	$ -	214,627,522	$ 21,462	$ 180,929,263	$ (118,098,218)	$ 51,243	$ 62,903,750

	Redeemable Convertible Preferred Stock B		Common Stock		Additional Paid - in	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	(Loss) Income	Equity
Balance, December 31, 2019	4,577	$ 3,985,805	163,156,984	$ 16,315	$ 113,427,897	$ (84,377,555)	$ (880)	$ 33,051,582
Stock-based compensation	-	-	-	-	2,218,530	-	-	2,218,530
Issuance of common stock as compensation for services	-	-	246,987	25	188,104	-	-	188,129
Issuance of common stock in exchange for preferred stock	(25)	(21,771)	50,000	5	21,766	-	-	-
Issuance of common stock in public offering, net of stock issuance costs ($3,298,790)	-	-	32,260,000	3,226	46,700,984	-	-	46,704,210
Issuance of common stock from the exercise of Common Stock Options	-	-	56,517	6	42,494	-	-	42,500
Issuance of common stock from the exercise of Warrants	-	-	1,737,389	172	797,409	-	-	797,581
Stock dividend	-	-	1,365,600	137	682,663	(682,800)	-	-
Other comprehensive income	-	-	-	-	-	-	478,584	478,584
Net loss	-	-	-	-	-	(10,656,445)	-	(10,656,445)
Balance, June 30, 2020	4,552	$ 3,964,034	198,873,477	$ 19,886	$ 164,079,847	$ (95,716,800)	$ 477,704	$ 72,824,671

	Redeemable Convertible Preferred Stock B		Common Stock		Additional Paid - in	Accumulated	Accumulated Other Comprehensive	Total Stockholders'
	Shares	Amount	Shares	Amount	Capital	Deficit	Income (loss)	Equity
Balance, March 31, 2020	4,552	$ 3,964,034	197,202,938	$ 19,719	$ 162,520,461	$ (89,423,453)	$ 522,366	$ 77,603,127
Stock-based compensation	-	-	-	-	850,879	-	-	850,879
Issuance of common stock as compensation for services	-	-	20,537	2	15,872	-	-	15,874
Stock issuance cost	-	-	-	-	10,000	-	-	10,000
Issuance of common stock from the exercise of Warrants	-	-	284,402	28	(28)	-	-	-
Stock dividend	-	-	1,365,600	137	682,663	(682,800)	-	-
Other comprehensive loss	-	-	-	-	-	-	(44,662)	(44,662)
Net loss	-	-	-	-	-	(5,610,547)	-	(5,610,547)
Balance, June 30, 2020	4,552	$ 3,964,034	198,873,477	$ 19,886	$ 164,079,847	$ (95,716,800)	$ 477,704	$ 72,824,671

The accompanying notes are an integral part of these condensed consolidated financial statements

Matinas BioPharma Holdings, Inc.
Condensed Consolidated Statements of Cash Flow
Unaudited

	Six Months Ended June 30, 2021	Six Months Ended June 30, 2020
Cash flows from operating activities:		
Net loss	$ (9,747,425)	$ (10,656,445)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	117,202	115,433
Stock based compensation expense	2,156,941	2,391,694
Amortization of operating lease right-of-use assets	242,485	237,909
Amortization of finance lease right-of-use assets	20,656	41,678
Amortization of bond discount	108,562	-
Changes in operating assets and liabilities:		
Operating lease liabilities	(220,822)	(200,762)
Prepaid expenses and other current assets	1,738,706	861,530
Accounts payable	100,520	(184,733)
Accrued expenses and other liabilities	(32,593)	(439,630)
Net cash used in operating activities	(5,515,768)	(7,833,326)
Cash flows from investing activities:		
Purchase of marketable securities	(7,129,348)	(67,670,491)
Proceeds from sales of marketable securities	23,600,000	20,700,000
Purchases of leasehold improvements and equipment	-	(5,749)
Net cash provided by/(used in) investing activities	16,470,652	(46,976,240)

Cash flows from financing activities:				
Net proceeds from public offering of common stock		5,580,471		46,639,210
Proceeds from exercise of warrants		-		797,581
Proceeds from exercise of options		1,400,658		42,500
Payments of capital lease liability - principal		(16,135)		(36,235)
Net cash provided by financing activities		6,964,994		47,443,056
Net increase/(decrease) in cash, cash equivalents and restricted cash		17,919,878		(7,366,510)
Cash, cash equivalents and restricted cash at beginning of period		12,768,481		22,756,438
Cash, cash equivalents and restricted cash at end of period	$	30,688,359	$	15,389,928
Supplemental non-cash financing and investing activities:				
Unrealized (loss)/gains on securities for sale	$	(176,929)	$	478,584
Preferred stock conversion into common stock - Series B	$	3,797,705	$	21,771
Unearned restricted stock grants	$	27,858	$	73,490
Cashless exercise of warrants	$	-	$	441,189
Stock dividends issued	$	843,600	$	682,800
Deferred financing costs included in accrued expenses and other liabilities	$	-	$	65,000

The accompanying notes are an integral part of these condensed consolidated financial statements

MATINAS BIOPHARMA HOLDINGS, INC.
Notes to Unaudited Condensed Consolidated Financial Statements
(Tabular dollars and shares in thousands, except per share data)

Note 1 – Description of Business

Matinas BioPharma Holdings Inc. (“Holdings”) is a Delaware corporation formed in 2013. Holdings is the parent company of Matinas BioPharma, Inc. (“BioPharma”), and Matinas BioPharma Nanotechnologies, Inc. (“Nanotechnologies,” formerly known as Aquarius Biotechnologies, Inc.), its operating subsidiaries (“Nanotechnologies”, and together with “Holdings” and “BioPharma”, “the Company” or “we” or “our” or “us”). The Company is a clinical-stage biopharmaceutical company with a focus on identifying and developing novel pharmaceutical products.

Note 2 – Liquidity and Plan of Operations

The Company has experienced net losses and negative cash flows from operations each period since its inception. Through June 30, 2021, the Company had an accumulated deficit of approximately $118.1 million. The Company’s net loss was approximately $9.7 million and $10.7 million for the six-month periods ended June 30, 2021 and 2020, respectively.

The Company has been engaged in developing LYPDISO (formerly MAT9001) as well as its lipid nanocrystal (“LNC”) platform delivery technology and a pipeline of associated product candidates, including MAT2203 and MAT2501, since 2011. To date, the Company has not obtained regulatory approval for any of its product candidates nor generated any revenue from product sales, and the Company expects to incur significant expenses to complete development of its product candidates. The Company may never be able to obtain regulatory approval for the marketing of any of its product candidates in any indication in the United States or internationally and there can be no assurance that the Company will generate revenues or ever achieve profitability.

Assuming the Company obtains Food and Drug Administration (“FDA”) approval for one or more of its product candidates, the Company expects that its expenses will continue to increase once the Company reaches commercial launch. The Company also expects that its research and development expenses will continue to increase as it moves forward with additional clinical studies for its current product candidates and development of additional product candidates. As a result, the Company expects to continue to incur substantial losses for the foreseeable future, and that these losses will be increasing.

To continue to fund operations, during January 2021, the Company sold 3,023,147 shares of common stock under its At-The-Market Sales Agreement with BTIG, LLC, generating net proceeds of approximately $5.6 million (See Note 11 – Stockholders’ Equity).

As of June 30, 2021, the Company had cash and cash equivalents of approximately $30.4 million, marketable securities of approximately $29.5 million and restricted cash of approximately $0.3 million. The Company believes the cash and cash equivalents and marketable securities on hand are sufficient to fund planned operations into 2024.

Note 3 – Summary of Significant Accounting Policies

Basis of presentation and principles of consolidation

The accompanying unaudited condensed consolidated financial statements include the consolidated accounts of Holdings and its wholly owned subsidiaries, BioPharma, and Nanotechnologies. The Company has prepared its condensed consolidated financial statements following the requirements of the SEC for interim reporting. The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP”) and reflect the operations of the Company and its wholly owned subsidiaries. All intercompany transactions have been eliminated in consolidation.

The Company’s significant accounting policies are described in Note 3 within the Company’s Notes to Consolidated Financial Statements included in the Company’s 2020 Form 10-K.

COVID-19

In March 2020, the World Health Organization declared COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, and any related adverse public health developments, has adversely affected workforces, economies, and financial markets globally, and has and may continue to cause economic downturns.

The Company has been actively monitoring the impact of COVID-19. The financial results for the three and six months ended June 30, 2021 were not significantly impacted by COVID-19. However, the Company cannot predict the impact of the progression of COVID-19 on future results or the Company’s ability to raise capital due to a variety of factors, including but not limited to the continued good health of Company employees, the ability of suppliers to continue to operate and deliver, the ability of the Company to maintain operations, any further government and/or public actions taken in response to the pandemic and ultimately the length of the pandemic.

Note 4 – Cash, Cash Equivalents, Restricted Cash and Marketable Securities

The Company considers all highly liquid financial instruments with original maturities of three months or less when purchased to be cash and cash equivalents and all investments with maturities of greater than three months from date of purchase are classified as marketable securities. Cash and cash equivalents consisted of cash in bank checking and savings accounts, money market funds and short-term U.S. treasury bonds that mature within three months of settlement date.

Cash, Cash Equivalents and Restricted Cash

The Company presents restricted cash with cash and cash equivalents in the Consolidated Statements of Cash Flows. Restricted cash represents funds the Company is required to set aside to cover building operating leases and other purposes.

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported in the Condensed Consolidated Balance Sheets to the total of the amounts in the Condensed Consolidated Statements of Cash Flows as of June 30, 2021, December 31, 2020, June 30, 2020 and December 31, 2019:

	June 30, 2021	December 31, 2020	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 30,352	$ 12,432	$ 14,904	$ 22,170
Restricted cash included in current/long term assets	336	336	486	586
Cash, cash equivalents and restricted cash in the statement of cash flows	$ 30,688	$ 12,768	$ 15,390	$ 22,756

Marketable Securities

The Company has classified its investments in marketable securities as available-for-sale and as a current asset. The Company's investments in marketable securities are carried at fair value, with unrealized gains and losses included as a separate component of stockholders' equity. Unrealized losses and gains are classified as other comprehensive (loss)/income and costs are determined on a specific identification basis. Realized gains and losses from our marketable securities are recorded in other income, net. For the three and six months ended June 30, 2021, the Company recorded unrealized losses of approximately $85 thousand and $177 thousand, respectively. For the three and six months ended June 30, 2020, the Company recorded unrealized loss of approximately $42 thousand and unrealized gains of approximately $481 thousand, respectively. As of June 30, 2021 and December 31, 2020, the Company had net accumulated unrealized gains of approximately $51 thousand and approximately $228 thousand, respectively.

The following tables summarizes the Company's marketable securities as of June 30, 2021:

	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Fair Value
U.S. Treasury Bonds	$ 10,453	$ 29	$ -	$ 10,482
U.S. Government Notes	10,624	31	(1)	10,654
Corporate Debt Securities	7,087	-	(9)	7,078
State and Municipal Bonds	1,275	1	-	1,276
Total marketable securities	$ 29,439	$ 61	$ (10)	$ 29,490

Maturities of debt securities classified as available-for-sale were as follows at June 30, 2021:

	Fair Value	Accrued Interest	Net Carrying Amount
Due within one year	$ 21,851	$ 122	$ 21,973
Due after one year through five years	7,639	25	7,664
	$ 29,490	$ 147	$ 29,637

The following tables summarizes the Company's marketable securities for the year ended December 31, 2020 consisted of the following:

	Amortized Cost	Unrealized Gain	Unrealized (Loss)	Fair Value
U.S. Treasury Bonds	$ 18,293	$ 136	$ -	$ 18,429
U.S. Government Notes	22,148	82	-	22,230
Corporate Debt Securities	4,303	3	-	4,306
State and Municipal Bonds	1,275	7	-	1,282
Total marketable securities	$ 46,019	$ 228	$ -	$ 46,247

Maturities of debt securities classified as available-for-sale were as follows at December 31, 2020:

	Fair Value	Accrued Interest	Net Carrying Amount
Due within one year	$ 31,438	$ 164	$ 31,602
Due after one year through five years	14,809	36	14,845
	$ 46,247	$ 200	$ 46,447

Note 5 - Fair Value Measurements

The Company uses the fair value hierarchy to measure the value of its financial instruments. The fair value hierarchy is based on inputs to valuation techniques that are used to measure fair value that are either observable or unobservable. Observable inputs reflect assumptions market participants would use in pricing an asset or liability based on market data obtained from independent sources, while unobservable inputs reflect a reporting entity's pricing based upon its own market assumptions. The basis for fair value measurements for each level within the hierarchy is described below:

- Level 1 – Quoted prices for identical assets or liabilities in active markets.

- Level 2 – Quoted prices for identical or similar assets and liabilities in markets that are not active; or other model-derived valuations whose inputs are directly or indirectly observable or whose significant value drivers are observable.

- Level 3 – Valuations derived from valuation techniques in which one or more significant inputs to the valuation model are unobservable and for which assumptions are used based on management estimates.

The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible as well as considers counterparty credit risk in its assessment of fair value.

The carrying amounts of certain cash and cash equivalents, current portion of restricted cash, marketable securities, prepaid expenses and other current assets, accounts payable, current portion of lease liability and accrued expenses approximate fair value due to the short-term nature of these instruments.

A summary of the assets and liabilities carried at fair value in accordance with the hierarchy defined above is as follows:

		Fair Value Hierarchy		
June 30, 2021	**Total**	**(Level 1)**	**(Level 2)**	**(Level 3)**
Assets				
Marketable Securities:				
U.S. Treasury Bonds	$ 10,482	$ 10,482	$ -	$ -
U.S. Government Notes	10,654	-	10,654	-
Corporate Debt Securities	7,078	-	7,078	-
State and Municipal Bonds	1,276	-	1,276	-
Total	$ 29,490	$ 10,482	$ 19,008	$ -

		Fair Value Hierarchy		
December 31, 2020	**Total**	**(Level 1)**	**(Level 2)**	**(Level 3)**
Assets				
Marketable Securities:				
U.S. Treasury Bonds	$ 18,429	$ 18,429	$ -	$ -
U.S. Government Notes	22,230	-	22,230	-
Corporate Debt Securities	4,306	-	4,306	-
State and Municipal Bonds	1,282	-	1,282	-
Total	$ 46,247	$ 18,429	$ 27,818	$ -

U.S. treasury bonds are classified within Level 1 of the fair value hierarchy because they are valued using quoted market prices for identical assets in active markets. Marketable securities consisting of U.S. government notes, corporate debt securities and state and municipal bonds are classified as Level 2 and are valued using quoted market prices in markets that are not active.

Note 6 – Leasehold Improvements and Equipment

Leasehold improvements and equipment, summarized by major category, consist of the following as of June 30, 2021 and December 31, 2020:

	June 30, 2021	**December 31, 2020**
Lab equipment	$ 1,443	$ 1,443
Leasehold improvements	878	878
Total	2,321	2,321
Less: accumulated depreciation and amortization	914	797
Leasehold improvements and equipment, net	$ 1,407	$ 1,524

Depreciation and amortization expense for the three and six months ended June 30, 2021 was approximately $59 thousand and $117 thousand, respectively, and for the three and six months ended June 30, 2020 was approximately $58 thousand and $115 thousand, respectively.

Note 7 – Accrued Expenses and Other Liabilities

Accrued Expenses, summarized by major category, as of June 30, 2021 and December 31, 2020 consist of the following:

	June 30, 2021	**December 31, 2020**
Payroll and incentives	$ 619	$ 1,094
General and administrative expenses	249	280
Research and development expenses	1,055	778
Deferred revenue and other deferred liabilities *	840	643
Total	$ 2,763	$ 2,795

* At June 30, 2021, there was an approximately $807 thousand deferred liability under the Cystic Fibrosis Foundation ("CFF") agreement and approximately $33 thousand in deferred revenue related to the Genentech Agreement. At December 31, 2020, there was an approximately $577 thousand deferred liability under the CFF Agreement and approximately $67 thousand in deferred revenue related to the Genentech Agreement. (See Note 9 – Collaboration Agreements, Licenses and Other Research and Development Agreements).

Note 8 – Leases

The Company has various lease agreements with terms up to10 years, including leases of office space, a laboratory and manufacturing facility, and various equipment.Some leases include purchase, termination or extension options for one or more years. These options are included in the lease term when it is reasonably certain that the option will be exercised.

Operating lease obligations

On November 1, 2013, the Company entered into a 7-year lease for office space in Bedminster, New Jersey which commenced in June 2014 at a monthly rent of approximately $13,000, increasing to approximately $14,000 per month toward the end of the term.

On September 23, 2020, the Company entered into an amendment to the Bedminster lease. Pursuant to the amendment, the Company leased an additional 3,034 rentable square feet ("Expansion Premises"). The amendment became effective upon delivery to the Company of the Expansion Premises, which occurred on August 1, 2021, and extends the term of the lease for seven years from such date. There is no renewal option, no security deposit, no residual value or significant restrictions or covenants other than those customary in such arrangements. Except as expressly provided, all other terms, covenants, conditions and agreements as set forth in the lease will remain unchanged and in full force and effect. The total lease commitment over the seven-year extension period is approximately $1.8 million.

The assets and liabilities from operating and finance leases are recognized at the lease commencement date based on the present value of remaining lease payments over the lease term using the Company's incremental borrowing rates or implicit rates, when readily determinable. Short-term leases, which have an initial term of 12 months or less, are not recorded on the balance sheet.

The Company's operating leases did not provide an implicit rate that can readily be determined. Therefore, the Company uses a discount rate based on its incremental borrowing rate, which is determined using the average of borrowing rates explicitly stated in the Company's finance leases.

The Company incurred lease expense for its operating leases of approximately $204 thousand and $407 thousand for the three and six months ended June 30, 2021, respectively, and approximately $203 thousand and $407 thousand for the three and six months ended June 30, 2020. The Company incurred amortization expense on its operating lease right-of-use assets of approximately $116 thousand and $243 thousand for the three and six months ended June 30, 2021, respectively, and approximately $120 thousand and $238 thousand for the three and six months ended June 30, 2020, respectively.

The Company incurred interest expense on its finance leases of approximately $1 thousand and $2 thousand for the three and six months ended June 30, 2021, respectively, and approximately $2 thousand and $4 thousand for the three and six months ended June 30, 2020, respectively. The Company incurred amortization expense on its finance lease right-of-use assets of approximately $9 thousand and $21 thousand for the three and six months ended June 30, 2021, respectively, and approximately $19 thousand and $42 thousand for the three and six months ended June 30, 2020, respectively.

The following table presents information about the amount and timing of liabilities arising from the Company's operating leases, excluding the Expansion Premises which the Company had not taken control of as of June 30, 2021, and finance leases as of June 30, 2021:

Maturity of Lease Liabilities	Operating Lease Liabilities	Finance Lease Liabilities
Remainder of 2021	$ 314	$ 17
2022	645	19
2023	677	2
2024	710	-
2025	745	-
Thereafter	1,458	-
Total undiscounted operating lease payments	$ 4,549	$ 38
Less: Imputed interest	1,074	-
Present value of operating lease liabilities	$ 3,475	$ 38
Weighted average remaining lease term in years	6.3	1.3
Weighted average discount rate	8.4%	8.0%

The following table presents information about the amount and timing of liabilities arising from the Company's operating leases, excluding the Expansion Premises which the Company had not taken control of as of December 31, 2020, and finance leases as of December 31, 2020:

Maturity of Lease Liabilities	Operating Lease Liabilities	Finance Lease Liabilities
2021	$ 685	$ 34
2022	645	19
2023	677	2
2024	710	-
2025	745	-
Thereafter	1,458	-
Total undiscounted operating lease payments	$ 4,920	$ 55
Less: Imputed interest	1,224	-
Present value of operating lease liabilities	$ 3,696	$ 55
Weighted average remaining lease term in years	6.7	1.7
Weighted average discount rate	8.4%	8.1%

Note 9 - Collaboration Agreements, Licenses and Other Research and Development Agreements

Cystic Fibrosis Foundation Therapeutics Development Award

On November 19, 2020, the Company entered into an award agreement (the "CFF Agreement") with the CFF, pursuant to which it received a Therapeutics Development Award of up to $4.2 million (the "Award") (of which $484,249 was received during 2020) to support the preclinical development (the "Development Program") of the Company's MAT2501 product candidate, a lipid nanocrystal oral formulation of the broad-spectrum aminoglycoside amikacin, for the treatment of pulmonary non-tubercular mycobacteria infections and other pulmonary diseases.

During the three and six months ended June 30, 2021, the Company recognized approximately $547 thousand and $971 thousand, respectively, as credits to research and development expenses related to the Award. At June 30, 2021, the remaining deferred liability balance is approximately $ 807 thousand (See Note 7 – Accrued Expenses and Other Liabilities). At December 31, 2020, a receivable of $650 thousand related to the Award was included in prepaid expenses and other current assets and a related deferred liability balance of $577 thousand was included in accrued expense and other current liabilities. The remainder of the Award will be paid to the Company incrementally in installments upon the achievement of certain milestones related to the development program as set forth in the CFF Agreement.

Genentech Feasibility Study Agreement

On December 12, 2019, the Company entered into a feasibility study agreement (the "Genentech Agreement") with Genentech, Inc. ("Genentech"). This feasibility study agreement involves the development of oral formulations using the Company's LNC platform delivery technology, which enables the development of a wide range of difficult-to-deliver molecules. Under the terms of the Genentech Agreement, Genentech shall pay the Company a total of $100 thousand for developing oral formulations of three molecules, or approximately $33 thousand per molecule, which will be recognized upon the Company fulfilling its obligations for each molecule under the Genentech Agreement. On December 13, 2019, per Genentech's request, the Company billed Genentech for the total $100 thousand and recorded the upfront consideration as deferred revenue, which is recorded in accrued expenses on the consolidated balance sheets, and will recognize it over the term of the contract performance obligation period. During the year ended December 31, 2020, the Company fulfilled its obligations for the first of three molecules. During the six months ended June 30, 2021, the Company fulfilled its obligations for the second of three molecules and recognized approximately $33 thousand of Genentech revenue. During the three months ended June 30, 2021, the Company did not fulfill any of its obligations and did not recognize any Genentech revenue.

Note 10 – Income Taxes

Sale of net operating losses (NOLs) & tax credits

The Company recognized approximately $1.3 million and approximately $1.1 million for the six months ended June 30, 2021 and 2020 in connection with the sale of certain State of New Jersey Net Operating Losses ("NOL") and Research and Development ("R&D") tax credits to third parties under the New Jersey Technology Business Tax Certificate Transfer Program. During the three months ended June 30, 2021 and 2020, the Company did not sell any NOL and R&D tax credits.

Note 11 – Stockholders' Equity

Common Stock

For the six months ended June 30, 2021, the Company sold 3,023,147 shares of its common stock under its At-The-Market Sales Agreement with BTIG, LLC, at an average price of $1.90, generating gross proceeds of approximately $5.8 million and net proceeds of approximately $5.6 million.

On January 14, 2020, the Company closed an underwritten public offering of 32.3 million shares of its common stock at a purchase price of $1.55 per share. The Company generated gross proceeds of approximately $50.0 million and net proceeds of approximately $46.6 million, after deducting underwriting discounts and commissions and other estimated offering expenses.

Preferred Stock

In connection with a public offering of Series B Preferred Stock, on June 19, 2018, the Company filed the Series B Certificate of Designation with the Secretary of the State of Delaware to designate the preferences, rights and limitations of the Series B Preferred Stock. Pursuant to the Series B Certificate of Designation, the Company designated 8,000 shares of the Company's previously undesignated preferred shares as Series B Preferred Stock. On June 19, 2021, each share of Series B Preferred Stock was automatically converted into 2,000 shares of the Company's common stock resulting in the issuance of 8,436,000 shares of common stock. As of June 30, 2021 and December 31, 2020 there were 0 and 4,361 shares of Series B Preferred stock outstanding, respectively.

Dividends. Subject to certain ownership limitations, holders of the Series B Preferred Stock received dividends paid in the Company's common stock as follows: (i) a number of shares of common stock equal to 10% of the shares of common stock underlying the Series B Preferred Stock then held by such holder on June 19, 2019, (ii) a number of shares of common stock equal to 15% of the shares of common stock underlying the Series B Preferred Stock then held by such holder on June 19, 2020 and (iii) a number of shares of common stock equal to 20% of the shares of common stock underlying the Series B Preferred Stock then held by such holder on June 19, 2021. Based on an accounting of the holders of record of Series B Preferred Stock on June 19, 2021 and 2020, the Company made dividend payments totaling 1,687,200 and 1,365,600 shares of common stock, respectively.

Warrants

The Company has issued two types of warrants: (i) investor warrants and (ii) placement agent warrants. All warrants are exercisable immediately upon issuance and have a five-year term. The warrants may be exercised at any time in whole or in part upon payment of the applicable exercise price until expiration. No fractional shares will be issued upon the exercise of the warrants. The exercise price and the number of shares purchasable upon the exercise of the investor warrants are subject to adjustment upon the occurrence of certain events, which include stock dividends, stock splits, combinations and reclassifications of the Company's capital stock or other similar changes to the equity structure of the Company.

As of June 30, 2021, the Company had outstanding warrants to purchase an aggregate of 1,325,810 shares of common stock at exercise prices ranging from $0.50 to $0.75 per share. A summary of warrants outstanding as of June 30, 2021 and December 31, 2020 is presented below, all of which are fully vested:

	Shares
Outstanding at December 31, 2019	5,397
Issued	-
Exercised	(2,576)
Tendered	-
Expired	(1,493)
Outstanding at December 31, 2020	1,328*
Issued	-
Exercised	(2)**
Tendered	-
Expired	-
Outstanding at June 30, 2021	1,326***

* Weighted average exercise price for outstanding warrants is $0.55.
** Converted into approximately 1 thousand shares of commons stock.
*** Weighted average exercise price for outstanding warrants is $0.54.

Basic and diluted net loss per common share

During the three and six months ended June 30, 2021 and 2020, diluted earnings per common share is the same as basic earnings per common share because, as the Company incurred a net loss during each period presented, the potentially dilutive securities from the assumed exercise of all outstanding stock options, warrants and conversion of preferred stock, would have an anti-dilutive effect. The following outstanding shares of potentially dilutive securities were excluded from the computation of diluted net loss per share attributable to common shareholders because including them would have been anti-dilutive for the three and six months ended June 30, 2021 and 2020:

	As of June 30,	
	2021	2020
Stock options	22,162	22,317
Preferred Stock and accrued dividend upon conversion	-	9,104
Warrants	1,326	1,328
Total	23,488	32,749

Note 12 – Accumulated Other Comprehensive Income

The following table summarizes the changes in accumulated other comprehensive income by components during the three months ended June 30, 2021 and 2020:

	Net Unrealized (Losses)/Gains on Available-for-Sale Securities	Accumulated Other Comprehensive Income
Balance, December 31, 2020	$ 228	$ 228
Net unrealized loss on securities available-for-sale	(177)	(177)
Net current period other comprehensive loss	(177)	(177)
Balance, June 30, 2021	$ 51	$ 51
Balance, December 31, 2019	$ (1)	$ (1)
Net unrealized gain on securities available-for-sale	482	482
Reclassifications to net loss	(3)	(3)
Net current period other comprehensive income	479	479
Balance, June 30, 2020	$ 478	$ 478

All components of accumulated other comprehensive income are net of tax.

Note 13 – Stock-based Compensation

The Company's Amended and Restated 2013 Equity Compensation Plan (the "Plan") provides for the granting of incentive stock options, nonqualified stock options, restricted stock units, performance units, and stock purchase rights. There were no significant modifications to the Plan during the six months ended June 30, 2021 and 2020.

With the approval of the Board of Directors and a majority of shareholders, effective May 8, 2014, the Plan was amended and restated to provide for an automatic increase in the number of shares of common stock available for issuance under the Plan each January, commencing January 1, 2015, in an amount up to four percent (4%) of the total number of shares of common stock outstanding on the preceding December 31st.

The following table contains information about the Company's stock plan at June 30, 2021:

	Awards Reserved for Issuance	Awards Issued & Exercised	Awards Available for Grant
2013 Equity Compensation Plan	36,952*	27,127**	9,825

* Increased by 8,005 thousand on January 1, 2021 representing 4% of the total number of shares of common stock outstanding on December 31, 2020.
** Includes both restricted stock grants and option grants

The Company recognized stock-based compensation expense (options and restricted share grants) in its condensed consolidated statements of operations as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Research and Development	$ 460	$ 358	$ 945	$ 1,180
General and Administrative	596	587	1,212	1,212
Total	$ 1,056	$ 945	$ 2,157	$ 2,392

As of June 30, 2021, total compensation costs related to unvested awards not yet recognized was approximately $9.4 million and the weighted-average periods over which the awards are expected to be recognized was 2.8 years.

Stock Options

The following table summarizes the activity for Company' stock options for the three months ended June 30, 2021:

	Stock Options
Outstanding at January 1, 2021	22,551
Granted	4,697
Exercised	(1,063)
Forfeited	(2,681)
Cancelled	-
Expired	(1,341)
Outstanding at June 30, 2021	22,163

Restricted Stock Awards

During the six months ended June 30, 2021 and 2020, the Company granted restricted stock awards for18 thousand and 247 thousand shares of common stock, respectively. These awards are typically granted to members of the Board of Directors as payment in lieu of cash fees or as payment to a vendor pursuant to a consulting agreement. The Company values restricted stock awards at the fair market value on the date of grant. The Company recorded the value of these restricted awards as general and administrative expense of approximately $28 thousand and $57 thousand for the three and six months ended June 30, 2021, respectively, and approximately $93 thousand and $173 thousand for the three and six months ended June 30, 2020, respectively, in the Condensed Consolidated Statement of Operations. As of June 30, 2021, there was approximately $ 28 thousand of total unrecognized compensation costs related to 100,000 non-vested restricted stock grants which are expected to be recognized over a weighted-average period of 0.3 years.

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis of our financial condition and results of operations should be read together with our financial statements and the related notes and the other financial information included elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors, including those discussed below and elsewhere in this Quarterly Report on Form 10-Q, in our Annual Report on Form 10-K for the year ended December 31, 2020 and in other reports we file with the Securities and Exchange Commission, particularly those under "Risk Factors." Dollars in tabular format are presented in thousands, except per share data, or otherwise indicated.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report on Form 10-Q contains forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 under Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include statements with respect to our beliefs, plans, objectives, goals, expectations, anticipations, assumptions, estimates, intentions and future performance, and involve known and unknown risks, uncertainties and other factors, which may be beyond our control, together with any statements related in any way to the COVID-19 pandemic including its impact on the Company, and which may cause our actual results, performance or achievements to be materially different from future results, performance or achievements expressed or implied by such forward-looking statements. In addition, the extent to which the COVID-19 pandemic will continue to impact our business and financial results going forward will be dependent on future developments such as the length and severity of the crisis, the potential resurgence of the crisis, future government actions in response to the crisis and the overall impact of the COVID-19 pandemic on the global economy and capital markets, among many other factors, all of which remain highly uncertain and unpredictable. All statements other than statements of historical fact are statements that could be forward-looking statements. You can identify these forward-looking statements through our use of words such as "may," "can," "anticipate," "assume," "should," "indicate," "would," "believe," "contemplate," "expect," "seek," "estimate," "continue," "plan," "point to," "project," "predict," "could," "intend," "target," "potential" and other similar words and expressions of the future.

There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statement made by us. These factors include, but are not limited to:

- our ability to raise additional capital to fund our operations and to develop our product candidates;
- our anticipated timing for preclinical development, regulatory submissions, commencement and completion of clinical trials and product approvals;
- our history of operating losses in each year since inception and the expectation that we will continue to incur operating losses for the foreseeable future;
- our dependence on product candidates, including LYPDISO ™ (formerly MAT9001), MAT2203 and MAT2501, which are still in an early development stage;
- our ability to successfully partner for the development of LYPDISO;
- our reliance on our proprietary lipid nanocrystal (LNC) platform delivery technology, which is licensed to us by Rutgers University;
- our ability to manufacture GMP batches of our product candidates, including LYPDISO, MAT2203 and MAT2501, which are required for preclinical and clinical trials and, subsequently, if regulatory approval is obtained for any of our products, our ability to manufacture commercial quantities;
- our ability to complete required clinical trials for our lead product candidate and other product candidates and obtain approval from the FDA or other regulatory agents in different jurisdictions;

- our dependence on third parties, including third parties to manufacture our intermediates and final product formulations and third-party contract research organizations to conduct our clinical trials;
- our ability to maintain or protect the validity of our patents and other intellectual property;
- our ability to retain and recruit key personnel;
- our ability to internally develop new inventions and intellectual property;
- interpretations of current laws and the passages of future laws;
- our lack of a sales and marketing organization and our ability to commercialize products, if we obtain regulatory approval, whether alone or through potential future collaborators;
- our ability to successfully commercialize, and our expectations regarding future therapeutic and commercial potential with respect to, our product candidates;
- the accuracy of our estimates regarding expenses, ongoing losses, future revenue, capital requirements and our needs for or ability to obtain additional financing; and
- developments and projections relating to our competitors or our industry;
- our operations, business and financial results have been and could continue to be adversely impacted by the current public health pandemic related to COVID-19, and
- the factors listed under the heading "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, elsewhere in this report and other reports that we file with the Securities and Exchange Commission.

All forward-looking statements are expressly qualified in their entirety by this cautionary notice. You are cautioned not to place undue reliance on any forward-looking statements, which speak only as of the date of this report or the date of the document incorporated by reference into this report. We have no obligation, and expressly disclaim any obligation, to update, revise or correct any of the forward- looking statements, whether as a result of new information, future events or otherwise. We have expressed our expectations, beliefs and projections in good faith, and we believe they have a reasonable basis. However, we cannot assure you that our expectations, beliefs or projections will result or be achieved or accomplished.

Overview

We are focused on creating value through improving the intracellular delivery of critical therapeutics through our paradigm-changing lipid nanocrystal (LNC) drug delivery platform and its application to overcome current challenges in safely and effectively delivering small molecules, nucleic acids, gene therapies, proteins/peptides, and vaccines. We are also focused on creating value through finding a partner to continue the development of LYPDISO, our proprietary, next-generation prescription omega-3 drug, which we believe is differentiated from all other prescription omega-3 products and positioned to potentially demonstrate superior cardioprotective effects.

Key elements of our strategy include:

- Advancing our clinical stage assets based on our LNC platform delivery technology and continuing to expand utilization of this promising technology into areas of innovative medicine.

- Delivering efficacy data for MAT2203 in the EnACT study for the treatment of cryptococcal meningitis, which would highlight the safety and efficacy of this promising drug, while highlighting the ability of our LNC platform technology to deliver potent medicines across the blood-brain barrier following oral administration.

- Progressing the development of MAT2501 through extensive preclinical toxicology and efficacy studies in NTM infections and completing a single ascending dose pharmacokinetic study in healthy volunteers later in 2021, all with the financial support of the Cystic Fibrosis Foundation.

- Expanding the application of our LNC platform delivery technology through collaborations with sophisticated and well-resourced biotech and pharmaceutical companies in areas of innovative medicine.

We have incurred losses for each period from our inception. For the six months ended June 30, 2021 and 2020, our net loss was approximately $9.7 million and $10.7 million, respectively. We expect to incur significant expenses and operating losses over the next several years. Accordingly, we will need additional financing to support our continuing operations. We will seek to fund our operations through public or private equity offerings, debt financings, government or other third-party funding, collaborations and licensing arrangements. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would impact our going concern and would have a negative impact on our financial condition and our ability to pursue our business strategy and continue as a going concern. We will need to generate significant revenues to achieve profitability, and we may never do so.

Financial Operations Overview

Revenue

During the six months ended June 30, 2021, we generated contract research revenue of approximately $33 thousand resulting from the feasibility study agreement with Genentech Inc. and no revenue during the six months ended June 30, 2020. Our ability to generate product revenue, which we do not expect to occur until 2023 at the earliest, if ever, will depend heavily on the successful development and eventual commercialization of our early-stage product candidates.

Research and Development Expenses

Research and development expenses consist of costs incurred for the development of product candidates MAT2203, MAT2501, LYPDISO and advancement of our LNC delivery technology platform, which include:

- the cost of conducting pre-clinical work;

- the cost of acquiring, developing and manufacturing pre-clinical and human clinical trial materials;

- costs for consultants and contractors associated with Chemistry and Manufacturing Controls (CMC), pre-clinical and clinical activities and regulatory operations;

- expenses incurred under agreements with contract research organizations, or CROs, including the National Institutes of Health (NIH), that conduct our pre-clinical or clinical trials; and

- employee-related expenses, including salaries and stock-based compensation expense for those employees involved in the research and development process.

The table below summarizes our direct research and development expenses for our product candidates and development platform for the three and six months ended June 30, 2021 and 2020. Our direct research and development expenses consist principally of external costs, such as fees paid to contractors, consultants, analytical laboratories and CROs and/or the NIH, in connection with our development work. We typically use our employee and infrastructure resources for manufacturing clinical trial materials, conducting product analysis, study protocol development and overseeing outside vendors. Included in “Internal Staffing, Overhead and Other” below is the cost of laboratory space, supplies, research and development (R&D) employee costs (including stock-based compensation), travel and medical education.

	Three months ended June 30,		Six months ended June 30,	
	2021	2020	2021	2020
Direct research and development expenses:				
Manufacturing process development	$ 237	$ 305	$ 726	$ 610
Preclinical trials	-	328	2	479
Clinical development	290	1,206	1,068	2,699
Regulatory	43	15	85	34
Internal staffing, overhead and other	1,911	1,556	3,841	3,675
Total research and development	$ 2,481	$ 3,410	$ 5,722	$ 7,497

Research and development activities are central to our business model. We expect our research and development expenses to increase because product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage human trials. In addition, we will look to strategically expand the use of our drug platform technology through additional development work. During 2021, we will be focused on advancing our lead product candidate, MAT2203, to efficacy data in the treatment of cryptococcal meningitis (CM), accelerating the preclinical development of MAT2501 and also expanding application of our LNC platform delivery technology through collaborations with third parties. We have also initiated a process to identify a suitable partner to continue the development of LYPDISO following the announcement of topline date from the ENHANCE-IT study in February 2021.

General and Administrative Expenses

General and administrative expenses consist principally of salaries and related costs for personnel in executive and finance functions. Other general and administrative expenses include facility costs, insurance, investor relations expenses, professional fees for legal, patent review, consulting and accounting/audit services.

We anticipate that our general and administrative expenses during 2021 will remain relatively consistent with the prior year.

Sale of Net Operating Losses (NOLs) & Tax Credits

Income obtained from selling unused net operating losses (NOLs) and unused research tax credits under the New Jersey Technology Business Tax Certificate Program was approximately $1.3 million and $1.1 million for the six months ended June 30, 2021 and 2020, respectively.

Other Income, net

Other income, net is largely comprised of interest income/(expense), dividends and franchise taxes.

Application of Critical Accounting Policies and Accounting Estimates

A critical accounting policy is one that is both important to the portrayal of our financial condition and results of operation and requires management's most difficult, subjective or complex judgments, often as a result of the need to make estimates about the effect of matters that are inherently uncertain.

For a description of our significant accounting policies, refer to "Note 3 – *Summary of Significant Accounting Policies*" in our 2020 Form 10-K. Of these policies, the following are considered critical to an understanding of our Unaudited Condensed Consolidated Financial Statements as they require the application of the most difficult, subjective and complex judgments; (i) Stock-based compensation, (ii) Fair value measurements, (iii) Research and development costs, (iv) Goodwill and other intangible assets, and (v) Basic and diluted net loss per common share.

Current Operating Trends

Our current R&D efforts are focused on advancing our lead LNC product candidates, MAT2203, through clinical development toward an initial indication for the treatment of CM, accelerating preclinical development of MAT2501 with the assistance of the CFF, and expanding application of our LNC platform delivery technology through collaborations with third parties. Our R&D expenses consist of manufacturing work and the cost of active pharmaceutical ingredients and excipients used in such work, fees paid to consultants for work related to clinical trial design and regulatory activities, fees paid to providers for conducting various clinical studies as well as for the analysis of the results of such studies, and for other medical research addressing the potential efficacy and safety of our drugs. We believe that significant investment in product development is a competitive necessity, and we plan to continue these investments in order to be in a position to realize the potential of our product candidates and proprietary technologies.

We expect that all of our R&D expenses in the near-term future will be incurred in support of our current and future preclinical and clinical development programs rather than technology development. These expenditures are subject to numerous uncertainties relating to timing and cost to completion. We test compounds in numerous preclinical studies for safety, toxicology and efficacy. At the appropriate time, subject to the approval of regulatory authorities, we expect to conduct early-stage clinical trials for each drug candidate. We anticipate funding these trials ourselves, and possibly with the assistance of federal grants, contracts or other agreements. As we obtain results from trials, we may elect to discontinue or delay clinical trials for certain products in order to focus our resources on more promising products. Completion of clinical trials may take several years, and the length of time generally varies substantially according to the type, complexity, novelty and intended use of a product candidate.

The commencement and completion of clinical trials for our products may be delayed by many factors, including lack of efficacy during clinical trials, unforeseen safety issues, slower than expected participant recruitment, lack of funding or government delays. In addition, we may encounter regulatory delays or rejections as a result of many factors, including results that do not support the intended safety or efficacy of our product candidates, perceived defects in the design of clinical trials and changes in regulatory policy during the period of product development. As a result of these risks and uncertainties, we are unable to accurately estimate the specific timing and costs of our clinical development programs or the timing of material cash inflows, if any, from our product candidates. Our business, financial condition and results of operations may be materially adversely affected by any delays in, or termination of, our clinical trials or a determination by the FDA that the results of our trials are inadequate to justify regulatory approval, insofar as cash in-flows from the relevant drug or program would be delayed or would not occur.

Results of Operations

Comparison of the three months ended June 30, 2021 to the three months ended June 30, 2020

The following tables summarizes our revenues and operating expenses for the comparative periods presented:

	Three Months Ended June 30,	
	2021	**2020**
Revenues	$ -	$ -
Expenses:		
Research and development	$ 2,481	$ 3,410
General and administrative	2,309	2,357
Operating Expenses	$ 4,790	$ 5,767

Revenues. We did not generate any revenue during the three months ended June 30, 2021 and 2020.

Research and Development expenses. Research and Development (R&D) expense for the three months ended June 30, 2021 and 2020 was approximately $2.5 million and $3.4 million, respectively. The decrease in R&D expenses was primarily due to the completion of the LYPDISO clinical trial in January 2021.

General and Administrative expenses. General and administrative expense for the three months ended June 30, 2021 and 2020 was approximately $2.3 million and $2.4 million, respectively, compared to the prior year. The decrease in general and administrative expense was primarily due to higher compensation and insurance expenses being more than offset by lower professional fees & consulting expense.

Comparison of the six months ended June 30, 2021 to the six months ended June 30, 2020

The following tables summarizes our revenues and operating expenses for the comparative periods presented:

	Six Months Ended June 30,			
	2021		2020	
Revenues	$	33	$	-
Expenses:				
Research and development	$	5,722	$	7,497
General and administrative		5,454		4,616
Operating Expenses	$	11,176	$	12,113
Sale of net operating losses (NOLs)	$	1,328	$	1,073

Revenues. During the six months ended June 30, 2021 we generated revenue of approximately $33 thousand and $0 during the same period in 2020. The amount earned during the current period consists of contract research revenue resulting from the feasibility study agreement with Genentech Inc.

Research and Development expenses. Research and Development (R&D) expense for the six months ended June 30, 2021 and 2020 was approximately $5.7 million and $7.5 million, respectively. The decrease in R&D expenses was primarily due to the completion of the LYPDISO clinical trial in January 2021.

General and Administrative expenses. General and administrative expense for the six months ended June 30, 2021 and 2020 was approximately $5.5 million and $4.6 million, respectively. The increase in general and administrative expense was primarily due to higher compensation expense related to the exercise of stock options and increased insurance expense.

Sale of net operating losses (NOLs). The Company recognized approximately $1.3 million and $1.1 million for the six months ended June 30, 2021 and 2020, respectively, in connection with the sale of state net operating losses and state research and development credits to third parties under the New Jersey Technology Business Tax Certificate Program.

Liquidity and capital resources

Sources of Liquidity

We have funded our operations since inception through private placements and public offerings of our equity securities. As of June 30, 2021, we have raised a total of approximately $156.7 million in gross proceeds and $143.9 million, net, from sales of our equity securities.

As of June 30, 2021, we had unrestricted cash, cash equivalents and marketable securities totaling approximately $59.8 million.

2020 At-The-Market Sales Agreement

On July 2, 2020, we entered into an At-The-Market Sales Agreement (the “Sales Agreement”) with BTIG, LLC (“BTIG”), pursuant to which we may offer and sell, from time to time, through BTIG, as sales agent and/or principal, shares of our common stock having an aggregate offering price of up to $50,000,000, subject to certain limitations on the amount of common stock that may be offered and sold by us set forth in the Sales Agreement. BTIG will be paid a 3% commission on the gross proceeds from each sale. We may terminate the Sales Agreement at any time; BTIG may terminate the Sales Agreement in certain limited circumstances. As of December 31, 2020, we did not sell any shares of our common stock under the ATM Sales Agreement. For the six months ended June 30, 2021, the Company sold 3,023,147 shares of its common stock under its ATM Sales Agreement with BTIG, LLC, at an average price of $1.90, generating gross proceeds of approximately $5.8 million and net proceeds of approximately $5.6 million.

2020 Common Stock Offering

On January 14, 2020, we closed an underwritten public offering of our common stock. The offering resulted in the sale of approximately 32.3 million shares to the public at a price of $1.55 per share. We generated net proceeds of approximately $46.7 million. We granted the underwriters a 30-day option (the “option”) to purchase approximately 4.8 million additional shares of common stock subject to the same terms and conditions. No additional shares of our common stock were sold pursuant to this option.

Cash Flows

The following table sets forth the primary sources and uses of cash, cash equivalents and restricted cash for each of the periods set forth below:

	Six Months Ended June 30,			
	2021		2020	
Cash used in operating activities	$	(5,516)	$	(7,834)
Cash provided by/(used in) investing activities		16,471		(46,976)
Cash provided by financing activities`		6,965		47,443
Net increase/(decrease) in cash and cash equivalents and restricted cash	$	17,920	$	(7,367)

Operating Activities

Net cash used in operating activities was approximately $5.5 million and $7.8 million for the six-month periods ended June 30, 2021 and 2020, respectively. The decrease of approximately $2.3 million was primarily due to a decrease in R&D expenses of approximately $1.8 million and $1.5 million of working capital adjustments due to the timing of receipts and payments in the ordinary course of business, partially offset by approximately $0.8 million of higher general and administrative expenses. We expect that there will be an increase in cash used in operations during the remainder of 2021 due to higher research and development expenses as we continue to move our product candidates and delivery platform forward in their development cycles.

Investing Activities

Approximately $16.5 million of cash was provided by and approximately $47.0 million of cash was used in investing activities for the six-month periods ended June 30, 2021 and 2020, respectively. The increase of approximately $63.5 million was primarily due to the approximately $2.9 million increase in proceeds received from maturities of our marketable securities and the decrease of approximately $60.5 million in purchases of marketable securities as compared to June 30, 2020.

Financing Activities

Net cash provided by financing activities was approximately $7.0 million and approximately $47.4 million for the six-months periods ended June 30, 2021 and 2020, respectively. The decrease of approximately $40.4 million in cash provided by financing activities was primarily due to the Company raising approximately $5.6 million of net proceeds from the January 2021 ATM sales of our common stock compared to the approximately $46.6 million of net proceeds that was raised from the January 2020 public offering of common stock. Other financing activities included a decrease of approximately $0.8 million from the exercising of warrants and an increase of approximately $1.4 million from the exercising of stock options.

Funding Requirements and Other Liquidity Matters

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We anticipate that our expenses will increase substantially if and as we:

- conduct further preclinical and clinical studies of our lead product candidates, MAT2203 and MAT2501, even if such studies are supported with non-dilutive funding from third parties;
- seek to discover and develop additional product candidates;
- seek regulatory approvals for any product candidates that successfully complete clinical trials;
- require the manufacture of larger quantities of product candidates for clinical development and potentially commercialization;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, quality control and scientific personnel; and
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts and personnel and infrastructure necessary to help us comply with our obligations as a public company.

We expect that our existing cash and cash equivalents will be sufficient to fund our operating expenses and capital expenditures requirements into 2024.

Until such time, if ever, that we can generate product revenues sufficient to achieve profitability, we expect to finance our cash needs through a combination of private and public equity offerings, debt financings, government or other third-party funding, collaborations and licensing arrangements. We do not have any committed external source of funds other than limited grant funding from the CFF. To the extent that we raise additional capital through the sale of common stock, convertible securities or other equity securities, the ownership interest of our stockholders may be materially diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights of our common stockholders. Debt financing and preferred equity financing, if available, would result in increased fixed payment obligations and may involve agreements that include covenants limiting or restricting 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. Securing additional financing could require a substantial amount of time and attention from our management and may divert a disproportionate amount of their attention away from day-to-day activities, which may adversely affect our management's ability to oversee the development of our product candidates.

If we raise additional funds through collaborations, strategic alliances or marketing, distribution, or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Contractual Obligations and Commitments

On August 1, 2021, the amendment to the Company's Bedminster lease became effective upon delivery of the Expansion Premises and extends the term of the lease for seven years from such date. The total lease commitment over the seven-year extension period is approximately $1.8 million. (See Note 8 – Leases)

Besides the amendment to the Bedminster lease, there have been no other material changes from the disclosures relating to our contractual obligations reported in our Annual Report on Form 10-K for the year ended December 31, 2020.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under SEC rules, such as relationships with unconsolidated entities or financial partnerships, which are often referred to as structured finance or special purpose entities, established for the purpose of facilitating financing transactions that are not required to be reflected on our balance sheets.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk is limited to our cash, cash equivalents and marketable securities. As of June 30, 2021, we had $59.8 million in unrestricted cash, cash equivalents and marketable securities. Such interest-earning instruments carry a degree of interest rate risk. The primary objectives of our investment activities are to preserve principal, provide liquidity and maximize income without significantly increasing risk. Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. However, because of the short-term nature of the instruments in our portfolio, a sudden change in market interest rates would not be expected to have a material impact on our financial condition and/or results of operation. We do not have any foreign currency or other derivative financial instruments.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures.

Disclosure Controls and Procedures:

As of June 30, 2021, under the supervision and with the participation of our principal executive officer and principal financial officer we have evaluated, the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of June 30, 2021.

Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed in the reports that we filed or submitted under the Exchange Act is recorded, processed, summarized and reported within time periods specified by 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 in our reports filed under the Exchange Act is accumulated and communicated to our management, including principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the above evaluation that occurred during the second quarter of 2020 that have materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART - II OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

None.

Item 1A. RISK FACTORS

There were no material changes from the risk factors set forth under Part I, Item 1A., "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020. You should carefully consider the risk factors contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2020 in addition to the other information set forth in this report which could materially affect our business, financial condition or future results. The risks and uncertainties described in this report and in our Annual Report on Form 10-K for the year ended December 31, 2020, as well as other reports and statements that we file with the SEC, are not the only risks and uncertainties facing us. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial may also have a material adverse effect on our financial position, results of operations or cash flows.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

Item 3. DEFAULTS UNDER SENIOR SECURITIES

None.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5. OTHER INFORMATION

Not applicable.

Item 6. EXHIBITS

See the Exhibit Index following the signature page to this Quarterly Report on Form 10-Q for a list of exhibits filed or furnished with this report, which Exhibit Index is incorporated herein by reference.

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.

MATINAS BIOPHARMA HOLDINGS, INC.

BY:

Dated: August 10, 2021	*/s/ Jerome D. Jabbour* Jerome D. Jabbour Chief Executive Officer (Principal Executive Officer)
Dated: August 10, 2021	*/s/ Keith A. Kucinski* Keith A. Kucinski Chief Financial Officer (Principal Financial and Accounting Officer)

EXHIBIT INDEX

*31.1	Certification of Chief Executive Officer
*31.2	Certification of Chief Financial Officer
**32.1	Section 1350 Certifications

*101.1	XBRL Instance Document.
*101.2	XBRL Taxonomy Extension Schema Document.
*101.3	XBRL Taxonomy Extension Calculation Linkbase Document.
*101.4	XBRL Taxonomy Extension Definition Linkbase Document.
*101.5	XBRL Taxonomy Extension Label Linkbase Document.
*101.6	XBRL Taxonomy Extension Presentation Linkbase Document.
*	Filed herewith.

Exhibit 31.1

CERTIFICATION

I, Jerome D. Jabbour, certify that:

1. I have reviewed this report on Form 10-Q of Matinas BioPharma Holdings, 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 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 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: August 10, 2021	By	*/s/ Jerome D. Jabbour*
	Name:	Jerome D. Jabbour
	Title:	Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Keith A. Kucinski, certify that:

1. I have reviewed this report on Form 10-Q of Matinas BioPharma Holdings, 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 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 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 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: August 10, 2021	By:	*/s/ Keith A. Kucinski*
	Name:	Keith A. Kucinski
	Title:	Chief Financial Officer

Exhibit 32.1

SECTION 1350 CERTIFICATIONS

Pursuant to 18 U.S.C. §1350 as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, the undersigned officers of Matinas BioPharma Holdings, Inc. (the "Company") hereby certify that to their knowledge and in their respective capacities that the Company's quarterly report on Form 10-Q to which this certification is attached (the "Report"), fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 10, 2021	By:	*/s/ Jerome D. Jabbour*
	Name:	Jerome D. Jabbour
	Title:	Chief Executive Officer
Date: August 10, 2021	By:	*/s/ Keith A. Kucinski*
	Name:	Keith A. Kucinski
	Title:	Chief Financial Officer

This certification shall not be deemed "filed" for any purpose, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Exchange Act. A signed original of this written statement required by Section 906, or other document authenticating, acknowledging, or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to Matinas BioPharma Holdings, Inc. and will be retained by Matinas BioPharma Holdings, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.