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, 2020

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: 001-36019

TONIX PHARMACEUTICALS HOLDING CORP.

(Exact name of registrant as specified in its charter)

Nevada	**26-1434750**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

26 Main Street, Suite 101
Chatham, New Jersey 07928

(Address of principal executive offices) (zip code)

(212) 980-9155

(Registrant's telephone number, including area code)

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock	TNXP	The NASDAQ Global 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 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, 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 6, 2020, there were 156,585,050 shares of registrant's common stock outstanding.

TONIX PHARMACEUTICALS HOLDING CORP.

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PART I – FINANCIAL INFORMATION
ITEM 1. FINANCIAL STATEMENTS

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In Thousands, Except Par Value and Share Amounts)

	September 30, 2020 (unaudited)	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 55,658	$ 11,249
Prepaid expenses and other	6,360	2,699
Total current assets	62,018	13,948
Property and equipment, net	4,044	34
Right-of-use assets, net	1,196	356
Restricted cash	239	100
Intangible asset	120	120
Total assets	$ 67,617	$ 14,558
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,770	$ 3,070
Accrued expenses and other current liabilities	2,073	1,713
Lease liability, current	535	352
Total current liabilities	4,378	5,135
Lease liability, net of current portion	671	6
Total liabilities	5,049	5,141
Commitments (See Note 13)		
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized		
Series B Convertible Preferred stock, 5,313 and 0 shares designated as of September 30, 2020 and December 31, 2019, respectively;		
Series A Convertible Preferred stock, 0 and 7,938 shares designated as of September 30, 2020 and December 31, 2019, respectively		
issued and outstanding -- None	—	—
Common stock, $0.001 par value; 400,000,000 and 150,000,000 shares authorized as of September 30, 2020 and December 31, 2019, respectively; 140,159,546 and 8,531,504 shares issued and outstanding as of September 30, 2020 and December 31, 2019, respectively	140	9
Additional paid in capital	313,004	226,524
Accumulated deficit	(250,512)	(217,070)
Accumulated other comprehensive loss	(64)	(46)
Total stockholders' equity	62,568	9,417
Total liabilities and stockholders' equity	$ 67,617	$ 14,558

See the accompanying notes to the condensed consolidated financial statements

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In Thousands, Except Share and Per Share Amounts)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	**2019**	**2020**	**2019**
COSTS AND EXPENSES:				
Research and development	$ 8,813	$ 5,052	$ 24,060	$ 12,502
General and administrative	3,186	2,839	9,428	7,592
	11,999	7,891	33,488	20,094
Operating loss	(11,999)	(7,891)	(33,488)	(20,094)
Interest income, net	9	53	46	183
Net loss	(11,990)	(7,838)	(33,442)	(19,911)
Warrant deemed dividend	—	—	(451)	—
Preferred stock deemed dividend	—	—	(1,260)	—
Net loss available to common stockholders	$ (11,990)	$ (7,838)	$ (35,153)	$ (19,911)
Net loss per common share, basic and diluted	$ (0.09)	$ (5.69)	$ (0.49)	$ (23.93)
Weighted average common shares outstanding, basic and diluted	127,199,834	1,377,857	71,329,221	832,050

See the accompanying notes to the condensed consolidated financial statements

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In Thousands)
(unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	**2019**	**2020**	**2019**
Net loss	$ (11,990)	$ (7,838)	$ (33,442)	$ (19,911)
Other comprehensive loss:				
Foreign currency translation gain (loss)	5	(3)	(18)	(1)
Comprehensive loss	$ (11,985)	$ (7,841)	$ (33,460)	$ (19,912)

See the accompanying notes to the condensed consolidated financial statements

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
NINE MONTHS ENDED SEPTEMBER 30, 2020
(In Thousands, Except Share and Per Share Amounts)
(unaudited)

	Series B Convertible Preferred stock		Common stock		Additional Paid in	Accumulated Other Comprehensive	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Gain (loss)	Deficit	Total
Balance, December 31, 2019	—	$ —	8,531,504	$ 9	$ 226,524	$ (46)	$ (217,070)	$ 9,417
Issuance of common stock in exchange for exercise of warrants in February and March 2020 ($0.57 per share)	—	—	13,111,999	13	7,461	—	—	7,474
Deemed dividend in connection with repricing of November 2019 warrants	—	—	—	—	451	—	—	451
Warrant deemed dividend	—	—	—	—	(451)	—	—	(451)
Issuance of Series B Convertible preferred stock and common stock warrants in February 2020 ($1,000.00 per share, net of transactional expenses of $711)	5,313	—	—	—	4,602	—	—	4,602
Beneficial conversion feature in connection with issuance of Series B Convertible preferred stock	—	—	—	—	1,260	—	—	1,260
Preferred stock deemed dividend	—	—	—	—	(1,260)	—	—	(1,260)
Issuance of common stock and common stock warrants in February 2020 ($0.57 per share, net of transactional expenses $292)	—	—	3,837,000	4	1,891	—	—	1,895
Issuance of common stock upon conversion of Series A Convertible preferred stock	(5,313)	—	9,321,053	9	(9)	—	—	—
Issuance of common stock in March 2020	—	—	14,550,000	14	14,770	—	—	14,784
Employee stock purchase plan	—	—	1,578	—	2	—	—	2
Stock-based compensation	—	—	—	—	360	—	—	360
Foreign currency transaction gain	—	—	—	—	—	(14)	—	(14)
Net loss	—	—	—	—	—	—	(7,273)	(7,273)
Balance, March 31, 2020	—	—	49,353,134	49	255,601	(60)	(224,343)	31,247
Issuance of common stock in June 2020 under the equity line			464,471	1	277			278
Issuance of common stock in May and June 2020 under At-the-market offering, net of transaction expenses of $1,131	—	—	52,986,301	53	34,089	—	—	34,142
Issuance of common stock in the acquisition of Trigemina assets	—	—	2,000,000	2	1,358	—	—	1,360
Stock-based compensation	—	—	—	—	733	—	—	733
Foreign currency transaction gain	—	—	—	—	—	(9)	—	(9)
Net loss	—	—	—	—	—	—	(14,179)	(14,179)
Balance, June 30, 2020	—	—	104,803,906	105	292,058	(69)	(238,522)	53,572
Issuance of common stock in July 2020, net of transaction expenses of $829	—	—	20,940,000	21	9,620	—	—	9,641
Issuance of common stock in September 2020 under At-the-market offering, net of transactional expenses of $267	—	—	9,282,236	9	7,997	—	—	8,006
Issuance of common stock in exchange for exercise of warrants in July and August 2020 (see Note 9)	—	—	4,533,404	5	2,417	—	—	2,422
Issuance of commitment shares under 2020 Purchase Agreement	—	—	600,000	—	—	—	—	—
Stock-based compensation	—	—	—	—	912	—	—	912
Foreign currency transaction loss	—	—	—	—	—	5	—	5
Net loss	—	—	—	—	—	—	(11,990)	(11,990)
Balance, September 30, 2020	—	$ —	140,159,546	$ 140	$ 313,004	$ (64)	$ (250,512)	$ 62,568

See the accompanying notes to the condensed consolidated financial statements

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
NINE MONTHS ENDED SEPTEMBER 30, 2019
(In Thousands, Except Share and Per Share Amounts)
(unaudited)

	Series A Convertible Preferred stock		Common stock		Additional Paid in	Accumulated Other Comprehensive	Accumulated	
	Shares	Amount	Shares	Amount	Capital	Gain (loss)	Deficit	Total
Balance, December 31, 2018	9,856	$ —	328,689	$ —	$ 212,157	$ (41)	$ (188,452)	$ 23,664
Issuance of common stock upon conversion of Series A Convertible preferred stock	(9,856)	—	281,610	1	(1)	—	—	—
Issuance of common stock in exchange for exercise of warrants in March 2019 ($35.00 per share)	—	—	2,000	—	70	—	—	70
Employee stock purchase plan	—	—	177	—	3	—	—	3
Stock-based compensation	—	—	—	—	305	—	—	305
Foreign currency transaction gain	—	—	—	—	—	2	—	2
Net loss	—	—	—	—	—	—	(6,233)	(6,233)
Balance, March 31, 2019	—	—	612,476	1	212,534	(39)	(194,685)	17,811
Issuance of common stock under 2018 Purchase Agreement	—	—	22,754	—	387	—	—	387
Issuance of common stock under At-the-market offering, net of transactional expenses of $1	—	—	2,106	—	33	—	—	33
Stock-based compensation	—	—	—	—	431	—	—	431
Foreign currency transaction loss	—	—	—	—	—	—	—	—
Net loss	—	—	—	—	—	—	(5,840)	(5,840)
Balance, June 30, 2019	—	—	637,336	1	213,385	(39)	(200,525)	12,822
Issuance of common stock under July 2019 Financing, net of transactional expenses of $484	—	—	900,000	1	4,483	—	—	4,484
Issuance of commitment shares in August 2019 under 2019 Purchase Agreement	—	—	35,529	—	—	—	—	—
Employee stock purchase plan	—	—	2,381	—	28	—	—	28
Stock-based compensation	—	—	—	—	362	—	—	362
Foreign currency transaction gain	—	—	—	—	—	(3)	—	(3)
Net loss	—	—	—	—	—	—	(7,838)	(7,838)
Balance, September 30, 2019	—	$ —	1,575,246	$ 2	$ 218,258	$ (42)	$ (208,363)	$ 9,855

See the accompanying notes to the condensed consolidated financial statements

TONIX PHARMACEUTICALS HOLDING CORP.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Thousands)
(unaudited)

	Nine Months Ended September 30,	
	2020	**2019**
CASH FLOWS FROM OPERATING ACTIVITIES:		
Net loss	$ (33,442)	$ (19,911)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	20	21
Common stock issued to acquire in-process research and development	1,360	—
Stock-based compensation	2,005	1,098
Changes in operating assets and liabilities:		
Prepaid expenses and other	(3,662)	(508)
Accounts payable	(1,301)	(285)
Lease liabilities and ROU asset, net	8	2
Accrued expenses and other current liabilities	360	(417)
Net cash used in operating activities	(34,652)	(20,000)
CASH FLOWS FROM INVESTING ACTIVITIES:		
Purchase of property and equipment	(4,030)	(12)
Net cash used in investing activities	(4,030)	(12)
CASH FLOWS FROM FINANCING ACTIVITIES:		
Proceeds from exercise of warrants	9,896	70
Proceeds from ESPP	2	31
Proceeds, net of $711 and $0 expenses, from sale of preferred stock	4,602	—
Proceeds, net of $3,740 and $485 expenses, from sale of common stock and warrants	68,746	4,904
Net cash provided by financing activities	83,246	5,005
Effect of currency rate change on cash	(16)	(3)
Net increase (decrease) in cash, cash equivalents and restricted cash	44,548	(15,010)
Cash, cash equivalents and restricted cash beginning of the period	11,349	25,134
Cash, cash equivalents and restricted cash end of period	$ 55,897	$ 10,124
Supplemental disclosures of cash flow information:		
Warrants deemed dividend	$ 451	$ —
Series B Convertible preferred stock and deemed dividend	$ 1,260	$ —

See the accompanying notes to the condensed consolidated financial statements

NOTE 1 – BUSINESS

Tonix Pharmaceuticals Holding Corp., through its wholly owned subsidiary Tonix Pharmaceuticals, Inc. ("Tonix Sub"), is a clinical-stage biopharmaceutical company focused on discovering, licensing, acquiring and developing small molecules and biologics to treat and prevent human disease and alleviate suffering. All drug product candidates are still in development.

The condensed consolidated financial statements include the accounts of Tonix Pharmaceuticals Holding Corp. and its wholly owned subsidiaries, Tonix Sub, Krele LLC, Tonix Pharmaceuticals (Canada), Inc., Tonix Medicines, Inc., Tonix Pharma Holdings Limited and Tonix Pharma Limited (collectively hereafter referred to as the "Company" or "Tonix"). All intercompany balances and transactions have been eliminated in consolidation.

Going Concern

The accompanying financial statements have been prepared on a basis which assumes that the Company will continue as a going concern and which contemplates the realization of assets and satisfaction of liabilities and commitments in the normal course of business. The Company has suffered recurring losses from operations and negative cash flows from operating activities. At September 30, 2020, the Company had working capital of approximately $57.6 million. At September 30, 2020, the Company had an accumulated deficit of approximately $250.5 million. The Company held cash and cash equivalents of approximately $55.7 million as of September 30, 2020.

The Company believes that its cash resources will be sufficient to meet its projected operating requirements into the first half of 2021, but it will not have enough resources to meet its operating requirements for the one-year period from the date of filing of this Form 10-Q. These factors raise substantial doubt about the Company's ability to continue as a going concern. The Company continues to face significant challenges and uncertainties and, as a result, its available capital resources may be consumed more rapidly than currently expected due to changes it may make in its research and development spending plans. The Company has the ability to obtain additional funding through public or private financing or collaborative arrangements with strategic partners to increase the funds available to fund operations. However, the Company may not be able to raise capital with terms acceptable to the Company. Without additional funds, it may be forced to delay, scale back or eliminate some of our research and development activities, or other operations and potentially delay product development in an effort to provide sufficient funds to continue our operations. If any of these events occurs, our ability to achieve our development and commercialization goals would be adversely affected. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

In December 2019, a novel strain of Coronavirus ("COVID-19") emerged that has caused significant disruptions to the U.S. and global economy. The spread of COVID-19 has led to regional quarantines, business shutdowns, labor shortages, disruptions to supply chains, and overall economic instability. Any of these events may in the future have a material adverse effect on our business, operations and financial condition. The extent to which COVID-19 impacts our operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the outbreak, new information that may emerge concerning the severity of COVID-19 and the actions taken to contain COVID-19 or treat its impact, among other things.

NOTE 2 – SIGNIFICANT ACCOUNTING POLICIES

Interim financial statements

The unaudited condensed consolidated interim financial statements of the Company have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial information and the instructions to Form 10-Q and Article 8 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by GAAP for complete financial statements. In the opinion of management, all adjustments (consisting of normal recurring accruals) considered necessary for a fair presentation have been included.

The condensed consolidated balance sheet as of December 31, 2019 contained herein has been derived from audited financial statements.

Operating results for the three and nine months ended September 30, 2020 are not necessarily indicative of results that may be expected for the year ending December 31, 2020. These condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended December 31, 2019 included in the Company's Annual Report on Form 10-K, filed with the Securities and Exchange Commission ("SEC") on March 24, 2020.

Risks and uncertainties

The Company's primary efforts are devoted to conducting research and development of innovative pharmaceutical and biological products to address public health challenges. The Company has experienced net losses and negative cash flows from operations since inception and expects these conditions to continue for the foreseeable future. Further, the Company does not have any commercial products available for sale and has not generated revenues, and there is no assurance that if its products are approved for sale, that the Company will be able to generate cash flow to fund operations. In addition, there can be no assurance that the Company's research and development will be successfully completed or that any product will be approved or commercially viable. Moreover, the extent to which COVID-19 impacts the Company's operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence at this time.

Use of estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates. Significant estimates include the useful life of fixed assets, assumptions used in the fair value of stock-based compensation and other equity instruments, and the percent of completion of research and development contracts.

Cash Equivalents and Restricted Cash

The Company considers cash equivalents to be those investments which are highly liquid, readily convertible to cash and have an original maturity of three months or less when purchased. At September 30, 2020 and December 31, 2019, cash equivalents, which consisted of money market funds, amounted to $40.4 million and $5.4 million, respectively. Restricted cash at September 30, 2020 and December 31, 2019 of approximately $239,000 and $100,000, respectively collateralizes a letter of credit issued in connection with the lease of office space in Chatham, New Jersey and New York City (see Note 12).

The following table provides a reconciliation of cash, cash equivalents and restricted cash reported within the condensed consolidated balance sheets that sum to the total of the same amounts shown in the condensed consolidated statement of cash flow:

	September 30, 2020	December 31, 2019
	(in thousands)	
Cash and cash equivalents	$ 55,658	$ 11,249
Restricted cash	239	100
Total	$ 55,897	$ 11,349

Property and equipment

Property and equipment are stated at cost, less accumulated depreciation. Depreciation is calculated using the straight-line method over the asset's estimated useful life, which is 20 years for buildings, three years for computer assets, five years for furniture and all other equipment and term of lease for leasehold improvements. Depreciation and amortization expense for the three and nine months ended September 30, 2020 was $8,000 and $20,000, respectively, and $5,000 and $21,000, respectively, for the three and nine months ended September 30, 2019. All property and equipment are located in the United States and Ireland.

Intangible assets with indefinite lives

During the year ended December 31, 2015, the Company purchased certain internet domain rights, which were determined to have an indefinite life. Identifiable intangibles with indefinite lives are not amortized but are tested for impairment annually or whenever events or changes in circumstances indicate that their carrying amount may be less than fair value. As of September 30, 2020, the Company believed that no impairment existed.

Leases

The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, operating lease liabilities, current and operating lease liabilities, noncurrent in the Company's condensed consolidated balance sheets. ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. Operating lease ROU assets and liabilities are recognized at commencement date based on the present value of lease payments over the lease term. As the Company's leases do not provide an implicit rate, the Company uses an incremental borrowing rate based on the information available at the transition date and subsequent lease commencement dates in determining the present value of lease payments. This is the rate the Company would have to pay if borrowing on a collateralized basis over a similar term to each lease. The operating lease ROU asset excludes lease incentives. The Company's lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense for lease payments made under operating leases is recognized on a straight-line basis over the lease term.

Research and Development Costs

The Company outsources certain of its research and development efforts and expenses these costs as incurred, including the cost of manufacturing products for testing, as well as licensing fees and costs associated with planning and conducting clinical trials. The value ascribed to patents and other intellectual property acquired has been expensed as research and development costs, as such property related to particular research and development projects and had no alternative future uses.

The Company estimates its expenses resulting from its obligations under contracts with vendors, clinical research organizations and consultants and under clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided under such contracts. The Company accounts for trial expenses according to the timing of various aspects of the trial. The Company determines accrual estimates taking into account discussion with applicable personnel and outside service providers as to the progress or state of consummation of trials, or the services completed.

During the course of a clinical trial, the Company adjusts its clinical expense recognition if actual results differ from its estimates. The Company makes estimates of its accrued expenses as of each balance sheet date based on the facts and circumstances known to it at that time. The Company's clinical trial accruals are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

Stock-based compensation

All stock-based payments to employees and to nonemployee directors for their services as directors, including grants of restricted stock units ("RSUs"), and stock options, are measured at fair value on the grant date and recognized in the condensed consolidated statements of operations as compensation or other expense over the relevant service period. In addition, for awards that vest immediately and are non-forfeitable, the measurement date is the date the award is issued.

Foreign Currency Translation

Operations of the Canadian subsidiary are conducted in local currency, which represents its functional currency. The U.S. dollar is the functional currency of the other foreign subsidiaries. Balance sheet accounts of the Canadian subsidiary were translated from foreign currency into U.S. dollars at the exchange rate in effect at the balance sheet date and income statement accounts were translated at the average rate of exchange prevailing during the period. Translation adjustments resulting from this process were included in accumulated other comprehensive loss on the condensed consolidated balance sheets.

Comprehensive Income (Loss)

Comprehensive income (loss) is defined as the change in equity of a business during a period from transactions and other events and circumstances from non-owners sources. It includes all changes in equity during a period except those resulting from investments by owners and distributions to owners. Other comprehensive income (loss) represents foreign currency translation adjustments.

Income Taxes

Deferred income tax assets and liabilities are determined based on the estimated future tax effects of net operating loss and credit carryforwards and temporary differences between the tax basis of assets and liabilities and their respective financial reporting amounts measured at the current enacted tax rates. The Company records a valuation allowance on its deferred income tax assets if it is not more likely than not that these deferred income tax assets will be realized.

The Company recognizes a tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The tax benefits recognized in the condensed consolidated financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. As of September 30, 2020, the Company has not recorded any unrecognized tax benefits. The Company's policy is to recognize interest and penalties accrued on any unrecognized tax benefits as a component of income tax expense.

On March 27, 2020, President Trump signed into law the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"). The CARES Act, among other things, includes provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations, increased limitations on qualified charitable contributions, and technical corrections to tax depreciation methods for qualified improvement property. We continue to examine the impact that the CARES Act may have on our business. Currently, we do not believe the CARES Act will have a material impact on our accounting for income taxes.

Per Share Data

The computation of basic and diluted loss per share as of September 30, 2020 and 2019 excludes potentially dilutive securities when their inclusion would be anti-dilutive, or if their exercise prices were greater than the average market price of the common stock during the period.

All warrants issued participate on a one-for-one basis with common stock in the distribution of dividends, if and when declared by the Board of Directors, on the Company's common stock. For purposes of computing EPS, these warrants are considered to participate with common stock in earnings of the Company. Therefore, the Company calculates basic and diluted EPS using the two-class method. Under the two-class method, net income for the period is allocated between common stockholders and participating securities according to dividends declared and participation rights in undistributed earnings. No income was allocated to the warrants for the three and nine months ended September 30, 2020, as results of operations were a loss for the period.

Potentially dilutive securities excluded from the computation of basic and diluted net loss per share, as of September 30, 2020 and 2019, are as follows:

	2020	2019
Warrants to purchase common stock	650,806	496,486
Options to purchase common stock	10,209,286	109,036
Totals	10,860,092	605,522

NOTE 3 – FAIR VALUE MEASUREMENTS

Fair value measurements affect the Company's accounting for certain of its financial assets. 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 and is measured according to a hierarchy that includes:

Level 1: Observable inputs, such as quoted prices in active markets.

Level 2: Inputs, other than quoted prices in active markets, that are observable either directly or indirectly. Level 2 assets and liabilities include debt securities with quoted market prices that are traded less frequently than exchange-traded instruments. This category includes U.S. government agency-backed debt securities and corporate-debt securities.

Level 3: Unobservable inputs in which there is little or no market data.

As of September 30, 2020, and December 31, 2019, the Company used Level 1 quoted prices in active markets to value cash equivalents of $40.4 million and $5.4 million, respectively. The Company did not have any Level 2 or Level 3 assets or liabilities as of both September 30, 2020 and December 31, 2019.

NOTE 4 – PROPERTY AND EQUIPMENT, NET

Property and equipment, net consisted of the following (in thousands):

	September 30 2020	December 31 2019
	(in thousands)	
Property and equipment, net:		
Land and Buildings	$ 4,000	$ —
Office furniture and equipment	364	334
Leasehold improvements	23	23
	4,387	357
Less: Accumulated depreciation and amortization	(343)	(323)
	$ 4,044	$ 34

On September 28, 2020, the Company completed the purchase of its 40,000 square foot facility in Massachusetts for $4,000,000, to house its new Advanced Development Center for accelerated development and manufacturing of vaccines. As of September 30, 2020, the asset has not been placed in service.

NOTE 5 – STOCKHOLDERS' EQUITY

On August 31, 2020, the Company filed an amendment to its articles of incorporation, as amended, to increase the number of shares of common stock authorized from 150,000,000 to 400,000,000.

On October 1, 2020, the Company received a letter (the "Notice") from the Listing Qualifications staff of The Nasdaq Stock Market LLC ("Nasdaq") indicating that, based upon the closing bid price of the Company's common stock for the last 30 consecutive business days, the Company no longer meets the requirement to maintain a minimum bid price of $1 per share, as set forth in Nasdaq Listing Rule 55450(a)(1) (the "Minimum Bid Price Requirement").

In accordance with Nasdaq Listing Rule 5810(c)(3)(A), the Company has been provided a period of 180 calendar days, or until March 30, 2021, in which to regain compliance. In order to regain compliance with the Minimum Bid Price Requirement, the closing bid price of the Company's common stock must be at least $1 per share for a minimum of ten consecutive business days during this 180-day period. In the event that the Company does not regain compliance within this 180-day period, the Company may be eligible to seek an additional compliance period of 180 calendar days if it meets the continued listing requirement for market value of publicly held shares and all other initial listing standards for the Nasdaq Global Market, with the exception of the Minimum Bid Price Requirement, and provides written notice to Nasdaq of its intent to cure the deficiency during this second compliance period, by effecting a reverse stock split, if necessary. However, if it appears to the Nasdaq Staff that the Company will not be able to cure the deficiency, or if the Company is otherwise not eligible, Nasdaq will provide notice to the Company that its common stock will be subject to delisting.

NOTE 6 – ASSET PURCHASE AGREEMENT WITH TRIGEMINA

On June 11, 2020, the Company entered into an asset purchase agreement (the "Asset Purchase Agreement") with Trigemina, Inc. ("Trigemina") and certain shareholders named therein (the "Executive Shareholders") pursuant to which Tonix acquired Trigemina assets related to migraine and pain treatment technologies (the "Assets"). In connection with the acquisition of the Assets, Tonix assumed Trigemina's rights and obligations under that certain Amended and Restated Exclusive License Agreement, dated November 30, 2007, as amended, by and between Trigemina and The Board of Trustees of the Leland Stanford Junior University ("Stanford") (the "License "Agreement") pursuant to an Assignment and Assumption Agreement with Stanford ("Assignment and Assumption Agreement"), dated June 11, 2020. As consideration for entering into the Asset Purchase Agreement, Tonix has agreed to pay $824,759 to Trigemina and issued to Trigemina 2,000,000 shares of the Company's common stock, par value $0.001 per share (the "Common Stock"), and valued at $0.68 per share, based on the closing stock price on June 11th , and has agreed to pay to Stanford $250,241 pursuant to the terms of the Assignment and Assumption Agreement. The Common Stock is unregistered and subject to a 12 month lock-up and a Shareholder Voting Agreement, dated June 11, 2020 (the "Voting Agreement"), pursuant to which Trigemina and the Executive Shareholders have agreed to vote the Common Stock on any matter put to a vote of the shareholders of the Company in accordance with management's recommendations. Both the costs associated with the cash payments and share issuance, were recorded to research and development expenses in the statement of operations for the nine months ended September 30, 2020. Because the Trigemina intellectual property was acquired prior to United States Food and Drug Administration approval ("FDA"), the cash and stock consideration totaling $2.4 million, was expensed as research and development costs since there is no alternative future use and the acquired intellectual property does not constitute a business.

Pursuant to the terms of the Assignment and Assumption Agreement, Stanford has granted to Tonix an exclusive license, with the right to sublicense, certain patents related to the Assets. Stanford has reserved for itself the right to practice under the patents for academic research and educational purposes. Tonix is obligated to use commercially reasonable efforts to diligently develop, manufacture, and sell products claimed or covered by the patent and will use commercially reasonable efforts to diligently develop markets for such products. The License Agreement specifies developmental milestones and the period of time during which such milestones must be completed, and provides for an annual maintenance fee payable to Stanford.

As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

NOTE 7 – ASSET PURCHASE AGREEMENT WITH TRIMARAN

On August 19, 2019, the Company entered into an asset purchase agreement (the "TRImaran Asset Purchase Agreement") with TRImaran Pharma, Inc. ("TRImaran") and the selling shareholders named therein (the "Selling Shareholders") pursuant to which Tonix acquired TRImaran's assets related to certain pyran-based compounds (the "Assets"). In connection with the acquisition of the Assets, Tonix entered into a First Amended and Restated Exclusive License Agreement (the "WSU License Agreement") with Wayne State University ("WSU") on August 19, 2019. As consideration for entering into the TRImaran Asset Purchase Agreement, Tonix paid $100,000 to TRImaran and has assumed certain liabilities of TRImaran totaling $68,500. The $168,500 was recorded to research and development expenses in the statement of operations in 2019. Upon the achievement of specified development, regulatory and sales milestones, Tonix also agreed to pay TRImaran and the Selling Shareholders, in restricted stock or cash, at Tonix's option, a total of approximately $3.4 million. Pursuant to the terms of the TRImaran Asset Purchase Agreement, TRImaran and the Selling Shareholders are prohibited from disclosing confidential information related to the Assets and are restricted from engaging, for a period of three years, in the development or commercialization of any therapeutic containing any pyran-based drug compound for the treatment of post-traumatic stress disorder, attention deficit hyperactivity disorder or major depressive disorder. Also for a period of three years, if TRImaran or any Selling Shareholder engage in the research or development of any potential therapeutic compound for the treatment of any central nervous system disorder, TRImaran or such Selling Shareholder is obliged to provide notice and opportunity to Tonix to make an offer to acquire or license rights with respect to such product candidate.

Pursuant to the terms of the WSU License Agreement, WSU has granted to Tonix an exclusive license, with the right to sublicense, certain patents, technical information and material (collectively, the "Technology") related to the Assets. WSU has reserved for itself the right to practice the Technology for academic research and educational purposes. Tonix is obligated to use commercially reasonable efforts to obtain regulatory approval for one or more products utilizing the Technology ("WSU Products") and to use commercially reasonable marketing efforts throughout the term of the WSU License Agreement. The WSU License Agreement specifies developmental milestones and the period of time during which such milestones must be completed and provides for an annual maintenance fee payable to WSU. Tonix is obligated to substantially manufacture WSU Products in the United States if WSU Products will be sold in the United States.

Pursuant to the WSU License Agreement, Tonix has agreed to pay $75,000 to WSU as reimbursement of certain patent expenses, and, upon the achievement of specified development, regulatory and sales milestones, the Company also agreed to pay WSU, milestone payments totaling approximately $3.4 million. Tonix has also agreed to pay WSU single-digit royalties on net sales of WSU Products sold by Tonix or a sublicensee on a tiered basis based on net sales, and additional sublicense fees on certain consideration received from sublicensees. Royalties on each particular WSU Product are payable on a country-by-country and Product-by-Product basis until the date of expiration of the last valid claim in the last to expire of the issued patents covered by the WSU License Agreement. Royalties payable on net sales of WSU Products may be reduced by 50% of the royalties payable by Tonix to any third party for intellectual property rights which are necessary for the practice of the rights licensed to Tonix under the WSU License Agreement, provided that the royalty payable on a WSU Product may not be reduced by more than 50%. Each party also has the right to terminate the agreement for customary reasons such as material breach and bankruptcy. The WSU License Agreement contains provisions relating to termination, indemnification, confidentiality and other customary matters for an agreement of this kind.

As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

NOTE 8 – LICENSE AGREEMENTS WITH COLUMBIA UNIVERSITY

On September 16, 2019, the Company entered into an exclusive License Agreement (the "Columbia License Agreement") with the Trustees of Columbia University in the City of New York ("Columbia") pursuant to which Columbia granted to Tonix an exclusive license, with the right to sublicense, certain patents and technical information (collectively, the "TFF2 Technology") related to a recombinant Trefoil Family Factor 2 (TFF2), and to develop and commercialize products thereunder (each, a "TFF2 Product"). Pursuant to the terms of the Columbia License Agreement, Columbia has reserved for itself the right to practice the TFF2 Technology for academic research and educational purposes.

The Company has paid a five-digit license fee to Columbia as consideration for entering into the Columbia License Agreement, which was recorded to research and development expenses in the statement of operations for the year ended December 31, 2019. The Company is obligated to use Commercially Reasonable Efforts, as defined in the Columbia License Agreement, to develop and commercialize the TFF2 Product, and to achieve specified developmental milestones.

The Company has agreed to pay Columbia single-digit royalties on net sales of (i) TFF2 Products sold by Tonix or a sublicensee and (ii) any other products that involve material or technical information related to the TFF2 Product and transferred to Tonix pursuant to the Columbia License Agreement ("Other Products") sold by Tonix or a sublicensee. Royalties on each particular TFF2 Product are payable on a country-by-country and Product-by-Product basis until the latest of (i) the date of expiration of the last valid claim in the last to expire of the issued patents covered by the Columbia License Agreement, and (ii) a specified period of time after the first commercial sale of a TFF2 Product in the country in question. Royalties on each particular Other Product are payable on a country-by-country and product-by-product basis until a specified period of time after the first commercial sale of such particular Other Product in such country. Royalties payable on net sales of the TFF2 Product and Other Products may be reduced by 50% of the royalties payable by Tonix to any third party for intellectual property rights which are necessary for the practice of the rights licensed to Tonix under the Columbia License Agreement, provided that the royalty payable on a Product or Other Product may not be reduced by more than 50%.

The Company is also obligated to make contingent milestone payments to Columbia totaling $4.1 million on a Product-by-Product basis upon the achievement of certain development, approval and sales milestones related to a TFF2 Product. In addition, the Company shall pay Columbia 5% of consideration, other than royalty payments and certain other categories of consideration, payable to the Company by a sublicensee. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

On May 20, 2019, the Company entered into an exclusive License Agreement (the "License Agreement") with Columbia pursuant to which Columbia, for itself and on behalf of the University of Kentucky and the University of Michigan (collectively, the "Institutions") granted to the Company an exclusive license, with the right to sublicense, certain patents, technical information and material (collectively, the "Technology") related to a double-mutant cocaine esterase, and to develop and commercialize products thereunder (each, a "Product"). Pursuant to the terms of the License Agreement, Columbia has reserved for itself and the Institutions the right to practice the Technology for academic research and educational purposes.

The Company agreed to pay a six-digit license fee to Columbia as consideration for entering into the License Agreement. The Company is obligated to use Commercially Reasonable Efforts, as defined in the License Agreement, to develop and commercialize the Product, and to achieve specified developmental milestones. The first 50% of the license fee was paid by September 30, 2019, while the remaining 50% license fee, was paid during the second quarter of 2020. Both installments of the license fee were recorded to research and development expenses in the statement of operations.

The Company has agreed to pay Columbia single-digit royalties on net sales of (i) Products sold by the Company or a sublicensee and (ii) any other products that involve material or technical information related to the Product and transferred to the Company pursuant to the License Agreement ("Other Products") sold by the Company or a sublicensee. Royalties on each particular Product are payable on a country-by-country and Product-by-Product basis until the latest of (i) the date of expiration of the last valid claim in the last to expire of the issued patents covered by the License Agreement, (ii) a specified period of time after the first commercial sale of a Product in the country in question, or (iii) expiration of any market exclusivity period granted by a regulatory agency. Royalties on each particular Other Product are payable on a country-by-country and product-by-product basis until the later of (i) a specified period of time after the first commercial sale of such particular Other Product in such country or (ii) expiration of any market exclusivity period granted by a regulatory agency. Royalties payable on net sales of the Product and Other Products may be reduced by 50% of the royalties payable by the Company to any third party for intellectual property rights which are necessary for the practice of the rights licensed to the Company under the License Agreement, provided that the royalty payable on a Product or Other Product may not be reduced by more than 50%.

The Company is also obligated to make contingent milestone payments to Columbia totaling $3 million on a Product-by-Product basis upon the achievement of certain development, approval and sales milestones related to a Product. In addition, the Company shall pay Columbia 5% of consideration, other than royalty payments and certain other categories of consideration, payable to the Company by a sublicensee. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

NOTE 9 – SALE OF COMMON STOCK

2020 Lincoln Park Transaction

On September 3, 2020, the Company entered into a purchase agreement (the "2020 Purchase Agreement") and a registration rights agreement (the "2020 Registration Rights Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park"). Pursuant to the terms of the 2020 Purchase Agreement, Lincoln Park has agreed to purchase from the Company up to $30,000,000 of the Company's common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, the Company filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time the Company signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, the Company issued 600,000 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement. The commitment shares were valued at $498,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2020 Purchase Agreement.

During the nine months ended September 30, 2020, no shares of common stock were sold by the Company under the 2020 Purchase Agreement.

Subsequent to September 30, 2020, the Company sold an aggregate of approximately 10.5 million shares of common stock under the 2020 Purchase Agreement, for gross proceeds of approximately $6.4 million.

July 13th Financing

On July 13, 2020, the Company entered into an underwriting agreement with A.G.P/Alliance Global Partners ("AGP"), relating to the issuance and sale of 20,940,000 shares of common stock, in a registered direct public offering ("the July 13th Financing"). The public offering price for each share of common stock was $0.50. The July 13th Financing closed on July 15, 2020. AGP purchased the shares at a seven percent discount to the then current public price, for an aggregate discount of $0.7 million. The Company incurred other offering expenses of approximately $0.1 million. The Company received net proceeds of approximately $9.6 million, after deducting the underwriting discount and other offering expenses.

2020 At-the-Market Offering

On April 8, 2020, the Company entered into a sales agreement (the "Sales Agreement") with AGP pursuant to which the Company may issue and sell, from time to time, shares of the Company's common stock having an aggregate offering price of up to $50.0 million in at-the-market offerings ("ATM") sales. On the same day, the Company filed a prospectus supplement under a shelf registration relating to the Sales Agreement. AGP will act as sales agent and will be paid a 3% commission on each sale under the Sales Agreement. The Company's common stock will be sold at prevailing market prices at the time of the sale, and, as a result, prices will vary. On September 4, 2020, the Company filed an amended prospectus supplement under a shelf registration relating to the Sales Agreement to increase the aggregate offering price to $100.0 million in ATM sales under the Sales Agreement. From date of inception until September 30, 2020, the Company sold approximately 62.3 million shares of common stock under the Sales Agreement, for gross proceeds of approximately $43.5 million. Subsequent to September 30, 2020, the Company has sold 5.9 million shares of common stock under the Sales Agreement, for gross proceeds of approximately $4.6 million.

February 7th Financing

On February 7, 2020, the Company entered into an underwriting agreement with AGP pursuant to which the Company sold securities consisting of 3,837,000 Class A Units at a public offering price of $0.57 per unit, with each unit consisting of one share of common stock and one warrant to purchase one share of common stock, and 5,313 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series B Convertible Preferred Stock, with a conversion price of $0.57 per share, convertible into 1,754.386 shares of common stock and warrants to purchase 1,754.386 shares of common stock ("the February 7th Financing"). The warrants have an exercise price of $0.57, are immediately exercisable and expire five years from the date of issuance.

The February 7th Financing closed on February 11, 2020. AGP purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $0.5 million. The Company incurred other offering expenses of approximately $0.5 million. The Company received net proceeds of approximately $6.5 million, after deducting the underwriting discount and other offering expenses.

After allocating proceeds to the warrants issued with the Series B Convertible Preferred Stock, the effective conversion price of the Series B Convertible Preferred Stock was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a beneficial conversion feature ("BCF") at that date. Since the Series B Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $1.3 million, based on intrinsic value, was charged to additional paid in capital as a non-cash "deemed dividend" and included in net loss to common stockholders.

During the first quarter of 2020, all 5,313 shares of Series B Convertible Preferred Stock were converted into common stock.

During February and March 2020, 10.8 million of the warrants issued in the February 7th financing, with an exercise price of $0.57, were exercised for proceeds of approximately $6.2 million.

During August 2020, 2.2 million of the warrants issued in the February 7th financing, with an exercise price of $0.57, were exercised for proceeds of approximately $1.3 million.

February 28th Financing

On February 28, 2020, the Company entered into an underwriting agreement with AGP, relating to the issuance and sale of 14,550,000 shares of common stock, in a registered direct public offering ("the February 28th Financing"). The public offering price for each share of common stock was $1.10. The February 28th Financing closed on March 3, 2020. AGP purchased the shares at a seven percent discount to the then current public price, for an aggregate discount of $1.1 million. The Company incurred other offering expenses of approximately $0.1 million. The Company received net proceeds of approximately $14.8 million, after deducting the underwriting discount and other offering expenses.

November 2019 Financing

On November 14, 2019, the Company entered into an underwriting agreement with AGP pursuant to which the Company sold securities consisting of 547,420 Class A Units at a public offering price of $1.94 per unit, with each unit consisting of one share of common stock, one warrant to purchase one share of common stock ("primary warrant") and one-half of one warrant to purchase one half of one share common stock ("common warrant"), and 7,938 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series A Convertible Preferred Stock, with a conversion price of $1.94 per share, convertible into 515.464 shares of common stock, primary warrants to purchase 515.464 shares of common stock, and common warrants to purchase 257.732 shares of common stock (the "November 2019 Financing"). The primary warrants have an exercise price of $1.94, are immediately exercisable and expire five years from the date of issuance. The common warrants have an exercise price of $1.94, are exercisable and expire 12 months from the date of issuance. The common warrants are exercisable on a cashless basis at the option of the holder on the earlier of 30 days from issuance and the date by which an aggregate of $9.0 million of our securities were traded.

The November 2019 Financing closed on November 19, 2019. AGP purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $0.6 million. The Company incurred other offering expenses of approximately $0.5 million. The Company received net proceeds from the November 2019 Financing of approximately $7.9 million, after deducting the underwriting discount and other offering expenses.

After allocating proceeds to the warrants issued with the Series A Convertible Preferred Stock, the effective conversion price of the Series A Convertible Preferred Stock was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a BCF at that date. Since the Series A Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $2.5 million, based on the intrinsic value, was charged to additional paid in capital as a non-cash "deemed dividend" and included in net loss to common stockholders.

As of December 31, 2019, all 7,938 shares of Series A Convertible Preferred Stock were converted into common stock.

With the February 7th financing, warrants that were issued as part of the November 2019 Financing were repriced at $0.57 pursuant to their terms. As a result of the issuance of common stock in February 2020 for less than the November 2019 warrant exercise price, a repricing of the warrants issued in the November 2019 Financing was triggered. The Company recognized a one-time non-cash "deemed dividend" of $0.5 million, representing the increase in the fair value of the warrants. The non-cash "deemed dividend" was charged to additional paid in capital and included in net loss to stockholders. During February and March 2020, 2.3 million of the warrants issued in the November 2019 financing, with an exercise price of $0.57, were exercised for proceeds of approximately $1.3 million.

As a result of the issuance of common stock in the July 13th Financing for less than the November 2019 Financing warrant exercise price, a repricing of the warrants was triggered and the warrants were repriced at $0.50.

During July 2020, 2.3 million of the warrants issued in the November 2019 Financing, with an exercise price of $0.50, were exercised for proceeds of approximately $1.2 million.

2019 Lincoln Park Transaction

On August 20, 2019, the Company entered into a purchase agreement (the "2019 Purchase Agreement") and a registration rights agreement (the "2019 Registration Rights Agreement") with Lincoln Park. Pursuant to the terms of the 2019 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $15,000,000 of the Company's common stock (subject to certain limitations) from time to time during the term of the 2019 Purchase Agreement. Pursuant to the terms of the 2019 Registration Rights Agreement, the Company filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2019 Purchase Agreement.

Pursuant to the terms of the 2019 Purchase Agreement, at the time the Company signed the 2019 Purchase Agreement and the 2019 Registration Rights Agreement, the Company issued 35,529 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2019 Purchase Agreement. The commitment shares were valued at $200,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2019 Purchase Agreement.

As a result of receiving stockholder approval on January 16, 2020, the Company may sell more than 19.9% of it's common stock outstanding pursuant to the 2019 Purchase Agreement without violating Nasdaq Marketplace Rules, including Rule 5635(d), requiring shareholder approval for the sale, issuance or potential issuance by an issuer of common stock (or securities convertible into or exercisable for common stock) at a price less than the greater of book or market value.

During the nine months ended September 30, 2020, the Company sold an aggregate of approximately 464,471 shares of common stock under the 2019 Purchase Agreement, for gross proceeds of approximately $0.3 million. The Company did not sell any shares of common stock under the 2019 Purchase Agreement during the nine months ended September 30, 2019.

July 2019 Financing

On July 16, 2019, the Company entered into an underwriting agreement with Aegis Capital Corp., as representatives of the underwriters ("Aegis"), relating to the issuance and sale of 900,000 shares of its common stock, in an underwritten public offering (the "July 2019 Financing"). The public offering price for each share of common stock was $6.00. The Company granted Aegis a 45-day option to purchase up to an additional 135,000 shares of common stock to cover over-allotments, if any.

The July 2019 Financing closed on July 18, 2019. Aegis purchased the shares at an eight percent discount to the then current public price, for an aggregate discount of $0.4 million. The Company incurred offering expenses of approximately $0.5 million. The Company received net proceeds of approximately $4.5 million, after deducting the underwriting discount and other offering expenses.

December 2018 Financing

On December 7, 2018, the Company entered into an underwriting agreement with AGP and Dawson James Securities, Inc. (collectively, the "Underwriters") pursuant to which the Company sold securities consisting of 86,171 Class A Units at a public offering price of $35.00 per unit, with each unit consisting of one share of common stock and a warrant to purchase one share of common stock, and 11,984 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series A Convertible Preferred Stock, with a conversion price of $35.00 per share convertible into 28.5714 shares of common stock, and warrants to purchase 28.5714 shares of Common Stock (the "December 2018 Financing"). The warrants have an exercise price of $35.00, are immediately exercisable and expire five years from the date of issuance.

The Company also granted the Underwriters a 45-day option to purchase up to 64,286 shares of common stock and/or additional warrants to purchase up to 64,286 additional shares of common stock.

The December 2018 Financing closed on December 11, 2018. The Underwriters purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $1.1 million (or $2.40 per share). The Company incurred other offering expenses of approximately $0.4 million. The Company received net proceeds from the December 2018 Financing of approximately $13.6 million, after deducting the underwriting discount and other offering expenses.

Additionally, the Underwriters fully exercised the over-allotment option related to the warrants and purchased additional warrants to acquire 64,000 shares of common stock for net proceeds of approximately $6,000.

On December 13, 2018, the Underwriters partially exercised the over-allotment option and purchased 25,000 shares of common stock for net proceeds of approximately $0.8 million, net of an aggregate discount of $0.1 million (or $2.40 per share).

After allocating proceeds to the warrants issued with the Series A convertible preferred stock, the effective conversion price of the Series A Convertible Preferred Stock, after the bifurcation of the warrants, was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a BCF at that date. Since the Series A Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $3.3 million, based on the intrinsic value, was charged to additional paid in capital as a "deemed dividend" and included in net loss to common stockholders.

During the first quarter of 2019, the remaining 9,856 shares of Series A Convertible Preferred Stock were converted into 281,610 shares of common stock.

2018 Lincoln Park Transaction

On October 18, 2018, the Company entered into a purchase agreement (the "2018 Purchase Agreement") and a registration rights agreement (the "2018 Registration Rights Agreement") with Lincoln Park. Pursuant to the terms of the 2018 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $15,000,000 of the Company's common stock (subject to certain limitations) from time to time during the term of the 2018 Purchase Agreement. Pursuant to the terms of the 2018 Registration Rights Agreement, the Company filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2018 Purchase Agreement.

Pursuant to the terms of the 2018 Purchase Agreement, at the time the Company signed the 2018 Purchase Agreement and the 2018 Registration Rights Agreement, the Company issued 3,500 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2018 Purchase Agreement. The commitment shares were valued at $245,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2018 Purchase Agreement.

During the nine months ended September 30, 2019, the Company sold an aggregate of approximately 22,754 shares of common stock under the 2018 Purchase Agreement, for gross proceeds of approximately $0.4 million.

Under applicable rules of the NASDAQ Global Market, the Company could not issue or sell more than 19.99% of the shares of its common stock outstanding immediately prior to the execution of the 2018 Purchase Agreement (approximately 26,200 shares) to Lincoln Park under the 2018 Purchase Agreement without stockholder approval, unless the average price of all applicable sales of its common stock to Lincoln Park under the 2018 Purchase Agreement equals or exceeds a threshold amount. As the Company has issued approximately 26,200 shares to Lincoln Park, by September 30, 2019, under the 2018 Purchase Agreement at less than the threshold amount, the Company will not sell any additional shares under the 2018 Purchase Agreement without shareholder approval.

NOTE 10 – STOCK-BASED COMPENSATION

2019 Stock Incentive Plan

On May 3, 2019, the Company's stockholders approved the Tonix Pharmaceuticals Holding Corp. 2019 Stock Incentive Plan (the "2019 Plan"). The 2019 Plan provided for the issuance of up to 140,000 shares of common stock. With the adoption of the 2020 Plan (as defined below), no further grants may be made under the 2019 Plan.

2020 Stock Incentive Plan

On January 16, 2020, the Company's stockholders approved the Tonix Pharmaceuticals Holding Corp. 2020 Stock Incentive Plan (the "2020 Plan"). The 2020 Plan provided for the issuance of up to 600,000 shares of common stock. With the adoption of the Amended and Restated 2020 Plan (as defined below), no further grants may be made under the 2020 Plan.

Amended and Restated 2020 Stock Incentive Plan

On May 1, 2020, the Company's stockholders approved the Tonix Pharmaceuticals Holding Corp. Amended and Restated 2020 Stock Incentive Plan ("Amended and Restated 2020 Plan"), and together with the 2020 Plan and the 2019 Plan, the "Plans").

Under the terms of the Amended and Restated 2020 Plan, the Company may issue (1) stock options (incentive and nonstatutory), (2) restricted stock, (3) SARs, (4) RSUs, (5) other stock-based awards, and (6) cash-based awards. The 2020 Plan provides for the issuance of up to 10,000,000 shares of common stock, which amount will be increased to the extent that awards granted under the Amended and Restated 2020 Plan and the Plans are forfeited, expire or are settled for cash (except as otherwise provided in the Amended and Restated 2020 Plan). The Board of Directors determines the exercise price, vesting and expiration period of the grants under the 2020 Plan. However, the exercise price of an incentive stock option may not be less than 110% of fair value of the common stock at the date of the grant for a 10% or more shareholder and 100% of fair value for a grantee who is not a 10% shareholder. The fair value of the common stock is determined based on quoted market price or in absence of such quoted market price, by the Board of Directors in good faith. Additionally, the expiration period of grants under the Amended and Restated 2020 Plan may not be more than ten years. As of September 30, 2020, 456,250 shares were available for future grants under the Amended and Restated 2020 Plan.

A summary of the stock option activity and related information for the Plans for the nine months ended September 30, 2020 is as follows:

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding at December 31, 2019	109,036	$ 199.57	8.60	$ —
Grants	10,100,250	$ 0.81		
Exercised	—			
Forfeitures or expirations	—			
Outstanding at September 30, 2020	10,209,286	$ 2.93	9.51	$ 681,418
Exercisable at September 30, 2020	148,995	$ 130.40	4.92	$ 6,180

The aggregate intrinsic value in the preceding table represents the total pretax intrinsic value, based on options with an exercise price less than the Company's closing stock price at the respective dates.

The weighted average fair value of options granted during the nine months ended September 2020 was $0.66 per share. The weighted average fair value of options granted during the nine months ended September 2019 was $16.54 per share. No stock options were granted during the three months ended September 30, 2020 and 2019.

The Company measures the fair value of stock options on the date of grant, based on the Black Scholes option pricing model using certain assumptions discussed below, and the closing market price of the Company's common stock on the date of the grant. The fair value of the award is measured on the grant date. One-third of most stock options granted pursuant to the Plans vest 12 months from the date of grant and 1/36th each month thereafter for 24 months, and expire ten years from the date of grant. In addition, the Company issues options to directors which vest over a one-year period. The Company also issues premium options to executive officers which have an exercise price greater than the grant date fair value, and has issued performance-based options which vest when target parameters are met, subject in each case to a one year minimum service period prior to vesting. Stock-based compensation expense related to awards is amortized over the applicable vesting period using the straight-line method.

The assumptions used in the valuation of stock options granted during the nine months ended September 30, 2020 and 2019 were as follows:

	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Risk-free interest rate	0.36% to 1.25%	2.30% to 2.54%
Expected term of option	5.5 to 6 years	5.10 to 10.0 years
Expected stock price volatility	120.62% - 129.29%	107.12 -109.72%
Expected dividend yield	0.0	0.0

The risk-free interest rate is based on the yield of Daily U.S. Treasury Yield Curve Rates with terms equal to the expected term of the options as of the grant date. The expected term of options is determined using the simplified method, as provided in an SEC Staff Accounting Bulletin, and the expected stock price volatility is based on the Company' historical stock price volatility.

Stock-based compensation expense relating to options granted of $0.9 million and $2.0 million was recognized for the three and nine-month periods ended September 30, 2020, respectively, and $0.4 million and $1.1 million was recognized for the three and nine-month periods ended September 30, 2019, respectively.

As of September 30, 2020, the Company had approximately $6.5 million of total unrecognized compensation cost related to non-vested awards granted under the Plans, which the Company expects to recognize over a weighted average period of 2.35 years.

2019 Employee Stock Purchase Plan

On May 3, 2019, the Company's stockholders approved the Tonix Pharmaceuticals Holdings Corp. 2019 Employee Stock Purchase Plan (the "2019 ESPP"). As a result of adoption of the 2020 ESPP, as defined below, by the stockholders, no further grants may be made under the 2019 ESPP Plan.

2020 Employee Stock Purchase Plan

On May 1, 2020, the Company's stockholders approved the Tonix Pharmaceuticals Holdings Corp. 2020 Employee Stock Purchase Plan (the "2020 ESPP").

The 2020 ESPP allows eligible employees to purchase up to an aggregate of 300,000 shares of the Company's common stock. Under the 2020 ESPP, on the first day of each offering period, each eligible employee for that offering period has the option to enroll for that offering period, which allows the eligible employees to purchase shares of the Company's common stock at the end of the offering period. Each offering period under the 2020 ESPP is for six months, which can be modified from time-to-time. Subject to limitations, each participant will be permitted to purchase a number of shares determined by dividing the employee's accumulated payroll deductions for the offering period by the applicable purchase price, which is equal to 85 percent of the fair market value of our common stock at the beginning or end of each offering period, whichever is less. A participant must designate in his or her enrollment package the percentage (if any) of compensation to be deducted during that offering period for the purchase of stock under the 2020 ESPP, subject to the statutory limit under the Code. As of September 30, 2020, 300,000 shares were available for future sales under the 2020 ESPP.

The 2020 and 2019 ESPP are considered compensatory plans with the related compensation cost expensed over the six-month offering period. For the nine months ended September 30, 2020 and 2019, $23,000 and $28,000, respectively were expensed. In January 2019, 177 shares that were purchased as of December 31, 2018, under the 2018 ESPP, were issued. Accordingly, during the quarter ended March 31, 2019, approximately $3,000 of employee payroll deductions accumulated at December 31, 2018, related to acquiring such shares, was transferred from accrued expenses to additional paid in capital. As of December 31, 2019, approximately $9,000 of employee payroll deductions, which were withheld since July 1, 2019, the commencement of the offering period ending December 31, 2019, were included in accrued expenses in the accompanying balance sheet. In January 2020, 1,578 shares that were purchased as of December 31, 2019, under the 2019 ESPP, were issued. Accordingly, during the first quarter of 2020, approximately $2,000 of employee payroll deductions accumulated at December 31, 2019, related to acquiring such shares, was transferred from accrued expenses to additional paid in capital. The remaining $7,000 was returned to the employees. During the quarter-ended September 30, 2020, approximately $20,000 of employee payroll deductions have accumulated at September 30, 2020, and have been recorded in accrued expenses.

NOTE 11 – STOCK WARRANTS

The following table summarizes information with respect to outstanding warrants to purchase common stock of the Company at September 30, 2020:

Exercise Price	Number Outstanding	Expiration Date
$ 0.50	2,500	November 2020
$ 0.50	24,920	November 2024
$ 0.57	126,900	February 2025
$ 35.00	490,571	December 2023
$ 630.00	5,441	October 2021
$ 687.50	474	October 2021
	650,806	

During the nine months ended September 30, 2020, 2.3 million warrants from the November 2019 financing, with an exercise price of $0.57, were exercised for proceeds of approximately $1.3 million. During the nine months ended September 30, 2020, 2.3 million warrants from the November 2019 financing, with an exercise price of $0.50, were exercised for proceeds of approximately $1.2 million.

During the nine months ended September 30, 2020, 13.0 million warrants from the February 7th financing, with an exercise price of $0.57, were exercised for proceeds of approximately $7.5 million.

During the nine months ended September 30, 2019, 2,000 warrants with an exercise price of $35.00 were exercised for proceeds of approximately $70,000.

During the nine months ended September 30, 2019, 24 warrants with an exercise price of $25,000 expired.

NOTE 12 – LEASES

The Company has various operating lease agreements, which are primarily for office space. These agreements frequently include one or more renewal options and require the Company to pay for utilities, taxes, insurance and maintenance expense. No lease agreement imposes a restriction on the Company's ability to engage in financing transactions or enter into further lease agreements. At September 30, 2020, the Company has right-of-use assets of $1.2 million and a total lease liability for operating leases of $1.2 million of which $0.7 million is included in long-term lease liabilities and $0.5 million is included in current lease liabilities.

At September 30, 2020, future minimum lease payments for operating leases with non-cancelable terms of more than one year were as follows (in thousands):

Year Ending December 31,	
Remainder of 2020	$ 122
2021	495
2022	174
2023	154
2024 and after	294
Included interest	(33)
	$ 1,206

In January 2019, the Company entered into a new operating lease, resulting in the Company recognizing an operating lease liability of approximately $0.4 million based on the present value of the future minimum rental payments. The Company also recognized corresponding ROU assets of approximately $0.4 million. In April 2019, the Company entered into a lease amendment, resulting in the Company recognizing an additional operating lease liability of approximately $0.1 million based on the present value of the future minimum rental payments. The Company also recognized a corresponding increase to ROU assets of approximately $0.1 million.

In February 2020, the Company entered into a lease amendment, resulting in the Company recognizing an additional operating lease liability of approximately $35,000 based on the present value of the minimum rental payments. The Company also recognized a corresponding increase to ROU assets of approximately $35,000. In April 2020, the Company entered into a new operating lease, resulting in the Company recognizing an operating lease liability of approximately $71,000 based on the present value of the future minimum rental payments. The Company also recognized corresponding ROU assets of approximately $71,000.

In June 2020, the Company entered into a new operating lease, resulting in the Company recognizing an operating lease liability of approximately $35,000 based on the present value of the future minimum rental payments. The Company also recognized corresponding ROU assets of approximately $35,000. In June 2020, the Company entered into lease amendments, resulting in the Company recognizing an additional operating lease liability of approximately $167,000 based on the present value of the future minimum rental payments. The Company also recognized a corresponding increase to ROU assets of approximately $167,000. In July 2020, the Company entered into lease amendments, resulting in the Company recognizing an additional operating lease liability of approximately $11,000 based on the present value of the future minimum rental payments. The Company also recognized a corresponding increase to ROU assets of approximately $11,000. In August 2020, the Company entered into lease amendments, resulting in the Company recognizing an additional operating lease liability of approximately $192,000 based on the present value of the future minimum rental payments. The Company also recognized a corresponding increase to ROU assets of approximately $192,000. In September 2020, the Company entered into a new operating lease, resulting in the Company recognizing an operating lease liability of approximately $676,000 based on the present value of the future minimum rental payments. The Company also recognized corresponding ROU assets of approximately $676,000. Operating lease expense was $0.1 million and $0.3 million for the three and nine months ended September 30 for both reporting periods.

Other information related to leases is as follows:

Cash paid for amounts included in the measurement of lease liabilities:	Nine Months Ended September 30, 2020	Nine Months Ended September 30, 2019
Operating cash flow from operating leases (in thousands)	$ 354	$ 333
Weighted Average Remaining Lease Term		
Operating leases	3.52 years	1.09 years
Weighted Average Discount Rate		
Operating leases	1.48%	3.37%

NOTE 13 – COMMITMENTS

Research and development contracts

The Company has entered into contracts with various contract research organizations with outstanding commitments aggregating approximately $25.8 million at September 30, 2020 for future work to be performed.

Defined contribution plan

The Company has a qualified defined contribution plan (the "401(k) Plan") pursuant to Section 401(k) of the Code, whereby all eligible employees may participate. Participants may elect to defer a percentage of their annual pretax compensation to the 401(k) Plan, subject to defined limitations. The Company is required to make contributions to the 401(k) Plan equal to 100 percent of each participant's pretax contributions of up to six percent of his or her eligible compensation, and the Company is also required to make a contribution equal to three percent of each participant's salary, on an annual basis, subject to limitations under the Code. The Company charged operations $21,000 and $100,000 for the three and nine months ended September 30, 2020, respectively, and $8,000 and $74,000 for the three and nine months ended September 30, 2019, respectively, for contributions under the 401(k) Plan.

NOTE 14 – SUBSEQUENT EVENTS

On October 14, 2020, the Company entered into a Real Property Purchase and Sale Agreement (the "Agreement") pursuant to which the Company agreed to purchase an approximately 44 acre parcel of land in the State of Montana (the "Property") for approximately $4.5 million. The Company may terminate the Agreement prior to the closing of the sale of the Property subject to certain contingencies. The Property is intended to be used for the commercial scale manufacturing of the TNX-1800 product candidate and other viral vector products.

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

This Management's Discussion and Analysis of Financial Condition and Results of Operations includes a number of forward-looking statements that reflect Management's current views with respect to future events and financial performance. You can identify these statements by forward-looking words such as "may" "will," "expect," "anticipate," "believe," "estimate" and "continue," or similar words. Those statements include statements regarding the intent, belief or current expectations of us and members of its management team as well as the assumptions on which such statements are based. Prospective investors are cautioned that any such forward-looking statements are not guarantees of future performance and involve risk and uncertainties, and that actual results may differ materially from those contemplated by such forward-looking statements.

Readers are urged to carefully review and consider the various disclosures made by us in this report and in our other reports filed with the Securities and Exchange Commission. Important factors known to us could cause actual results to differ materially from those in forward-looking statements. We undertake no obligation to update or revise forward-looking statements to reflect changed assumptions, the occurrence of unanticipated events or changes in the future operating results over time. We believe that its assumptions are based upon reasonable data derived from and known about our business and operations. No assurances are made that actual results of operations or the results of our future activities will not differ materially from its assumptions. Factors that could cause differences include, but are not limited to: the COVID-19 pandemic, including its impact on the Company, substantial competition; our possible need for additional financing; uncertainties of patent protection and litigation; uncertainties of government or third party payor reimbursement; limited research and development efforts and dependence upon third parties; and risks related to failure to obtain clearances or approvals from the United States Food and Drug Administration, or FDA, and noncompliance with FDA regulations.

Business Overview

We are a clinical-stage biopharmaceutical company focused on discovering, licensing, acquiring, developing and manufacturing small molecules and biologics to treat and prevent human disease and alleviate suffering. Tonix's portfolio is primarily composed of central nervous system (CNS) and immunology product candidates. The immunology product candidates include vaccines to prevent infectious diseases and biologics to address immunosuppression, cancer and autoimmune diseases. The CNS product candidates include both small molecules and biologics to treat pain, neurologic, psychiatric and addiction conditions. In the first quarter of 2020, we announced a program to develop a potential vaccine, TNX-1800, to protect against the novel coronavirus disease, or COVID-19, which emerged in 2019. TNX-1800 is a live replicating, attenuated vaccine based on the horsepox viral vector platform to protect against COVID-19, primarily by eliciting a T cell response. Tonix expects data from animal studies of TNX-1800 in the fourth quarter of 2020. TNX-801, live horsepox virus vaccine for percutaneous administration, is in development to protect against smallpox and monkeypox and serves as the vector platform on which TNX-1800 is based. Tonix is also developing TNX-2300 and TNX-2600, live replicating, attenuated vaccine candidates for the prevention of COVID-19, but using bovine parainfluenza as the vector. Tonix's lead CNS candidate, TNX-102 SL, a sublingual formulation of cyclobenzaprine designed for daily dosing at bedtime, is in Phase 3 development with the goal of providing a safe and effective long-term treatment for the management of fibromyalgia. The Company expects topline data in the Phase 3 RELIEF study in the fourth quarter of 2020. Tonix is also currently enrolling participants in the Phase 3 RALLY study for the management of fibromyalgia using TNX-102 SL, and the results are expected in second half of 2021. TNX-102 SL is also in development for agitation in Alzheimer's disease (AAD) and alcohol use disorder (AUD). Both programs are Phase 2 ready, and the AAD program has FDA Fast Track designation. Tonix is developing TNX-1900, intranasal oxytocin which is a small peptide product candidate for migraine and craniofacial pain. Tonix intends to submit an IND application for this program to the FDA in the first quarter of 2021 and is targeting to start a Phase 2 study of TNX-1900 for the treatment of migraine in the U.S. in the second quarter of 2021. One ex-U.S. Phase 2 trial has been completed using TNX-1900 prior to Tonix's acquisition of the program. Tonix is developing TNX-1300, cocaine esterase, which is a biologic product candidate for treating cocaine intoxication. TNX-1300 is a recombinant protein that degrades cocaine in the bloodstream, and it has been granted Breakthrough Therapy designation by the FDA. Tonix expects to initiate a Phase 2 open-label safety study in an emergency room setting to study TNX-1300 in the first quarter of 2021. Results of a positive Phase 2 study of volunteer cocaine abusers in a controlled setting were reported prior to Tonix licensing the technology. Finally, our product pipeline includes other clinical stage and pre-clinical stage programs.

Current Operating Trends

Our current research and development efforts are focused on developing TNX-1800, TNX-2300 and TNX-2600 as potential vaccines to protect against COVID-19, TNX-801 as a potential smallpox and monkeypox vaccine, and TNX-102 SL for the treatment of fibromyalgia (FM). We also plan to develop TNX-102 SL for AAD and AUD. Additionally, we plan to expend efforts and resources to develop our other pipeline programs, primarily related to TNX-1900 for migraine and craniofacial pain, TNX-1300 for cocaine intoxication, TNX-601 CR for depression, TNX-701 for radioprotection, TNX-1500 for organ transplant rejection/autoimmune conditions, TNX-1600 for daytime treatment for posttraumatic stress disorder, depression and attention deficit hyperactivity disorder, and TNX-1700 for gastric and pancreatic cancers. In addition, we will continue to strategically identify, license or acquire therapeutics or capabilities that diversify our pipeline or that strengthen our ability to develop therapeutics. Our research and development expenses consist of manufacturing work and the cost of drug ingredients 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 study 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 most of our research and development expenses in the near-term future will be incurred in support of our current and future preclinical and clinical development programs. These expenditures are subject to numerous uncertainties relating to timing and cost to completion. We test compounds in numerous preclinical studies for safety, toxicity and efficacy. At the appropriate time, subject to the approval of regulatory authorities, we expect to conduct 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 the global COVID-19 pandemic, 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

We anticipate that our results of operations will fluctuate for the foreseeable future due to several factors, such as the progress of our research and development efforts and the timing and outcome of regulatory submissions. Due to these uncertainties, accurate predictions of future operations are difficult or impossible to make.

Three Months Ended September 30, 2020 Compared to Three Months Ended September 30, 2019

Research and Development Expenses. Research and development expenses for the three months ended September 30, 2020 were $8.8 million, an increase of $3.7 million, or 73%, from $5.1 million for the three months ended September 30, 2019. This increase is predominately due to the timing of development milestones related to the Phase 3 RELIEF and RALLY studies in FM for TNX-102 SL in 2020, as well as increased activities related to the development of TNX-801, new activities related to the development of TNX-1800 and increased spending related to our development pipeline.

General and Administrative Expenses. General and administrative expenses for the three months ended September 30, 2020 were $3.2 million, an increase of $0.4 million, or 14%, from $2.8 million incurred in the three months ended September 30, 2019. The increase is primarily due to an increase financial reporting expenses of $0.2 million due to multiple shareholder meetings held during the year-to-date period ending September 30, 2020, and an increase non-cash compensation expense of $0.3 million.

Net Loss. As a result of the foregoing, the net loss for the three months ended September 30, 2020 was $12.0 million, compared to a net loss of $7.8 million for the three months ended September 30, 2019.

Nine Months Ended September 30, 2020 Compared to Nine Months Ended September 30, 2019

Research and Development Expenses. Research and development expenses for the nine months ended September 30, 2020 were $24.1 million, an increase of $11.6 million, or 93%, from $12.5 million for the nine months ended September 30, 2019. This increase in predominately due to the acquisition of the Trigemina asset for $2.4 million, timing of development milestones related to the Phase 3 RELIEF and RALLY studies in FM for TNX-102 SL in 2020, as well as increased activities related to the development of TNX-801, new activities related to the development of TNX-1800 and increased spending related to our development pipeline.

General and Administrative Expenses. General and administrative expenses for the nine months ended September 30, 2020 were $9.4 million, an increase of $1.8 million, or 24%, from $7.6 million incurred in the nine months ended September 30, 2019. The increase is primarily due to an increase in legal fees of $0.5 million due to increased patent prosecution costs, increase in insurance premiums of $0.1 million, increased financial reporting expenses of $0.4 million due to multiple shareholder meetings held during the year-to-date period ending September 30, 2020, and an increase non-cash compensation expense of $0.6 million.

Net Loss. As a result of the foregoing, the net loss for the nine months ended September 30, 2020 was $33.4 million, compared to a net loss of $19.9 million for the nine months ended September 30, 2019.

License Agreements

On September 16, 2019, we entered into an exclusive License Agreement (the "Columbia License Agreement") with the Trustees of Columbia University in the City of New York ("Columbia") pursuant to which Columbia granted to us an exclusive license, with the right to sublicense, certain patents and technical information (collectively, the "TFF2 Technology") related to a recombinant Trefoil Family Factor 2 (TFF2), and to develop and commercialize products thereunder (each, a "TFF2 Product"). Pursuant to the terms of the Columbia License Agreement, Columbia has reserved for itself the right to practice the TFF2 Technology for academic research and educational purposes.

We paid a five-digit license fee to Columbia as consideration for entering into the Columbia License Agreement, which was recorded to research and development expenses in the statement of operations for the year ended December 31, 2019. We are obligated to use Commercially Reasonable Efforts, as defined in the Columbia License Agreement, to develop and commercialize the TFF2 Product, and to achieve specified developmental milestones.

We have agreed to pay Columbia single-digit royalties on net sales of (i) TFF2 Products sold by us or a sublicensee and (ii) any other products that involve material or technical information related to the TFF2 Product and transferred to us pursuant to the License Agreement ("Other Products") sold by us or a sublicensee. Royalties on each particular TFF2 Product are payable on a country-by-country and Product-by-Product basis until the latest of (i) the date of expiration of the last valid claim in the last to expire of the issued patents covered by the Columbia License Agreement, and (ii) a specified period of time after the first commercial sale of a TFF2 Product in the country in question. Royalties on each particular Other Product are payable on a country-by-country and product-by-product basis until a specified period of time after the first commercial sale of such particular Other Product in such country. Royalties payable on net sales of the TFF2 Product and Other Products may be reduced by 50% of the royalties payable by us to any third party for intellectual property rights which are necessary for the practice of the rights licensed to us under the Columbia License Agreement, provided that the royalty payable on a TFF2 Product or Other Product may not be reduced by more than 50%.

We are also obligated to make contingent milestone payments to Columbia totaling $4.1 million on a Product-by-Product basis upon the achievement of certain development, approval and sales milestones related to a TFF2 Product. In addition, we shall pay Columbia 5% of consideration, other than royalty payments and certain other categories of consideration, payable to us by a sublicensee. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

On May 20, 2019, we entered into an exclusive License Agreement (the "License Agreement") with Columbia pursuant to which Columbia, for itself and on behalf of the University of Kentucky and the University of Michigan (collectively, the "Institutions") granted to us an exclusive license, with the right to sublicense, certain patents, technical information and material (collectively, the "Technology") related to a double-mutant cocaine esterase, and to develop and commercialize products thereunder (each, a "Product"). Pursuant to the terms of the License Agreement, Columbia has reserved for itself and the Institutions the right to practice the Technology for academic research and educational purposes.

We agreed to pay a six-digit license fee to Columbia as consideration for entering into the License Agreement. We are obligated to use Commercially Reasonable Efforts, as defined in the License Agreement, to develop and commercialize the Product, and to achieve specified developmental milestones. The first 50% of the license fee was paid by September 30, 2019, while the remaining 50% license fee, was paid during the second quarter of 2020. Both installments of the license fee were recorded to research and development expenses in the statement of operations.

We agreed to pay Columbia single-digit royalties on net sales of (i) Products sold by us or a sublicensee and (ii) any other products that involve material or technical information related to the Product and transferred to us pursuant to the License Agreement ("Other Products") sold by us or a sublicensee. Royalties on each particular Product are payable on a country-by-country and Product-by-Product basis until the latest of (i) the date of expiration of the last valid claim in the last to expire of the issued patents covered by the License Agreement, (ii) a specified period of time after the first commercial sale of a Product in the country in question, or (iii) expiration of any market exclusivity period granted by a regulatory agency. Royalties on each particular Other Product are payable on a country-by-country and product-by-product basis until the later of (i) a specified period of time after the first commercial sale of such particular Other Product in such country or (ii) expiration of any market exclusivity period granted by a regulatory agency. Royalties payable on net sales of the Product and Other Products may be reduced by 50% of the royalties payable by us to any third party for intellectual property rights which are necessary for the practice of the rights licensed to us under the License Agreement, provided that the royalty payable on a Product or Other Product may not be reduced by more than 50%.

We are also obligated to make contingent milestone payments to Columbia totaling $3 million on a Product-by-Product basis upon the achievement of certain development, approval and sales milestones related to a Product. In addition, we shall pay Columbia 5% of consideration, other than royalty payments and certain other categories of consideration, payable to us by a sublicensee. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

On June 11, 2020, we entered into an asset purchase agreement (the "Asset Purchase Agreement") with Trigemina, Inc. ("Trigemina") and certain shareholders named therein (the "Executive Shareholders") pursuant to which we acquired Trigemina assets related to migraine and pain treatment technologies (the "Assets"). In connection with the acquisition of the Assets, we assumed Trigemina's rights and obligations under that certain Amended and Restated Exclusive License Agreement, dated November 30, 2007, as amended, by and between Trigemina and The Board of Trustees of the Leland Stanford Junior University ("Stanford") (the "License "Agreement") pursuant to an Assignment and Assumption Agreement with Stanford ("Assignment and Assumption Agreement"), dated June 11, 2020. As consideration for entering into the Asset Purchase Agreement, we have agreed to pay $824,759 to Trigemina and issued to Trigemina 2,000,000 shares of our common stock, par value $0.001 per share (the "Common Stock"),, and valued at $0.68 per share, based on the closing stock price on June 11th and has agreed to pay to Stanford $250,241 pursuant to the terms of the Assignment and Assumption Agreement. The Common Stock is unregistered and subject to a 12 month lock-up and a Shareholder Voting Agreement, dated June 11, 2020 (the "Voting Agreement"), pursuant to which Trigemina and the Executive Shareholders have agreed to vote the Common Stock on any matter put to a vote of our shareholders in accordance with management's recommendations. Both the costs associated with the cash payments and share issuance, totaling $2.4 million, were recorded to research and development in the statement of operations for the nine months ended September 30, 2020. Because the Trigemina intellectual property was acquired prior to FDA approval, the cash and stock consideration was expensed as research and development costs since there is no alternative future use and the acquired intellectual property does not constitute a business.

Pursuant to the terms of the Assignment and Assumption Agreement, Stanford has granted us an exclusive license, with the right to sublicense, certain patents related to the Assets. Stanford has reserved for itself the right to practice under the patents for academic research and educational purposes. We are obligated to use commercially reasonable efforts to diligently develop, manufacture, and sell products claimed or covered by the patent and will use commercially reasonable efforts to diligently develop markets for such products. The License Agreement specifies developmental milestones and the period of time during which such milestones must be completed, and provides for an annual maintenance fee payable to Stanford.

As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

On August 19, 2019, we entered into an asset purchase agreement (the "TRImaran Asset Purchase Agreement") with TRImaran Pharma, Inc. ("TRImaran") and the selling shareholders named therein (the "Selling Shareholders") pursuant to which we acquired TRImaran's assets related to certain pyran-based compounds (the "Assets"). In connection with the acquisition of the Assets, we entered into a First Amended and Restated Exclusive License Agreement (the "WSU License Agreement") with Wayne State University ("WSU") on August 19, 2019. As consideration for entering into the TRImaran Asset Purchase Agreement, we paid $100,000 to TRImaran and have assumed certain liabilities of TRImaran totaling $68,500. The $168,500 was recorded to research and development expenses in the statement of operations in 2019. Upon the achievement of specified development, regulatory and sales milestones, we also agreed to pay TRImaran and the Selling Shareholders, in restricted stock or cash, at our option, a total of approximately $3.4 million. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

Pursuant to the terms of the WSU License Agreement, WSU has granted us an exclusive license, with the right to sublicense, certain patents, technical information and material (collectively, the "Technology") related to the Assets. WSU has reserved for itself the right to practice the Technology for academic research and educational purposes. We are obligated to use commercially reasonable efforts to obtain regulatory approval for one or more products utilizing the Technology ("WSU Products") and to use commercially reasonable marketing efforts throughout the term of the WSU License Agreement. The WSU License Agreement specifies developmental milestones and the period of time during which such milestones must be completed and provides for an annual maintenance fee payable to WSU. We are obligated to substantially manufacture WSU Products in the United States if WSU Products will be sold in the United States.

Pursuant to the WSU License Agreement, we have agreed to pay $75,000 to WSU as reimbursement of certain patent expenses, and, upon the achievement of specified development, regulatory and sales milestones, we also agreed to pay WSU, milestone payments totaling approximately $3.4 million. We have also agreed to pay WSU single-digit royalties on net sales of WSU Products sold by us or a sublicensee on a tiered basis based on net sales, and additional sublicense fees on certain consideration received from sublicensees. Royalties on each particular WSU Product are payable on a country-by-country and Product-by-Product basis until the date of expiration of the last valid claim in the last to expire of the issued patents covered by the WSU License Agreement. Royalties payable on net sales of WSU Products may be reduced by 50% of the royalties payable by us to any third party for intellectual property rights which are necessary for the practice of the rights licensed to us under the WSU License Agreement, provided that the royalty payable on a WSU Product may not be reduced by more than 50%. Each party also has the right to terminate the agreement for customary reasons such as material breach and bankruptcy. The WSU License Agreement contains provisions relating to termination, indemnification, confidentiality and other customary matters for an agreement of this kind. As of September 30, 2020, no milestone payments have been accrued or paid in relation to this agreement.

Liquidity and Capital Resources

As of September 30, 2020, we had working capital of $57.6 million, comprised primarily of cash and cash equivalents of $55.7 million and prepaid expenses and other of $6.4 million, offset by $1.8 million of accounts payable, $2.1 million of accrued expenses and current lease liabilities of $0.5 million. A significant portion of the accounts payable and accrued expenses are due to work performed in relation to our Phase 3 clinical trials in FM and TNX-1800. For the nine months ended September 30, 2020 and 2019, we used approximately $34.7 million and $20.0 million of cash in operating activities, respectively, which represents cash outlays for research and development and general and administrative expenses in such periods. The increase in cash outlays principally resulted from an increase in research and development activities. For the nine months ended September 30, 2020 and 2019, net proceeds from financing activities were $83.2 million and $5.0 million, respectively, predominately from the sale of our common stock and exercise of warrants.

Cash used by investing activities for the nine months ended September 30, 2020 and 2019, was $4.0 million and $12 thousand respectively, related to the purchase of property and equipment.

We believe that our cash resources will be sufficient to meet our projected operating requirements into the first half of 2021, but we do not have enough resources to meet our operating requirements for the one-year from the date of filing of this Form 10-Q.

We continue to face significant challenges and uncertainties and, as a result, our available capital resources may be consumed more rapidly than currently expected due to changes we may make in our research and development spending plans. These factors raise substantial doubt about our ability to continue as a going concern for the one year from the date of filing of this Form 10-Q. We have the ability to obtain additional funding through public or private financing or collaborative arrangements with strategic partners to increase the funds available to fund operations. However, we may not be able to raise capital with terms acceptable to us. Without additional funds, we may be forced to delay, scale back or eliminate some of our research and development activities, or other operations and potentially delay product development in an effort to provide sufficient funds to continue our operations. If any of these events occurs, our ability to achieve our development and commercialization goals would be adversely affected. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

In December 2019, a novel strain of Coronavirus (“COVID-19") emerged that has caused significant disruptions to the U.S. and global economy. The spread of COVID-19 has led to regional quarantines, business shutdowns, labor shortages, disruptions to supply chains, and overall economic instability. Any of these events may have a material adverse effect on our business, operations and financial condition. The extent to which the Coronavirus impacts our operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the outbreak, new information that may emerge concerning the severity of COVID-19 and the actions taken to contain COVID-19 or treat its impact, among other things.

Future Liquidity Requirements

We expect to incur losses from operations for the near future. We expect to incur increasing research and development expenses, including expenses related to additional clinical trials and the build out of the Advanced Development Center. We will not have enough resources to meet our operating requirements for the one-year from filing date of this report.

Our future capital requirements will depend on a number of factors, including the progress of our research and development of product candidates, the timing and outcome of regulatory approvals, the costs involved in preparing, filing, prosecuting, maintaining, defending and enforcing patent claims and other intellectual property rights, the status of competitive products, the availability of financing and our success in developing markets for our product candidates.

We will need to obtain additional capital in order to fund future research and development activities and to build out the Advanced Development Center. Future financing may include the issuance of equity or debt securities, obtaining credit facilities, or other financing mechanisms. Even if we are able to raise the funds required, it is possible that we could incur unexpected costs and expenses, fail to collect significant amounts owed to us, or experience unexpected cash requirements that would force us to seek alternative financing. Furthermore, if we issue additional equity or debt securities, shareholders may experience additional dilution or the new equity securities may have rights, preferences or privileges senior to those of existing holders of our common stock.

If additional financing is not available or is not available on acceptable terms, we may be required to delay, reduce the scope of or eliminate our research and development programs, reduce our commercialization efforts or obtain funds through arrangements with collaborative partners or others that may require us to relinquish rights to certain product candidates that we might otherwise seek to develop or commercialize independently.

2020 Lincoln Park Transaction

On September 3, 2020, we entered into a purchase agreement (the "2020 Purchase Agreement") and a registration rights agreement (the "2019 Registration Rights Agreement") with Lincoln Park Capital Fund, LLC ("Lincoln Park"). Pursuant to the terms of the 2019 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $30,000,000 of our common stock (subject to certain limitations) from time to time during the term of the 2020 Purchase Agreement. Pursuant to the terms of the 2020 Registration Rights Agreement, we filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2020 Purchase Agreement.

Pursuant to the terms of the 2020 Purchase Agreement, at the time we signed the 2020 Purchase Agreement and the 2020 Registration Rights Agreement, we issued 600,000 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2020 Purchase Agreement. The commitment shares were valued at $498,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2020 Purchase Agreement.

During the nine months ended September 30, 2020, no shares of common stock were sold by us under the 2020 Purchase Agreement.

Subsequent to September 30, 2020, we sold an aggregate of approximately 10.5 million shares of common stock under the 2020 Purchase Agreement, for gross proceeds of approximately $6.4 million.

July 2020 Financing

On July 13, 2020, we entered into an underwriting agreement with A.G.P/Alliance Global Partners ("AGP"), relating to the issuance and sale of 20,940,000 shares of common stock, in a registered direct public offering. The public offering price for each share of common stock was $0.50 ("the July 2020 Financing"). The July 2020 Financing closed on July 15, 2020. AGP purchased the shares at a seven percent discount, for an aggregate discount of $0.7 million. We incurred other offering expenses of approximately $0.1 million. We received net proceeds of approximately $9.6 million, after deducting the underwriting discount and other offering expenses.

2020 At-the-Market Offering

On April 8, 2020, we entered into a sales agreement (the "Sales Agreement") with AGP pursuant to which we may issue and sell, from time to time, shares of the our common stock having an aggregate offering price of up to $50.0 million in at-the-market offerings ("ATM") sales. On the same day, we filed a prospectus supplement under a shelf registration relating to the Sales Agreement. AGP will act as sales agent and will be paid a 3% commission on each sale under the Sales Agreement. Our common stock will be sold at prevailing market prices at the time of the sale, and, as a result, prices will vary. On September 4, we filed an amended prospectus supplement under a shelf registration relating to the Sales Agreement to increase the aggregate offering price to $100.0 million in ATM sales under the Sales Agreement. From date of inception until September 30, 2020, we sold approximately 62.3 million shares of common stock under the Sales Agreement, for gross proceeds of approximately $43.5 million. Subsequent to September 30, 2020, we sold 5.9 million shares of common stock under the Sales Agreement, for gross proceeds of approximately $4.6 million.

February 7th Financing

On February 7, 2020, we entered into an underwriting agreement with AGP pursuant to which we sold securities consisting of 3,837,000 Class A Units at a public offering price of $0.57 per unit, with each unit consisting of one share of common stock and one warrant to purchase one share of common stock, and 5,313 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series B Convertible Preferred Stock, with a conversion price of $0.57 per share, convertible into 1,754.386 shares of common stock and warrants to purchase 1,754.386 shares of our common stock ("the February 7th Financing"). The warrants have an exercise price of $0.57, are immediately exercisable and expire five years from the date of issuance.

The February 7th Financing closed on February 11, 2020. AGP purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $0.5 million. We incurred other offering expenses of approximately $0.5 million. We received net proceeds of approximately $6.5 million, after deducting the underwriting discount and other offering expenses.

After allocating proceeds to the warrants issued with the Series B Convertible Preferred Stock, the effective conversion price of the Series B Convertible Preferred stock was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a beneficial conversion feature ("BCF") at that date. Since the Series B Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $1.3 million, based on intrinsic value, was charged to additional paid in capital as a non-cash "deemed dividend" and included in net loss to common stockholders.

During the first quarter of 2020, all 5,313 shares of Series B Convertible Preferred Stock were converted into common stock.

During February and March 2020, 10.8 million of the warrants issued in the February 7th financing, with an exercise price of $0.57, were exercised for proceeds of approximately $6.2 million.

During August 2020, 2.2 million of the warrants issued in the February 7th financing, with an exercise price of $0.57, were exercised for proceeds of approximately $1.3 million.

February 28th Financing

On February 28, 2020, we entered into an underwriting agreement with AGP, relating to the issuance and sale of 14,550,000 shares of our common stock, in a registered direct public offering ("the February 28th Financing"). The public offering price for each share of common stock was $1.10. The February 28th Financing closed on March 3, 2020. AGP purchased the shares at a seven percent discount to the then current public price, for an aggregate discount of $1.1 million. We incurred other offering expenses of approximately $0.1 million. We received net proceeds of approximately $14.8 million, after deducting the underwriting discount and other offering expenses.

November 2019 Financing

On November 14, 2019, we entered into an underwriting agreement with AGP pursuant to which we sold securities consisting of 547,420 Class A Units at a public offering price of $1.94 per unit, with each unit consisting of one share of common stock, one warrant to purchase one share of common stock ("primary warrant") and one-half of one warrant to purchase one half of one share common stock ("common warrant"), and 7,938 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series A Convertible Preferred Stock, with a conversion price of $1.94 per share, convertible into 515.464 shares of common stock, primary warrants to purchase 515.464 shares of common stock, and common warrants to purchase 257.732 shares of our common stock (the "November 2019 Financing"). The primary warrants have an exercise price of $1.94, are immediately exercisable and expire five years from the date of issuance. The common warrants have an exercise price of $1.94, are exercisable and expire 12 months from the date of issuance. The common warrants are exercisable on a cashless basis at the option of the holder on the earlier of 30 days from issuance and the date by which an aggregate of $9.0 million of our securities were traded.

The November 2019 Financing closed on November 19, 2019. AGP purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $0.6 million. We incurred other offering expenses of approximately $0.5 million. We received net proceeds from the November 2019 Financing of approximately $7.9 million, after deducting the underwriting discount and other offering expenses.

After allocating proceeds to the warrants issued with the Series A Convertible Preferred Stock, the effective conversion price of the Series A Convertible Preferred Stock was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a BCF at that date. Since the Series A Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $2.5 million, based on the intrinsic value, was charged to additional paid in capital as a non-cash "deemed dividend" and included in net loss to common stockholders.

As of December 31, 2019, all 7,938 shares of Series A Convertible Preferred Stock were converted into common stock.

With the February 7th financing, warrants that were issued as part of the November 2019 Financing were repriced at $0.57 pursuant to their terms. As a result of the issuance of common stock in February 2020 for less than the November 2019 warrant exercise price, a repricing of the warrants issued in the November 2019 Financing was triggered. We recognized a one-time non-cash "deemed dividend" of $0.5 million, representing the increase in the fair value of the warrants. The non-cash "deemed dividend" was charged to additional paid in capital and included in net loss to stockholders. During February and March 2020, 2.3 million of the warrants issued in the November 2019 financing, with an exercise price of $0.57, were exercised for proceeds of approximately $1.3 million.

As a result of the issuance of common stock in the July 13th Financing for less than the November 2019 Financing warrant exercise price, a repricing of the warrants was triggered and the warrants were repriced at $0.50.

During July 2020, 2.3 million of the warrants issued in the November 2019 Financing, with an exercise price of $0.50, were exercised for proceeds of approximately $1.2 million.

2019 Lincoln Park Transaction

On August 20, 2019, we entered into a purchase agreement (the "2019 Purchase Agreement") and a registration rights agreement (the "2019 Registration Rights Agreement") with Lincoln Park. Pursuant to the terms of the 2019 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $15,000,000 of our common stock (subject to certain limitations) from time to time during the term of the 2019 Purchase Agreement. Pursuant to the terms of the 2019 Registration Rights Agreement, we filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2019 Purchase Agreement.

Pursuant to the terms of the 2019 Purchase Agreement, at the time we signed the 2019 Purchase Agreement and the 2019 Registration Rights Agreement, we issued 35,529 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2019 Purchase Agreement. The commitment shares were valued at $200,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2019 Purchase Agreement.

As a result of receiving stockholder approval on January 16, 2020, we may sell more than 19.9% of its common stock outstanding pursuant to the 2019 Purchase Agreement without violating Nasdaq Marketplace Rules, including Rule 5635(d), requiring shareholder approval for the sale, issuance or potential issuance by an issuer of common stock (or securities convertible into or exercisable for common stock) at a price less than the greater of book or market value.

During the nine months ended September 30, 2020, we sold an aggregate of approximately 464,471 shares of common stock under the 2019 Purchase Agreement, for gross proceeds of approximately $0.3 million.

July 2019 Financing

On July 16, 2019, we entered into an underwriting agreement with Aegis Capital Corp., as representatives of the underwriters ("Aegis"), relating to the issuance and sale of 900,000 shares of its common stock, in an underwritten public offering (the "July 2019 Financing"). The public offering price for each share of common stock was $6.00. We granted Aegis a 45-day option to purchase up to an additional 135,000 shares of common stock to cover over-allotments, if any.

The July 2019 Financing closed on July 18, 2019. Aegis purchased the shares at an eight percent discount to the then current public price, for an aggregate discount of $0.4 million. We incurred offering expenses of approximately $0.5 million. We received net proceeds of approximately $4.5 million, after deducting the underwriting discount and other offering expenses.

December 2018 Financing

On December 7, 2018, we entered into an underwriting agreement with AGP and Dawson James Securities, Inc. (collectively, the "Underwriters") pursuant to we sold securities consisting of 86,171 Class A Units at a public offering price of $35.00 per unit, with each unit consisting of one share of common stock and a warrant to purchase one share of common stock, and 11,984 Class B Units at a public offering price of $1,000 per unit, with each unit consisting of one share of Series A Convertible Preferred Stock, with a conversion price of $35.00 per share convertible into 28.5714 shares of common stock, and warrants to purchase 28.5714 shares of Common Stock. The warrants have an exercise price of $35.00, are immediately exercisable and expire five years from the date of issuance.

We also granted the Underwriters a 45-day option to purchase up to 64,286 shares of common stock and/or additional warrants to purchase up to 64,286 additional shares of common stock.

The December 2018 Financing closed on December 11, 2018. The Underwriters purchased the Class A and Class B Units at a seven-percent discount to the public offering price, for an aggregate discount of approximately $1.1 million (or $2.40 per share). We incurred other offering expenses of approximately $0.4 million. We received net proceeds from the December 2018 Financing of approximately $13.6 million, after deducting the underwriting discount and other offering expenses.

Additionally, the Underwriters fully exercised the over-allotment option related to the warrants and purchased additional warrants to acquire 64,000 shares of common stock for net proceeds of approximately $6,000.

On December 13, 2018, the Underwriters partially exercised the over-allotment option and purchased 25,000 shares of common stock for net proceeds of approximately $0.8 million, net of an aggregate discount of $0.1 million (or $2.40 per share).

After allocating proceeds to the warrants issued with the Series A convertible preferred stock, the effective conversion price of the Series A Convertible Preferred Stock, after the bifurcation of the warrants, was determined to be less than the fair value of the underlying common stock at the date of commitment, resulting in a BCF at that date. Since the Series A Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the BCF of $3.3 million, based on the intrinsic value, was charged to additional paid in capital as a "deemed dividend" and included in net loss to common stockholders.

During the first quarter of 2019, the remaining 9,856 shares of Series A Convertible Preferred Stock were converted into 281,610 shares of common stock.

2018 Lincoln Park Transaction

On October 18, 2018, we entered into a purchase agreement (the "2018 Purchase Agreement") and a registration rights agreement (the "2018 Registration Rights Agreement") with Lincoln Park. Pursuant to the terms of the 2018 Purchase Agreement, Lincoln Park has agreed to purchase from us up to $15,000,000 of our common stock (subject to certain limitations) from time to time during the term of the 2018 Purchase Agreement. Pursuant to the terms of the 2018 Registration Rights Agreement, we filed with the SEC a registration statement to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the 2018 Purchase Agreement.

Pursuant to the terms of the 2018 Purchase Agreement, at the time we signed the 2018 Purchase Agreement and the 2018 Registration Rights Agreement, we issued 3,500 shares of common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the 2018 Purchase Agreement. The commitment shares were valued at $245,000 and recorded as an addition to equity for the issuance of the common stock and treated as a reduction to equity as a cost of capital to be raised under the 2018 Purchase Agreement.

During the nine months ended September 30, 2019, we sold an aggregate of approximately 22,754 shares of common stock under the 2018 Purchase Agreement, for gross proceeds of approximately $0.4 million.

Under applicable rules of the NASDAQ Global Market, we could not issue or sell more than 19.99% of the shares of its common stock outstanding immediately prior to the execution of the 2018 Purchase Agreement (approximately 26,200 shares) to Lincoln Park under the 2018 Purchase Agreement without stockholder approval, unless the average price of all applicable sales of its common stock to Lincoln Park under the 2018 Purchase Agreement equals or exceeds a threshold amount. As we have issued approximately 26,200 shares to Lincoln Park, by September 30, 2019, under the 2018 Purchase Agreement at less than the threshold amount, we will not sell any additional shares under the 2018 Purchase Agreement without shareholder approval.

Stock Compensation

2019 Stock Incentive Plan

On May 3, 2019, our stockholders approved the Tonix Pharmaceuticals Holding Corp. 2019 Stock Incentive Plan (the "2019 Plan"). The 2019 Plan provided for the issuance of up to 140,000 shares of common stock. With the adoption of the 2020 Plan (as defined below), no further grants may be made under the 2019 Plan.

2020 Stock Incentive Plan

On January 16, 2020, our stockholders approved the Tonix Pharmaceuticals Holding Corp. 2020 Stock Incentive Plan (the "2020 Plan"). The 2020 Plan provided for the issuance of up to 600,000 shares of common stock. With the adoption of the Amended and Restated 2020 Plan (as defined below), no further grants may be made under the 2020 Plan.

Amended and Restated 2020 Stock Incentive Plan

On May 1, 2020, our stockholders approved the Tonix Pharmaceuticals Holding Corp. Amended and Restated 2020 Stock Incentive Plan ("Amended and Restated 2020 Plan"), and together with the 2020 Plan and the 2019 Plan, the "Plans").

Under the terms of the Amended and Restated 2020 Plan, we may issue (1) stock options (incentive and nonstatutory), (2) restricted stock, (3) SARs, (4) RSUs, (5) other stock-based awards, and (6) cash-based awards. The 2020 Plan provides for the issuance of up to 10,000,000 shares of common stock, which amount will be increased to the extent that awards granted under the Amended and Restated 2020 Plan and the Plans are forfeited, expire or are settled for cash (except as otherwise provided in the Amended and Restated 2020 Plan). The Board of Directors determines the exercise price, vesting and expiration period of the grants under the 2020 Plan. However, the exercise price of an incentive stock option may not be less than 110% of fair value of the common stock at the date of the grant for a 10% or more shareholder and 100% of fair value for a grantee who is not a 10% shareholder. The fair value of the common stock is determined based on quoted market price or in absence of such quoted market price, by the Board of Directors in good faith. Additionally, the expiration period of grants under the Amended and Restated 2020 Plan may not be more than ten years. As of September 30, 2020, 456,250 shares were available for future grants under the Amended and Restated 2020 Plan.

We measure the fair value of stock options on the date of grant, based on the Black Scholes option pricing model using certain assumptions discussed below, and the closing market price of our common stock on the date of the grant. The fair value of the award is measured on the grant date. Most stock options granted pursuant to the Plans typically vest 1/3rd 12 months from the date of grant and 1/36th each month thereafter for 24 months and expire ten years from the date of grant. In addition, we issue options to directors which vest over a one-year period. We also issue premium options to executive officers, which have an exercise price greater than the grant date fair value, subject to a one year minimum service period prior to vesting. We have issued performance-based stock options, which vest when target parameters are met, subject in each case to a one year minimum service period prior to vesting. Stock-based compensation expense related to awards is amortized over the applicable vesting period using the straight-line method.

The weighted average fair value of options granted during the nine months ended September 2020 was $0.66 per share. The weighted average fair value of options granted during the nine months ended September 2019 was $16.54 per share. No stock options were granted during the three months ended September 30, 2020 and 2019.

Stock-based compensation expense relating to options granted of $0.9 million and $2.0 million was recognized for the three and nine-month periods ended September 30, 2020, respectively, and $0.4 million and $1.1 million was recognized for the three and nine-month periods ended September 30, 2019, respectively.

As of September 30, 2020, we had approximately $6.5 million of total unrecognized compensation cost related to non-vested awards granted under the Plans, which the Company expects to recognize over a weighted average period of 2.35 years.

2019 Employee Stock Purchase Plan

On May 3, 2019, our stockholders approved the Tonix Pharmaceuticals Holdings Corp. 2019 Employee Stock Purchase Plan (the "2019 ESPP"). As a result of adoption of the 2020 ESPP, as defined below, by the stockholders, no further grants may be made under the 2019 ESPP Plan.

2020 Employee Stock Purchase Plan

On May 1, 2020, our stockholders approved the Tonix Pharmaceuticals Holdings Corp. 2020 Employee Stock Purchase Plan (the "2020 ESPP").

The 2020 ESPP allows eligible employees to purchase up to an aggregate of 300,000 shares of our common stock. Under the 2020 ESPP, on the first day of each offering period, each eligible employee for that offering period has the option to enroll for that offering period, which allows the eligible employees to purchase shares of our common stock at the end of the offering period. Each offering period under the 2020 ESPP is for six months, which can be modified from time-to-time. Subject to limitations, each participant will be permitted to purchase a number of shares determined by dividing the employee's accumulated payroll deductions for the offering period by the applicable purchase price, which is equal to 85 percent of the fair market value of our common stock at the beginning or end of each offering period, whichever is less. A participant must designate in his or her enrollment package the percentage (if any) of compensation to be deducted during that offering period for the purchase of stock under the 2020 ESPP, subject to the statutory limit under the Code. As of September 30, 2020, 300,000 shares were available for future sales under the 2020 ESPP.

The 2020 and 2019 ESPP are considered compensatory plans with the related compensation cost expensed over the six-month offering period. For the nine months ended September 30, 2020 and 2019, $23,000 and $28,000, respectively were expensed. In January 2019, 177 shares that were purchased as of December 31, 2018, under the 2018 ESPP, were issued. Accordingly, during the quarter ended March 31, 2019, approximately $3,000 of employee payroll deductions accumulated at December 31, 2018, related to acquiring such shares, was transferred from accrued expenses to additional paid in capital. As of December 31, 2019, approximately $9,000 of employee payroll deductions, which were withheld since July 1, 2019, the commencement of the offering period ending December 31, 2019, were included in accrued expenses in the accompanying balance sheet. In January 2020, 1,578 shares that were purchased as of December 31, 2019, under the 2019 ESPP, were issued. Accordingly, during the first quarter of 2020, approximately $2,000 of employee payroll deductions accumulated at December 31, 2019, related to acquiring such shares, was transferred from accrued expenses to additional paid in capital. The remaining $7,000 was returned to the employees During the quarter-ended September 30, 2020, approximately $20,000 of employee payroll deductions have accumulated as of September 30, 2020, and have been recorded in accrued expenses.

Commitments

Research and development

We have entered into contracts with various contract research organizations with outstanding commitments aggregating approximately $25.8 million at September 30, 2020 for future work to be performed.

As of September 30, 2020, there are no commitments related to the Advanced Development Center.

Operating leases

As of September 30, 2020, future minimum lease payments are as follows (in thousands):

Year Ending December 31,		
Remainder of 2020	$	122
2021		495
2022		174
2023		154
2024 and after		294
Included interest		(33)
	$	1,206

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based on our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

We believe the following critical accounting policies affect our more significant judgments and estimates used in the preparation of our condensed consolidated financial statements.

Research and Development. We outsource our research and development efforts and expense the related costs as incurred, including the cost of manufacturing product for testing, licensing fees and costs associated with planning and conducting clinical trials. The value ascribed to patents and other intellectual property acquired was expensed as research and development costs, as it related to particular research and development projects and had no alternative future uses.

We estimate our accrued expenses. Our clinical trial accrual process is designed to account for expenses resulting from our obligations under contracts with vendors, consultants and clinical research organizations and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations, which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided to us under such contracts. We account for trial expenses according to the progress of the trial as measured by participant progression and the timing of various aspects of the trial. We determine accrual estimates that take into account discussions with applicable personnel and outside service providers as to the progress or state of completion of trials, or the services completed. During the course of a clinical trial, we adjust our clinical expense recognition if actual results differ from our estimates. We make estimates of our accrued expenses as of each balance sheet date based on the facts and circumstances known to us at that time. Our clinical trial accruals and prepaid assets are dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

Stock-Based Compensation. All stock-based payments to employees and to nonemployee directors for their services as directors consisted of grants of restricted stock and stock options, which are measured at fair value on the grant date and recognized in the condensed consolidated statements of operations as compensation expense over the relevant vesting period. In addition, for awards that vest immediately and are nonforfeitable, the measurement date is the date the award is issued.

*Accounting for sale of Class B Units in December 2018, November 2019 and February 2020 including beneficial conversion feature*In connection with the December 2018, November 2019 and February 2020 underwritten offerings, we issued warrants to purchase our common stock and convertible preferred stock. To account for the transaction, we calculated the relative fair value of each instrument issued in the financing. We also determined if a beneficial conversion feature existed. A beneficial conversion feature is defined as a nondetachable conversion feature that is in the money at the commitment date. A conversion feature is in the money if its conversion price is less than the current fair value of the share. For purposes of measuring a beneficial conversion feature, the effective conversion price should be based on the proceeds allocated to the convertible instrument.

We determined the fair value of the warrants to purchase common stock, using a Monte Carlo simulation, for the December 2018 and November 2019 financings, which is a statistical method used to generate a defined number of share price paths to develop a reasonable estimate of the range of future expected share prices. We determined the fair value of the warrants, using the black-scholes method, for the February 2020 warrants. Estimates and assumptions impacting the fair value measurement include the warrant's callable feature for the December 2018 offering, the number of shares for which the warrants are exercisable, remaining contractual term of the warrants, risk-free interest rate, expected dividend yield and expected volatility of the price of the underlying common shares. We estimate expected share volatility based on our historical volatility for a term equal to the contractual term of the warrants adjusted for a discount that a market participant would have taken when pricing the instrument. The risk-free interest rate is determined by reference to the U.S. Treasury yield curve for time periods approximately equal to the remaining contractual term of the warrants. We estimated a 0% expected dividend yield based on the fact that we have never paid or declared dividends and do not intend to do so in the foreseeable future. In general, the assumptions used in calculating the fair value of the warrant represent management's best estimates, but the estimates involve inherent uncertainties and the application of management judgment. We determine the fair value of the convertible preferred stock utilizing the price of the common stock on the commitment date. We then allocated the relative fair value between the preferred shares and the warrants. Since the effective conversion price of the Preferred Stock is less than the fair value of the underlying common stock at the date of commitment, there is a beneficial conversion feature at the commitment date. Since the Preferred Stock has no stated maturity or redemption date and is immediately convertible at the option of the holder, the discount created by the beneficial conversion feature was charged to additional paid in capital as a "deemed dividend" and impacted earnings per share, reflected as an increase to loss to common stockholders.

Off-Balance Sheet Arrangements

Other than contractual obligations incurred in the normal course of business, we do not have any off-balance sheet financing arrangements or liabilities, guarantee contracts, retain or contingent interests in transferred assets or any obligation arising out of a material variable interest in an unconsolidated entity.

ITEM 3 – QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required under Regulation S-K for "smaller reporting companies."

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, evaluated the effectiveness of our disclosure controls and procedures pursuant to Rule 13a-15 under the Securities Exchange Act of 1934 as of the end of the period covered by this Quarterly Report on Form 10-Q. In designing and evaluating the disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply its judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Based on our evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of September 30, 2020, our disclosure controls and procedures are designed at a reasonable assurance level and are effective to provide reasonable assurance that information we are required to disclose in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief 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 that occurred during the quarter ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

We are currently not a party to any material legal proceedings or claims.

Item 1A. Risk Factors

Not required under Regulation S-K for "smaller reporting companies."

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

On June 11, 2020, we issued 2,000,000 shares of common stock to Trigemina, Inc. in connection with the purchase of certain assets from Trigemina.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information

None.

Item 6. Exhibits

10.01	Purchase and Sale Agreement, dated October 14, 2020.†
31.01	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.02	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.01	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101 INS	XBRL Instance Document
101 SCH	XBRL Taxonomy Extension Schema Document
101 CAL	XBRL Taxonomy Calculation Linkbase Document
101 LAB	XBRL Taxonomy Labels Linkbase Document
101 PRE	XBRL Taxonomy Presentation Linkbase Document
101 DEF	XBRL Taxonomy Extension Definition Linkbase Document

† Certain portions of this exhibit, that are not material and would likely cause competitive harm to the registrant if publicly disclosed, have been redacted pursuant to Item 601(b)(10) of Regulation S-K.

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.

TONIX PHARMACEUTICALS HOLDING CORP.

Date: November 9, 2020

By: /s/ SETH LEDERMAN
Seth Lederman
Chief Executive Officer (Principal Executive Officer)

Date: November 9, 2020

By: /s/ BRADLEY SAENGER
Bradley Saenger
Chief Financial Officer (Principal Financial Officer
and Principal Accounting Officer)

EXHIBIT 10.01

CERTAIN IDENTIFIED INFORMATION HAS BEEN EXCLUDED FROM THIS EXHIBIT BECAUSE IT IS NOT MATERIAL AND WOULD LIKELY CAUSE COMPETITIVE HARM TO THE REGISTRANT IF PUBLICLY DISCLOSED. THE OMISSIONS HAVE BEEN INDICATED BY "[***]."

REAL PROPERTY PURCHASE AND SALE AGREEMENT

THIS REAL PROPERTY PURCHASE AND SALE AGREEMENT ("**Agreement**") is made effective as of the 14th day of October, 2020 ("**Effective Date**"), by and between [***], a Montana limited liability company ("**Seller**"), and Jenner Institute, LLC, a Delaware limited liability company ("**Buyer**") (Seller and Buyer are referred to individually as a "**Party**" and collectively as the "**Parties**"), with reference to the following:

A. Seller owns approximately 43.784 acres or real property, identified as Parcel [***]of Certificate of Survey [***], recorded in the records of [***], Montana ("**Property**").

B. Buyer desires to purchase the Property from Seller and Seller is willing to sell the Property to Buyer, upon the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained in this Agreement, the Parties agree as follows:

1. Purchase of Property.

(a) Subject to the terms and conditions of this Agreement, Buyer agrees to purchase from Seller, and Seller agrees to sell to Buyer, the Property.

(b) The Property will be conveyed subject to an access easement agreement ("**Easement Agreement**") across the north edge of the Property in substantially the form attached as **Exhibit A**. In the event that Seller fails to obtain the grantee's execution of the Easement Agreement by Closing, the Easement Agreement shall no longer be a condition of this Agreement and shall be void in every respect, and the Parties to this Agreement will proceed to Closing.

(c) [***], a Montana limited liability company, is in the process of dedicating an encumbrance covering the area identified on the attached **Exhibit B** in yellow to preserve the viewshed of the public [***] ("**Viewshed Encumbrance**"). If the Viewshed Encumbrance is not in place or does not meet Buyer's specifications and requirements, as determined by Buyer in Buyer's sole discretion, Buyer may terminate this Agreement.

2. Purchase Price. If the Closing (defined below) occurs before December 31, 2020, the purchase price ("**Purchase Price**") for the Property will be $4,378,400 (representing a value of $100,000 per acre). After December 31, 2020, the Purchase Price will be $4,597,320 (representing $105,000 per acre). The Purchase Price, less the Earnest Money Deposit (defined below), will be payable to Seller in full at the Closing, in either cash or certified funds.

3. Earnest Money Deposit. Buyer will deposit in escrow with [***] ("**Title Company**"), an earnest money deposit in the amount $30,550 ("**Earnest Money Deposit**") within five (5) business days after the Effective Date. The Earnest Money Deposit will be credited to the Purchase Price at Closing or will be disbursed subject to the provisions of this Agreement. At Closing, the Title Company will disburse the Earnest Money Deposit in accordance with the written directions of Seller. If available, the Title Company will invest the Earnest Money Deposit in interest bearing accounts mutually acceptable to Buyer and Seller. All interest accruing on the Earnest Money Deposit will become part of the Earnest Money Deposit and will be payable to the party entitled to receive it under this Agreement. If Buyer terminates this Agreement pursuant to a right to do so set forth in this Agreement, all but $5,000 of the Earnest Money Deposit will be returned to Buyer so long as Buyer is not in default or breach of this Agreement.

4. Closing.

(a) The closing ("**Closing**") of this purchase and sale transaction will take place within thirty (30) days of the expiration of the Due Diligence Period ("**Closing Date**"). The Closing will be consummated through the escrow established with the Title Company.

(b) On the Closing Date, Seller will execute and/or deliver to the Title Company the following: (i) the Deed (defined below); (ii) a settlement statement ("**Settlement Statement**") prepared by Title Company and approved by Seller; (iii) the real estate transfer certificate; and (iv) affidavits and evidence of authority or other documents, if any, as may be reasonably required by Title Company.

(c) On the Closing Date, Buyer will execute and/or deliver to the Title Company the following: (i) the net Purchase Price in cash or by wire; (ii) the Easement Agreement; (iii) the Settlement Statement prepared by Title Company and approved by Buyer; (iv) the real estate transfer certificate; and (v) affidavits and evidence of authority or other documents, if any, as may be reasonably required by Title Company.

5. Prorations. All real property taxes, special taxes, and assessments will be prorated (employing a 365-day year) between Buyer and Seller as of the Closing Date based upon the most recently available property assessment. Taxes will not be re-prorated after Closing regardless of their actual amount.

6. Closing Costs. Seller will be responsible for the following fees and costs associated with the Closing: (a) its attorneys' fees, costs, and expenses associated with this Agreement; (b) one half of the Title Company's escrow and recording fees for the Deed; and (c) one half of the premium for a standard coverage owner's policy of title insurance insuring Buyer in the amount of the Purchase Price ("**Title Policy**"). Buyer will be responsible for the following fees and costs associated with the Closing: (i) its attorneys' fees, costs, and expenses associated with this Agreement; (ii) one half of the Title Company's escrow and recording fees for the Deed and the recording fees for the Easement Agreement; (iii) one half of the premium for the Title Policy, and the costs of any extended coverage title policy and/or endorsements reasonably required by Buyer for the Title Policy.

7. Conditions to Closing.

(a) The obligation of Buyer to close, fund, and consummate the transaction contemplated by this Agreement is specifically contingent on the fulfillment, satisfaction, and/or completion of the following:

(i) Seller representations and warranties set forth herein will be true and correct on the Closing Date.

(ii) Seller having performed all of Seller's covenants and agreements contained in this Agreement that are required to be performed by Seller on or before the Closing.

(iii) The Viewshed Encumbrance will be in place and conform with Buyer's specifications and requirements, as determined by Buyer in Buyer's sole discretion.

(b) In the event that the conditions set forth above in Section 7(a) have not been satisfied on or before the expiration of the Closing Date, then Buyer will have the right to terminate this Agreement by written notice to Seller whereupon the Earnest Money Deposit will be returned to Buyer. In the event of termination under this Section, all obligations, duties and responsibilities of the Parties will be immediately terminated and of no further force or effort, except with respect to those obligations which, by their terms, specifically survive any such termination or cancellation. The foregoing conditions precedent are for the sole benefit of Buyer.

(c) The obligation of Seller to close, fund, and consummate the transaction contemplated by this Agreement is specifically contingent on the fulfillment, satisfaction, and/or completion of the following:

(i) Buyer's representations and warranties set forth herein will be true and correct on the Closing Date.

(ii) Buyer having performed all of Buyer's covenants and agreements contained in this Agreement that are required to be performed by Buyer on or before the Closing.

(d) In the event that any of the conditions set forth above in Section 7(c) have not been satisfied on or before the expiration of the Closing Date, then Seller will have the right to terminate this Agreement by written notice to Buyer whereupon the Earnest Money Deposit will be released to Seller. In the event of termination under this Section, all obligations, duties and responsibilities of the Parties will be immediately terminated and of no further force or effort, except with respect to those obligations which, by their terms, specifically survive any such termination or cancellation. The foregoing conditions precedent are for the sole benefit of Seller.

8. Due Diligence.

(a) Buyer will have up to ninety (90) days from the Effective Date ("**Due Diligence Period**") to complete, at its sole cost and expense, inspections, surveys and studies of the Property as Buyer deems necessary or appropriate to inspect or evaluate the Property. Buyer may shorten the Due Diligence Period by notifying Seller when it has completed its Due Diligence, and the Parties will proceed to Closing pursuant to Section 4. If Buyer determines, in its reasonable discretion, that further extension of the Due Diligence Period is required, including to facilitate any local, state, or federal permits, it may provide notice to Seller of its intent to further extend the Due Diligence Period for two additional paid extension periods of sixty (60) days each ("**First Paid Inspection Period Extension**" and "**Second Paid Inspection Period Extension**"). At the time Buyer notifies Seller of its intent to extend for the First Paid Inspection Period Extension, it will post additional Earnest Money Deposit of $30,550. If Buyer notifies Seller of its intent to extend for the Second Paid Inspection Period Extension, it will post an additional Earnest Money Deposit of $30,550.

(b) Seller will within five (5) days of the Effective Date, deliver to Buyer all information and documentation regarding the Property which is in its possession, its affiliates, and/or property manager possession ("**Seller Deliveries**"). Seller represents to Buyer that to Seller's actual knowledge the Seller Deliveries constitute all of the information and documentation relating to the Property that Seller possesses.

(c) Buyer agrees that Seller or its employees or agents may accompany Buyer when Buyer conducts any physical inspection of the Property. Seller shall allow Buyer to have access to the Property to investigate and inspect (at Buyer's sole cost and expense) the legal, physical, economic, and environmental condition of the Property, and the suitability of the Property for Buyer's intended use thereof, to include soils and geotechnical assessments and an ASTM Phase I survey, or equivalent environmental due diligence investigation, of the Property to determine or confirm the condition of the Property. At Seller's request, Buyer shall promptly furnish to Seller copies of any reports received by Buyer relating to its inspections of the Property. Buyer acknowledges and agrees that Seller will not be responsible for making or contributing in any way to the cost of making any changes or improvements to the Property to accommodate Buyer's proposed use or any future use of the Property. Buyer will have the right to terminate this Agreement prior to the expiration of the Due Diligence Period by written notice to Seller if it determines for any reason, in its sole and absolute discretion, that it is unsatisfied with any aspect of the Property, whereupon the Earnest Money Deposit will be returned to Buyer as specified in Section 3 above. Prior to conducting any physical inspection or testing at the Property, other than a mere visual examination, by Buyer or its agents, employees, contractors, or representatives, Buyer shall deliver insurance certificates to Seller evidencing that Buyer carries and maintains such general liability insurance policies with such companies and in such scope and amounts as are acceptable to Seller in its reasonable discretion, and in all cases, naming Seller as an additional insured party and loss payee thereunder.

(d) Buyer will not suffer or permit to be enforced against the Property, or any part of the Property, any preconstruction or construction liens arising from the work of the Buyer or any of its contractors or agents, and Buyer will pay or cause to be paid (or otherwise resolved through bonding or other appropriate security instrument as provided by applicable law) all of the liens, claims, or demands before any action is brought to enforce the same against the Property. Buyer hereby indemnifies, defends, and holds harmless Seller from and against all loss, cost, expense, liability, damage, fine, or other claim (including attorneys' fees and related costs) arising out of or in any way connected with work performed or materials or supplies furnished for Buyer or its contractor, agents, or employees.

(e) The provisions of this Section 8(d) will survive Closing or earlier termination of this Agreement, and will not be merged into the Closing documents.

9. Title Commitment. Within fifteen (15) days of the Effective Date, Seller will cause to be delivered to Buyer a title commitment ("**Title Commitment**") from the Title Company committing to issue to Buyer a standard coverage owners policy of title insurance in the amount of the Purchase Price and copies of all documents listed on Schedule B to the Title Commitment as exceptions to coverage. Buyer will have fifteen (15) days from receipt of the Title Commitment ("**Title Review Period**") to notify Seller in writing of any objections ("**Title Objections**") to title as revealed in the Title Commitment, which writing will set forth the specific basis for Buyer's objection(s). If Buyer fails to notify Seller of any Title Objections prior to the expiration of the Title Review Period, then Buyer will be deemed to be satisfied with the condition of title and to have waived all Title Objections. If Buyer does deliver written notice of its Title Objections within the Title Review Period, Buyer will be deemed to have waived any objections to matters shown on the Title Commitment and not objected to in Buyer's notice of Title Objections. As to those Title Objections raised by Buyer during the Title Review Period, if Seller notifies Buyer that Seller for any reason in Seller's sole and absolute discretion declines or is unable to cure or obtain insurance over the Title Objections prior to the Closing, Buyer will, at Buyer's sole option: (a) notify Seller in writing prior to the expiration of the Due Diligence Period that Buyer elects to terminate this Agreement, in which event this Agreement will terminate and the Earnest Money Deposit will be returned to Buyer and neither Party will have any further rights, liabilities or other obligations under this Agreement, except with respect to those matters intended to survive termination; or (b) waive the Title Objections and proceed to Closing. Notwithstanding the foregoing, Seller will cause to be removed from title to the Property any recorded deeds of trust, mechanics' or materialmen's liens, delinquent tax liens or judgment liens.

10. Conveyance of Title. At Closing, Seller will convey to Buyer title to the Property by warranty deed ("**Deed**") in a form reasonably agreed to by Buyer and Seller and subject to: (a) non-delinquent taxes and assessments for the year of Closing and subsequent years; (b) all federal, state and local zoning, building, subdivision, land sales, land use, ecology, environmental protection and other laws, ordinances, rules and regulations of governmental authorities, including those of any and all regulatory agencies and administrative officials having or asserting jurisdiction over the Property; (c) all reservations, restrictions, encumbrances, easements, rights-of-way and possessory estates held by third parties (including leaseholds, licenses and adverse occupancies) which appear of record or would be revealed by a diligent inspection or survey of the Property; and (d) any matter or state of facts which an accurate current survey or current physical inspection of the Property would reveal.

11. Acceptance of Property.

(a) Buyer acknowledges and agrees that Seller has not, nor has any party acting on Seller's behalf, made any agreements, representations or warranties, whether express or implied, or otherwise, regarding the condition of the Property, the soils in, on and about the Property, the suitability of the Property for the uses and purposes contemplated by Buyer and/or Buyer's successors in interest, the adequacy or availability of any utilities or roadways which may service (or may be needed to service) the Property, subdivision or other zoning compliance, building lines, boundaries, construction/use/occupancy restrictions, including violations of any of the foregoing, and/or any other fact or matter, whether pertaining to the Property or otherwise. Buyer has had, or will have, under the terms of this Agreement, the opportunity to make its own independent inspections and investigations of the Property and Seller Deliveries and, in proceeding to Closing hereunder, Buyer acknowledges and agrees that it has reviewed all such matters as Buyer deems or deemed necessary or appropriate to review and that Buyer is and will be relying solely on such inspections and investigations of the Property.

(b) BUYER REPRESENTS AND WARRANTS TO, AND COVENANTS AND AGREES WITH, SELLER THAT BUYER IS PURCHASING THE PROPERTY IN AN "AS IS" "WHERE IS" AND "WITH ALL FAULTS" IN ITS PRESENT CONDITION AND STATE OF REPAIR, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND OR NATURE, AND SPECIFICALLY EXCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. BUYER ACKNOWLEDGES AND AGREES THAT BUYER WILL ACQUIRE THE PROPERTY BASED UPON ITS OWN DILIGENCE REVIEW AND NOT BASED UPON ANY STATEMENT, REPRESENTATION OR WARRANTY OF SELLER OR ANY AGENT OR REPRESENTATIVE OF SELLER.

(c) The Provisions of this Section 11 will survive the Closing and will not be merged into the Closing Documents.

12. Representations and Warranties.

(a) Buyer hereby represents, warrants, and covenants as follows, all of which are true on the date hereof and which will be true on the Closing Date:

(i) Buyer represents that it is a limited liability company duly incorporated, validly existing and in good standing under the laws of the State of Delaware and with full power and authority to enter into and perform this Agreement in accordance with the terms and conditions hereof.

(ii) Buyer has full right, power, authority, and ability to execute, deliver, and perform this Agreement. This Agreement and all documents to be executed and delivered by Buyer at or before the Closing Date are and will be on the Closing Date duly authorized, executed and delivered by Buyer.

(iii) The execution, delivery and performance of this Agreement by Buyer will not violate or constitute a breach under: (a) the terms of any contract or other agreement to which Buyer is a party or by which Buyer is bound; or (b) any court order, injunction, stay, or similar matter to which Buyer is subject or by which Buyer is bound.

(iv) The individuals executing this Agreement and any and all related documents have been validly authorized by Buyer to sign on Buyer's behalf.

(b) Buyer acknowledges that Seller is relying upon the foregoing Buyer warranties, representations, and covenants in reaching its decision to enter into this Agreement to sell the Property. The foregoing representations, warranties, and covenants will be deemed made on the date of this Agreement and again on the Closing Date. If Buyer becomes aware of any fact or circumstances that would change a representation or warranty, then Buyer will immediately give notice of such changed fact or circumstance to Seller.

(c) Seller hereby represents, warrants, and covenants as follows, all of which are true on the date hereof and which will be true on the Closing Date:

(i) Seller represents that it is a limited liability company duly organized, validly existing and in good standing under the laws of the State of Montana, and with full power and authority to enter into and perform this Agreement in accordance with the terms and conditions hereof.

(ii) Seller has full right, power, authority, and ability to execute, deliver, and perform this Agreement. This Agreement and all documents to be executed and delivered by Seller at or before the Closing Date are and will be on the Closing Date duly authorized, executed and delivered by Buyer.

(iii) The execution, delivery and performance of this Agreement by Seller will not violate or constitute a breach under: (a) the terms of any contract or other agreement to which Seller is a party or by which Seller is bound; or (b) any court order, injunction, stay, or similar matter to which Seller is subject or by which Seller is bound.

(iv) The individuals executing this Agreement and any and all related documents have been validly authorized by Seller to sign on Seller's behalf.

(v) No investigation, action, suit or proceeding shall be pending or threatened before any court or governmental body adversely affecting the Property or seeks to restrain, prohibit or otherwise challenge the consummation of the purchase and sale of the Property pursuant to this Agreement.

(vi) Seller has good and marketable title in fee simple to the Property. The Property has not been assigned or conveyed to any party. Seller has the right to convey the Property pursuant to the terms of this Agreement. No person (other than Buyer pursuant to this Agreement) has a right to acquire any interest in the Property.

The foregoing representations, warranties, and covenants will be deemed made on the date of this Agreement and again on the Closing Date. If a Party becomes aware of any fact or circumstances that would change any of its representations or warranties, then it will promptly notify the other Party of such changed fact or circumstance to Buyer.

(d) The provisions of this Section 12 will survive Closing and will not be merged into the Closing documents.

13. Brokerage Commission. Each Party represents and warrants to the other that it has not engaged any broker or finder in connection with this particular transaction except that [***] has facilitated the deal. Buyer shall be exclusively responsible for any commission due and payable to [***]. If and to the extent a claim is asserted for a commission or fee of any type or kind, then the Party whose statement, representation or agreement is the basis for such claim will indemnify and hold the other Party harmless from any cost, liability, or expense (including, without limitation, reasonable attorneys' fees) incurred as a result of such claim (collectively, " **Brokerage Indemnities**"). The Brokerage Indemnities will survive Closing or any sooner termination of this Agreement, notwithstanding any contrary provision of this Agreement.

14. Damage or Condemnation Prior to Closing. If any material portion of the Property is taken by condemnation or eminent domain or there is any actual or threatened condemnation or eminent domain affecting any material portion of the Property prior to Closing, then either Seller or Buyer will have the right to terminate this Agreement by notice to the other and to the Title Company, in which case neither Seller nor Buyer will thereafter have any obligation to each other except for those matters intended to survive.

15. Default and Remedies.

(a) Buyer's Remedies. Seller will only be in default under this Agreement if, after written notice from Buyer, Seller fails to perform any of Seller's obligations under this Agreement within ten (10) days of receipt of such notice (or such longer period as is reasonably required in the exercise of due diligence not to exceed an additional ten (10) days, provided Seller commences such cure within the initial ten day period). In the event of a default by Seller not cured within the applicable cure period, Buyer may: (i) waive the effect of such matter and proceed to consummate the Closing (provided that in no event will Buyer have the right to waive any of Seller's conditions precedent hereunder); (ii) terminate this Agreement in which case the Earnest Money Deposit will be returned to Buyer together with a sum equal to the Earnest Money Deposit as liquidated damages; or (iii) bring an appropriate action for specific performance of this Agreement.

(b) Seller's Remedies. Buyer will be in default under this Agreement if, after written notice from Seller, Buyer fails to perform any of Buyer's obligations under this Agreement within ten (10) days of receipt of such notice. In the event of a default by Buyer not cured within the applicable cure period, Seller may: (i) waive the effect of such matter and proceed to consummate the Closing; or (ii) terminate this Agreement in which case the Earnest Money Deposit (together with any accrued interest thereon) will be retained by Seller as liquidated damages.

(c) THE PARTIES HERETO EXPRESSLY AGREE AND ACKNOWLEDGE THAT A PARTY'S ACTUAL DAMAGES IN THE EVENT OF A DEFAULT WOULD BE EXTREMELY DIFFICULT OR IMPRACTICABLE TO ASCERTAIN AND THAT THE AMOUNT OF THE EARNEST MONEY DEPOSIT (TOGETHER WITH ACCRUED INTEREST THEREON IF ANY) REPRESENTS THE PARTIES' REASONABLE ESTIMATE OF SUCH DAMAGES.

SELLER'S INITIALS: /s/ BUYER'S INITIALS: /s/

16. Notices. During the term of this Agreement, notices required or contemplated by this Agreement must be in writing and deemed given: (a) when delivered personally; (b) on the day said communication is received or refused to be received when delivered by the U.S. mail, registered or certified mail, return receipt requested, postage prepaid; (c) the next business day after delivery of said notice to a nationally recognized overnight courier service; or (d) upon electronic delivery during normal business hours or if not delivered during normal business hours, the next business day, provided a copy is subsequently sent by another acceptable means of delivery provided herein:

To Seller:	[***]
With a copy to:	[***]
To Buyer:	Jenner Institute, LLC Attention: Jessica Morris, Manager 509 Madison Ave, Suite 1608 New York, New York, 10022 Telephone: 212-923-3400 E-Mail: Jessica.Morris@TonixPharma.com
With a copy to:	[***]

or to such other address as the Parties may from time to time designate by notice in writing to other Parties.

17. No Assignment by Buyer. This Agreement may not be assigned or transferred by Buyer without Seller's prior written consent. Notwithstanding the foregoing, Buyer may designate a wholly owned subsidiary to take title to the Property at Closing provided Buyer will remain obligated under this Agreement.

18. Miscellaneous.

(a) No Third Party Beneficiary. No term or provision of this Agreement or its Exhibits is intended to be, nor will any such term or provision be construed to be, for the benefit of any person, firm, corporation or other entity not a Party to this Agreement (including, without limitation, any broker), and no other person, firm, corporation or entity will have any right or cause of action under this Agreement.

(b) Amendment. Neither this Agreement nor any provision hereof may be changed, amended, modified, waived or discharged orally or by any course of dealing, but only by an instrument in writing signed by the Party against which enforcement of the change, amendment, modification, waiver or discharge is sought.

(c) Legal Fees. In the event legal action is instituted by either of the Parties to enforce the terms of this Agreement or arising out of the execution of this Agreement, the prevailing Party will be entitled to receive from the other Party or Parties reasonable attorneys' fees, to be determined by the court in which the action is brought.

(d) No Recording. Neither this Agreement nor any memorandum or notice thereof may be recorded by Buyer.

(e) Applicable Law. This Agreement will be governed by and construed and enforced in accordance with the laws of the State of Montana.

(f) Waiver. Failure of either Buyer or Seller to exercise any right given hereunder or to insist upon strict compliance with regard to any term, condition or covenant specified herein, will not constitute a waiver of Buyer's or Seller's right to exercise such right or to demand strict compliance with any term, condition or covenant under this Agreement.

(g) No Partnership. This Agreement is not intended to create and does not create a joint venture or partnership between Buyer and Seller.

(h) Captions. All captions, headings, paragraph and subparagraph numbers and letters are solely for reference purposes and will not be deemed to supplement, limit, or otherwise vary the text of this Agreement.

(i) Severability. The invalidity or unenforceability of a particular provision of this Agreement will not affect the other provisions hereof, and this Agreement will be construed in all respects as if the invalid or unenforceable provision were omitted.

(j) Time. Any period of time described in this Agreement by reference to a number of days includes Saturdays, Sundays, and any state or national holidays. Any period of time described in this Agreement by reference to a number of business days does not include Saturdays, Sundays, or any state or national holidays. If the date or last date to perform any act or to give any notice is a Saturday, Sunday, or state or national holiday, that act or notice may be timely performed or given on the next succeeding day which is not a Saturday, Sunday, or state or national holiday. Time is of the essence of this Agreement.

(k) Construction. Seller and Buyer acknowledge that they and their counsel have reviewed and revised this Agreement and that the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting Party will not be employed in the interpretation of this Agreement or any exhibits or amendments hereto.

(l) Entire Agreement. This Agreement constitutes the sole and entire agreement of the Parties and is binding upon Seller and Buyer, their successors, legal representatives and assigns. The recitals to this Agreement are by this reference incorporated herein.

(m) Authority. The individuals who execute this Agreement represent and warrant that they are duly authorized to execute this Agreement on behalf of Buyer or Seller, as the case may be, that the Parties named are all the necessary and proper parties, and that no other signature, act or authorization is necessary to bind such Parties to the provisions of this Agreement.

(n) Counterparts. This Agreement may be executed in several counterparts, each of which may be deemed an original, and all of such counterparts together will constitute one and the same Agreement. E-mailed signatures will be treated as if they were originals.

19. Submission to Jurisdiction. The Parties hereby agree that any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby, whether in contract, tort or otherwise, shall be brought in the United States District Court for the District of Montana or district court for the State of Montana in each case located in [***] County, Montana, so long as one of such courts shall have subject-matter jurisdiction over such suit, action or proceeding. Each of the Parties hereby irrevocably consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such suit, action or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection that it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court or that any such suit, action or proceeding that is brought in any such court has been brought in an inconvenient form.

[SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, the undersigned have executed this Real Property Purchase and Sale Agreement as of the dates written below to be effective as of the Effective Date.

SELLER:

[***]

Dated:_____, 2020

By :/s/ [***]
Name: [***]
Title: Member

By: /s/ [***]
Name: [***]
Title: Member

BUYER:

Jenner Institute, LLC, a Delaware limited liability company

Dated: October 14, 2020

By: /s/ Jessica Morris
Name: Jessica Morris
Title: Manager

EXHIBIT A
TO
REAL PROPERTY PURCHASE AND SALE AGREEMENT

Form Easement Agreement

EXHIBIT B
TO
REAL PROPERTY PURCHASE AND SALE AGREEMENT

Area of Viewshed Encumbrance

[***]

EXHIBIT 31.01

CERTIFICATION

I, Seth Lederman, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Tonix Pharmaceuticals Holding Corp.;

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 reasonable 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 controls over financial reporting.

Date: November 9, 2020

/s/ SETH LEDERMAN
Seth Lederman
Chief Executive Officer

EXHIBIT 31.02

CERTIFICATION

I, Bradley Saenger, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Tonix Pharmaceuticals Holding Corp.;

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 reasonable 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 controls over financial reporting.

Date: November 9, 2020

/s/ BRADLEY SAENGER
Bradley Saenger
Chief Financial Officer

Exhibit 32.01

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, Seth Lederman, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Tonix Pharmaceuticals Holding Corp. on Form 10-Q for the fiscal quarter ended September 30, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Tonix Pharmaceuticals Holding Corp.

Date: November 9, 2020

By: /s/ SETH LEDERMAN
Name: Seth Lederman
Title: *Chief Executive Officer*

I, Bradley Saenger, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report of Tonix Pharmaceuticals Holding Corp. on Form 10-Q for the fiscal quarter ended September 30, 2020 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in this Quarterly Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Tonix Pharmaceuticals Holding Corp.

Date: November 9, 2020

By: /s/ BRADLEY SAENGER
Name: Bradley Saenger
Title: *Chief Financial Officer*