

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 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 June 30, 2021

OR

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

For the transition period from _____ to _____

Commission file number: 001-35610

ATOSSA THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

26-4753208

(I.R.S. Employer
Identification No.)

107 Spring Street

Seattle, WA

(Address of principal executive offices)

98104

(Zip Code)

Registrant's telephone number, including area code: (206) 325-6086

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, \$0.18 par value	ATOS	The Nasdaq Capital Market

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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

The number of shares of the registrant's common stock, \$0.18 par value per share, outstanding at August 6, 2021, was 126,623,256.

ATOSSA THERAPEUTICS, INC.
FORM 10-Q
QUARTERLY REPORT

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PART I. FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

ATOSSA THERAPEUTICS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS

	As of June 30, 2021 (Unaudited)	As of December 31, 2020
Assets		
Current assets		
Cash and cash equivalents	\$ 142,432,961	\$ 39,553,671
Restricted cash	110,000	110,000
Prepaid expenses	2,391,966	1,813,902
Research and development tax rebate receivable	817,109	634,940
Other current assets	78,882	657,662
Total current assets	145,830,918	42,770,175
Furniture and equipment, net	14,501	20,632
Intangible assets, net	4,458	13,375
Right-of-use asset	4,720	18,053
Other assets	13,408	17,218
Total Assets	\$ 145,868,005	\$ 42,839,453
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 537,915	\$ 1,588,613
Accrued expenses	531,602	93,367
Payroll liabilities	700,588	963,665
Common stock warrant liability	-	13,003,075
Lease liability	4,720	18,053
Other current liabilities	21,278	4,748
Total current liabilities	1,796,103	15,671,521
Commitments and contingencies (Note 13)		
Stockholders' equity		
Preferred stock - \$0.001 par value; 10,000,000 shares authorized; 587 and 621 shares issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	1	1
Additional paid-in capital - Series B convertible preferred stock	586,999	620,999
Common stock - \$0.18 par value; 175,000,000 shares authorized; 125,925,096 and 47,548,835 shares issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	22,666,505	8,558,778
Additional paid-in capital	240,023,345	129,887,146
Accumulated deficit	(119,204,948)	(111,898,992)
Total Stockholders' Equity	144,071,902	27,167,932
Total Liabilities and Stockholders' Equity	\$ 145,868,005	\$ 42,839,453

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

ATOSSA THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	<u>For the Three Months Ended June 30,</u>		<u>For the Six Months Ended June 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Operating expenses				
Research and development	\$ 3,798,636	\$ 1,653,239	\$ 5,177,123	\$ 2,591,859
General and administrative	3,205,130	2,282,568	5,357,371	4,280,957
Total operating expenses	<u>7,003,766</u>	<u>3,935,807</u>	<u>10,534,494</u>	<u>6,872,816</u>
Operating loss	(7,003,766)	(3,935,807)	(10,534,494)	(6,872,816)
Other income (expense), net	(35,482)	29,665	(42,823)	19,254
Loss before income taxes	(7,039,248)	(3,906,142)	(10,577,317)	(6,853,562)
Income taxes	-	-	-	-
Net loss	<u>\$ (7,039,248)</u>	<u>\$ (3,906,142)</u>	<u>\$ (10,577,317)</u>	<u>\$ (6,853,562)</u>
Loss per common share - basic and diluted	<u>\$ (0.06)</u>	<u>\$ (0.43)</u>	<u>\$ (0.10)</u>	<u>\$ (0.75)</u>
Weighted average shares outstanding - basic and diluted	<u>121,572,091</u>	<u>9,187,588</u>	<u>107,159,698</u>	<u>9,159,286</u>

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

ATOSSA THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(UNAUDITED)

	Series B Convertible Preferred Stock			Common Stock			Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Additional Paid-in Capital	Shares	Amount	Additional Paid-in Capital		
Balance at December 31, 2019	671	\$ 1	\$ 670,999	9,130,984	\$ 1,643,565	\$ 104,912,480	\$ (94,071,040)	\$ 13,156,005
Compensation cost for stock options granted	-	-	-	-	-	687,752	-	687,752
Net loss	-	-	-	-	-	-	(2,947,420)	(2,947,420)
Balance at March 31, 2020	671	\$ 1	\$ 670,999	9,130,984	\$ 1,643,565	\$ 105,600,232	\$ (97,018,460)	\$ 10,896,337
Issuance of common stock, net of issuance costs of \$178,544	-	-	-	160,108	28,820	318,807	-	347,627
Conversion of Series B convertible preferred stock to common stock	(45)	-	(45,000)	12,786	2,301	42,699	-	-
Compensation cost for stock options granted	-	-	-	-	-	1,036,484	-	1,036,484
Net loss	-	-	-	-	-	-	(3,906,142)	(3,906,142)
Balance at June 30, 2020	626	\$ 1	\$ 625,999	9,303,878	\$ 1,674,686	\$ 106,998,222	\$ (100,924,602)	\$ 8,374,306

	Series B Convertible Preferred Stock			Common Stock			Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Additional Paid-in Capital	Shares	Amount	Additional Paid-in Capital		
Balance at December 31, 2020	621	\$ 1	\$ 620,999	47,548,835	\$ 8,558,778	\$ 129,887,146	\$ (111,898,992)	\$ 27,167,932
Cumulative effect of adopted accounting standard	-	-	-	-	-	9,731,714	3,271,361	13,003,075
Issuance of common stock and warrants, net of issuance costs of \$5,493,310	-	-	-	41,211,100	7,417,998	62,250,410	-	69,668,408
Issuance of common stock upon warrant exercise	-	-	-	32,064,148	5,771,547	26,988,755	-	32,760,302
Conversion of Series B convertible preferred stock to common stock	(1)	-	(1,000)	285	51	949	-	-
Compensation cost for stock options granted	-	-	-	-	-	639,751	-	639,751
Net loss	-	-	-	-	-	-	(3,538,069)	(3,538,069)
Balance at March 31, 2021	620	\$ 1	\$ 619,999	120,824,368	\$ 21,748,374	\$ 229,498,725	\$ (112,165,700)	\$ 139,701,399
Issuance of common stock upon warrant exercise	-	-	-	5,091,351	916,443	9,279,198	-	10,195,641
Conversion of Series B convertible preferred stock to common stock	(33)	-	(33,000)	9,377	1,688	31,312	-	-
Compensation cost for stock options granted	-	-	-	-	-	1,214,110	-	1,214,110
Net loss	-	-	-	-	-	-	(7,039,248)	(7,039,248)
Balance at June 30, 2021	587	\$ 1	\$ 586,999	125,925,096	\$ 22,666,505	\$ 240,023,345	\$ (119,204,948)	\$ 144,071,902

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

ATOSSA THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	For the Six Months Ended June 30,	
	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Net loss	\$ (10,577,317)	\$ (6,853,562)
Adjustments to reconcile net loss to net cash used in operating activities		
Compensation cost for stock options granted	1,853,861	1,724,236
Disposal of assets	-	2,226
Depreciation and amortization	15,048	24,711
Changes in operating assets and liabilities:		
Prepaid expenses	(578,064)	(602,022)
Research and development tax rebate receivable	(182,169)	(20,966)
Other assets	582,590	(237,827)
Accounts payable	(1,050,698)	739,536
Accrued expenses	438,235	14,967
Payroll liabilities	(263,077)	(244,012)
Other current liabilities	16,530	(6,704)
Net cash used in operating activities	<u>(9,745,061)</u>	<u>(5,459,417)</u>
CASH FLOWS FROM INVESTING ACTIVITY		
Purchase of furniture and equipment	-	(6,610)
Net cash used in investing activities	<u>-</u>	<u>(6,610)</u>
CASH FLOWS FROM FINANCING ACTIVITY		
Proceeds from issuance of common stock, net of issuance costs	-	347,627
Proceeds from issuance of common stock and warrants, net of issuance costs	69,668,408	-
Proceeds from exercise of warrants	42,955,943	-
Net cash provided by financing activities	<u>112,624,351</u>	<u>347,627</u>
NET (DECREASE) INCREASE IN CASH, CASH EQUIVALENTS AND RESTRICTED CASH	102,879,290	(5,118,400)
CASH, CASH EQUIVALENTS AND RESTRICTED CASH, BEGINNING BALANCE	39,663,671	12,691,136
CASH, CASH EQUIVALENTS AND RESTRICTED CASH, ENDING BALANCE	<u>\$ 142,542,961</u>	<u>\$ 7,572,736</u>
SUPPLEMENTAL DISCLOSURES		
Reconciliation of cash, cash equivalents and restricted cash		
Cash and cash equivalents	\$ 142,432,961	\$ 7,462,736
Restricted cash	110,000	110,000
Total cash, cash equivalents and restricted cash shown in the condensed consolidated statements of cash flows	<u>\$ 142,542,961</u>	<u>\$ 7,572,736</u>
NONCASH INVESTING AND FINANCING ACTIVITIES		
Reclassification of the warrant liability to equity upon adoption of accounting standard	\$ 13,003,075	\$ -
Conversion of Series B convertible preferred stock to common stock	\$ 34,000	\$ 45,000

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

ATOSSA THERAPEUTICS, INC.
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

NOTE 1: NATURE OF OPERATIONS

On January 6, 2020, we changed our corporate name from Atossa Genetics Inc. to Atossa Therapeutics, Inc.

Atossa Therapeutics, Inc. (the "Company") was incorporated on April 30, 2009, in the State of Delaware. The Company was initially formed to develop and market medical devices, laboratory tests and therapeutics to address breast health conditions. The Company is currently developing its pharmaceuticals in the fields of oncology and infectious disease with a focus on treatments of the novel coronavirus ("COVID-19"), breast cancer and other breast conditions. The Company's fiscal year ends on December 31.

Impact of the Novel Coronavirus

The continued spread of the COVID-19 pandemic is affecting the United States and global economies and may affect the Company's operations and those of third parties on which the Company relies, including causing possible disruptions in the supply of the Company's Endoxifen, AT-H201, AT-301 and the conduct of current and future clinical trials. In addition, the COVID-19 pandemic may affect the operations of the U.S. FDA and other health authorities including similar entities/agencies in Sweden and Australia, which could result in delays in meetings, reviews and approvals. The evolving COVID-19 pandemic could also directly or indirectly impact the pace of enrollment in our clinical trials for at least the next several months and possibly longer as patients may avoid or may not be able to travel to healthcare facilities and physicians' offices except for a health emergency. Such facilities and offices may also be required to focus limited resources on non-clinical trial activities, including treatment of COVID-19 patients, and may not be available, in whole or in part, for clinical trial activities related to the Company's products under development. We have not experienced any delay in drug supply for our ongoing and planned clinical studies, including studies of Endoxifen, AT-301 and AT-H201. However, our Phase 2 clinical study of Endoxifen that was being conducted in Australia was enrolling slower than expected due in part to COVID-19 restrictions. Also, the study site we plan to use in Sweden has been negatively impacted by COVID-19 restrictions which must be lifted before we can begin our study there. As a result, the study in Stockholm could be delayed or enroll more slowly than expected. Additionally, while the potential economic impact brought by, and the duration of, the COVID-19 pandemic is difficult to assess or predict, the impact of the COVID-19 pandemic on the global financial markets may reduce the Company's ability to access capital, which could negatively impact the Company's short-term and long-term liquidity. The ultimate impact of the COVID-19 pandemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, financing or clinical trial activities or on healthcare systems or the global economy as a whole. However, these effects could have a material adverse impact on the Company's liquidity, capital resources, operations, financial position and business and those of the third parties on which we rely. We will continue to monitor future enrollment in studies for potential restrictions on site visits, mammograms or the impositions of new restrictions on trials as a result of the COVID-19 pandemic.

In response to the Coronavirus pandemic, the Coronavirus Aid, Relief and Economic Security Act ("CARES Act") was signed into law on March 27, 2020. On March 11, 2021, President Biden signed an additional coronavirus relief package entitled the American Rescue Plan Act of 2021, which included, among other things, provisions relating to stimulus payments to some Americans, extension of several CARES Act relief programs, expansion of the child tax credit, funding for vaccinations and other COVID-19 related assistance programs. The CARES Act and the American Rescue Plan Act have not had a material impact on the Company; however, we will continue to examine the impacts that the CARES Act and the American Rescue Plan Act, as well as any future economic relief legislation, may have on our business.

NOTE 2: LIQUIDITY AND CAPITAL RESOURCES

The Company has incurred net losses and negative operating cash flows since inception. For the six months ended June 30, 2021, the Company recorded a net loss of approximately \$10,577,000 and used approximately \$9,745,000 of cash in operating activities. As of June 30, 2021, the Company had approximately \$142,433,000 in cash and cash equivalents and working capital of approximately \$144,035,000. The Company has not yet established an ongoing source of revenue sufficient to cover its operating costs and believes it will need to continue to raise substantial additional capital to accomplish its business plan over the next several years. Management believes its currently available funding, including the funds received from warrant exercises and financing transactions with net proceeds of approximately \$112,624,000 in the first six months of 2021, will be sufficient to finance the Company's operations for at least one year from the date these condensed consolidated financial statements are issued. The Company plans to continue to fund its losses from operations and capital funding needs through a combination of public or private equity offerings, debt financings or other sources, including potential corporate collaborations, licenses and other similar arrangements. There can be no assurance as to the availability or terms upon which such financing and capital might be available in the future. If the Company is unable to secure additional funding, it may be forced to curtail or suspend its business plans.

NOTE 3: SUMMARY OF ACCOUNTING POLICIES

Basis of Presentation

The accompanying condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States ("GAAP") for interim financial information and with the instructions to Form 10-Q and Rule 10-01 of Regulation S-X. They do not include all information and notes required by GAAP for complete financial statements. However, except as disclosed herein, there has been no material change in the information disclosed in the Notes to Consolidated Financial Statements included in the Annual Report on Form 10-K of the Company for the year ended December 31, 2020. The year-end condensed consolidated balance sheet presented was derived from audited consolidated financial statements, but does not include all disclosures required by GAAP.

In the opinion of management, all adjustments (including normal recurring accruals) considered necessary for a fair presentation have been included. Operating results for the three and six months ended June 30, 2021, are not necessarily indicative of the results that may be expected for the year ending December 31, 2021.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of expenses during the reporting period. Actual results could differ from those estimates.

Research and Development Expense

Research and development ("R&D") costs are generally expensed as incurred. R&D expenses include, for example, manufacturing expenses for the Company's drugs under development, expenses associated with clinical trials and associated salaries and benefits. R&D expenses also include an allocation of the CEO's salary and related benefits including bonus and non-cash stock-based compensation expense based on an estimate of total hours expended on research and development activities. The Company's CEO is involved in the development of the Company's drug candidates and oversight of the related clinical trial activity.

Fair Value Measurements

The Company records financial assets and liabilities measured on a recurring and non-recurring basis as well as all non-financial assets and liabilities subject to fair value measurement at the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. These fair value principles prioritize valuation inputs across three broad levels. Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities. Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument. Level 3 inputs are unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value. An asset or liability's classification within the various levels is determined based on the lowest level input that is significant to the fair value measurement. Also refer to Note 8.

Stock-based Payments

The Company measures and recognizes compensation expense for all stock-based payment awards made to employees, non-employee directors, and consultants, including employee stock options. Stock compensation expense is based on the estimated grant date fair value and is recognized as an expense over the requisite service period. The Company has made a policy election to recognize forfeitures when they occur.

The fair value of each option grant is estimated using the Black-Scholes option-pricing model, which requires assumptions regarding the expected volatility of the stock options, the expected life of the options, an expectation regarding future dividends on the Company's common stock, and estimation of an appropriate risk-free interest rate. The Company's expected common stock price volatility assumption is based upon the historical volatility of our stock price. The Company has elected the simplified method for the expected life assumption for stock option grants, which averages the contractual term of the options of ten years with the vesting term, typically one to four years, as the Company does not have sufficient history of option exercise experience. The dividend yield assumption of zero is based upon the fact that the Company has never paid cash dividends and presently has no intention of paying cash dividends in the future. The risk-free interest rate used for each grant was based upon prevailing short-term interest rates over the expected life of the options.

Financial Instruments with Characteristics of Both Liabilities and Equity

During December 2020, the Company issued certain financial instruments, including warrants to purchase common stock, which have characteristics of both liability and equity. Financial instruments such as warrants that are classified as liabilities are fair valued upon issuance and are remeasured at fair value at subsequent reporting periods with the resulting change in fair value recorded in "change in fair value of common stock warrants". The fair value of warrants is estimated using valuation models that require the input of subjective assumptions including stock price, exercise price, stock price volatility, expected life, an expectation regarding future dividends on the Company's common stock, and estimation of an appropriate risk-free interest rate.

Recent Accounting Pronouncements

On May 3, 2021, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2021-04, *Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options* — a consensus of the FASB Emerging Issues Task Force. The ASU provides a principles-based framework to determine whether an issuer should recognize the modification or exchange as an adjustment to equity or an expense. The guidance will be effective for the Company for fiscal years beginning after December 15, 2021, and interim periods within those fiscal years.

Recently Adopted Accounting Pronouncements

On January 1, 2021, the Company early adopted ASU No. 2020-06, *Accounting for Convertible Instruments and Contracts in an Entity's Own Equity (Topic 815)* which simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts in an entity's own equity. The guidance is effective for fiscal years beginning on or after December 15, 2023, with early adoption permitted, but not earlier than fiscal years beginning after December 15, 2020. The Company implemented this ASU using the modified retrospective approach. Upon adoption, the Company recorded a cumulative adjustment to beginning Stockholders' Equity in the amount of \$13,003,075 to reclassify the common stock warrant liability to accumulated deficit and additional paid-in capital.

The guidance removes the liability and equity separation models for convertible instruments with a cash conversion feature or beneficial conversion feature. As a result companies will more likely account for a convertible debt instruments wholly as debt, and for convertible preferred stock wholly as preferred stock (i.e. as a single unit of account). In addition, the guidance simplifies the settlement assessment that issuers perform to determine whether a contract in their own equity qualifies for equity classification. Finally, the guidance requires entities to use the if-converted method to calculate earnings per share for all convertible instruments.

The cumulative effect of initially applying the new standard was recognized as an adjustment to accumulated deficit. Upon the adoption of the new standard we recognized the following adjustments:

	Ending Balance as of December 31, 2020	ASU 2020-06 Adjustments	Beginning Balance as of January 1, 2021
Warrant liability	\$ 13,003,075	\$ (13,003,075)	\$ -
Additional paid-in capital	129,887,146	9,731,714	139,618,860
Accumulated deficit	(111,898,992)	3,271,361	(108,627,631)

The \$3,271,361 adjustment to accumulated deficit includes the reclassification of warrant financing expenses of \$938,794 and the change in fair value of common stock warrants of \$2,332,567 subsequent to initial recognition.

On January 1, 2021, the Company adopted ASU 2019-12, *Income Taxes, (Topic 740): Simplifying the Accounting for Income Taxes*, which amends the existing guidance relating to accounting for income taxes. This ASU is intended to simplify the accounting for income taxes by removing certain exceptions to the general principles of accounting for income taxes and to improve the consistent application of U.S. GAAP for other areas of accounting for income taxes by clarifying and amending existing guidance. This ASU did not have a material effect on its condensed consolidated financial statements.

NOTE 4: RESTRICTED CASH

The Company's restricted cash balance of \$110,000 as of June 30, 2021 and December 31, 2020 consists entirely of cash pledged as security for the Company's issued commercial credit cards.

NOTE 5: PREPAID EXPENSES

Prepaid expenses consisted of the following:

	<u>As of June 30,</u> <u>2021</u>	<u>As of December</u> <u>31,</u> <u>2020</u>
Prepaid research and development	\$ 1,689,936	\$ 1,215,834
Prepaid insurance	522,178	417,854
Professional services	122,594	128,229
Financial exchange fees	29,000	-
Retainer and security deposits	14,218	14,218
Prepaid rent	14,040	4,488
Other	-	33,279
Total prepaid expenses	<u>\$ 2,391,966</u>	<u>\$ 1,813,902</u>

NOTE 6: RESEARCH AND DEVELOPMENT TAX REBATE RECEIVABLE

On May 23, 2017, Atossa formed a wholly-owned subsidiary in Australia called Atossa Genetics AUS Pty Ltd. The purpose of this subsidiary is to perform R&D activities including our Phase 1 and Phase 2 Endoxifen and COVID-19 clinical trials. Australia offers an R&D cash rebate of \$0.435 per dollar spent on qualified R&D activities incurred in the country. During the six months ended June 30, 2021 and 2020, the Company recorded a rebate receivable of approximately \$271,000 and \$203,000 respectively, related to qualified R&D activities incurred. At June 30, 2021 and December 31, 2020, we had a total R&D rebate receivable of \$817,109 and \$634,940, respectively.

The Company had realized losses on foreign currency exchange during the three and six months ended June 30, 2021 of \$32,537 and \$38,482, respectively, and realized gains on foreign currency exchange during the three and six months ended June 30, 2020 of \$28,412 and \$8,447, respectively, which is included in Other Income (Expense), net in the Condensed Consolidated Statements of Operations.

NOTE 7: PAYROLL LIABILITIES

Payroll liabilities consisted of the following:

	<u>As of June 30,</u> <u>2021</u>	<u>As of December</u> <u>31,</u> <u>2020</u>
Accrued bonuses	\$ 396,847	\$ 689,635
Accrued vacation	191,714	171,112
Accrued payroll	112,027	102,918
Total payroll liabilities	<u>\$ 700,588</u>	<u>\$ 963,665</u>

NOTE 8: FAIR VALUE OF FINANCIAL INSTRUMENTS

Pursuant to the accounting guidance for fair value measurement and its subsequent updates, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (i.e., the “exit price”) in an orderly transaction between market participants at the measurement date. The accounting guidance establishes a hierarchy for inputs used in measuring fair value that minimizes the use of unobservable inputs by requiring the use of observable market data when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on active market data. Unobservable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability based on the best information available in the circumstances.

The fair value hierarchy is broken down into the three input levels summarized below:

- *Level 1* —Valuations are based on quoted prices in active markets for identical assets or liabilities and readily accessible by us at the reporting date. Examples of assets and liabilities utilizing Level 1 inputs are certain money market funds, U.S. Treasuries and trading securities with quoted prices on active markets.
- *Level 2* —Valuations based on inputs other than the quoted prices in active markets that are observable either directly or indirectly in active markets. Examples of assets and liabilities utilizing Level 2 inputs are U.S. government agency bonds, corporate bonds, commercial paper, certificates of deposit and over-the-counter derivatives.
- *Level 3* —Valuations based on unobservable inputs in which there are little or no market data, which require the Company to develop its own assumptions.

Warrants issued in the December 11, 2020 offering and December 28, 2020 overallotment closing contained provisions that may require the Company to settle the warrants in cash in an event outside the Company’s control and are therefore accounted for as liabilities, with changes in the fair values included in net loss for the respective periods. Because some of the inputs to the valuation model were either not observable or were not derived principally from or corroborated by observable market data by correlation or other means, the warrant liability was classified as Level 3 in the fair value hierarchy as of December 31, 2020.

The following tables present the Company’s fair value hierarchy for all its financial assets and liabilities, by major security type measured at fair value on a recurring basis:

June 30, 2021	Estimated Fair Value	Level 1	Level 2	Level 3
Assets:				
Money market account	\$ 51,793,570	\$ 51,793,570	\$ -	\$ -
December 31, 2020				
Assets:				
Money market account	\$ 1,789,401	\$ 1,789,401	\$ -	\$ -
Liabilities:				
Common stock warrant liability	\$ 13,003,075	\$ -	\$ -	\$ 13,003,075

The following table summarizes the changes in the Company’s Level 3 warrant liability for the six months ended June 30, 2021:

Warrant Liability	
Beginning balance	\$ 13,003,075
Reclassification to equity upon adoption of accounting standard	(13,003,075)
Issuance of warrants	-
Change in fair value	-
Ending balance	\$ -

The carrying amounts of our cash and cash equivalents, restricted cash, research and development tax rebate receivable, prepaid expenses, other current assets, accounts payable, accrued expenses, payroll liabilities and other current liabilities approximate their fair values due to their short-term maturities at June 30, 2021 and December 31, 2020.

NOTE 9: STOCKHOLDERS' EQUITY

The Company is authorized to issue a total of 185,000,000 shares of stock consisting of 175,000,000 shares of common stock, par value \$0.18 per share, and 10,000,000 shares of preferred stock, par value \$0.001 per share. The Company has designated 750,000 shares of Series A junior participating preferred stock, par value \$0.001 per share, 4,000 shares of Series A convertible preferred stock, par value \$0.001 per share, 25,000 shares of Series B convertible preferred stock, par value \$0.001 and 5,425 shares of Series C convertible preferred stock, par value \$0.001 per share, through the filings of certificates of designation with the Delaware Secretary of State. No shares of Series A junior participating preferred stock, no shares of Series A convertible preferred stock and no shares of Series C convertible preferred stock are outstanding as of June 30, 2021 and December 31, 2020.

2021 Financing Transactions

On January 6, 2021, the Company entered into a securities purchase agreement with certain institutional and accredited investors relating to the offering and sale of 23,850,000 shares of Company common stock, par value \$0.18 per share and warrants to purchase 17,887,500 shares of common stock. The combined purchase price for one share of common stock and a warrant to purchase 0.75 shares of common stock was \$1.055. Subject to certain ownership limitations, the warrants are exercisable upon issuance. The warrants will expire on the 4.5 year anniversary of the date of issuance and have an exercise price of \$1.055 per share. The common stock and warrants have been registered under the Securities Act of 1933, as amended.

Pursuant to a letter agreement, dated as of January 6, 2021, between the Company and the placement agent Maxim Group LLC, the Company agreed to pay the placement agent a cash fee of 7% of the aggregate gross proceeds. The Company also agreed to reimburse the placement agent for expenses, including legal fees which shall be limited to, in the aggregate, \$45,000. The offering closed on January 8, 2021 with net proceeds to the Company from the offering of approximately \$23.3 million, after deducting fees and expenses.

On March 22, 2021, the Company entered into a securities purchase agreement with certain institutional and accredited investors relating to the offering and sale of 17,361,100 shares of our common stock, par value \$0.18 per share. Concurrently with the offering, and pursuant to the purchase agreement, the Company also commenced a private placement whereby it issued and sold warrants exercisable for an aggregate of up to 13,020,825 shares of common stock. The combined purchase price for one share of common stock and a purchase warrant to purchase 0.75 shares of common stock is \$2.88. Subject to certain ownership limitations, the warrants are exercisable upon issuance. The warrants will expire on the 4.5 year anniversary of the date of issuance. Subsequent to the issuance of the warrants, the Company filed a registration statement on Form S-3 (File No. 333-255411) to cover the sale of an aggregate of 13,020,825 shares of common stock issuable upon exercise of the warrants which was declared effective by the SEC on April 29, 2021.

The Company agreed to pay the placement agent a cash fee of 7% of the aggregate gross proceeds of the offering and the private placement. The Company also agreed to reimburse the placement agent for expenses, including the legal fees which shall be limited to, in the aggregate, \$45,000. The Company estimates total expenses associated with the offering, excluding placement agent fees and expenses, are approximately \$70,000. The net proceeds to the Company from the offering and the private placement are approximately \$46.4 million, after deducting fees and expenses.

2021 Warrants

The terms and conditions of the warrants included in the 2021 offerings are as follows:

Exercisability. Each warrant is exercisable at any time and will expire 4.5 years from the date of issuance. The warrants are exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and payment in full for the number of shares of our common stock purchased upon such exercise, except in the case of a cashless exercise as discussed below.

The number of shares of common stock issuable upon exercise of the warrants is subject to adjustment in certain circumstances, including a stock split of, stock dividend on, or a subdivision, combination or recapitalization of the common stock. Upon the merger, consolidation, sale of substantially all of our assets, or other similar transaction, the holders of warrants shall, at the option of the Company, be required to exercise the warrants immediately prior to the closing of the transaction, or such warrants shall automatically expire. Upon such exercise, the holders of warrants shall participate on the same basis as the holders of common stock in connection with the transaction.

Cashless Exercise. If at any time there is no effective registration statement registering, or the prospectus contained therein is not available for issuance of, the shares issuable upon exercise of the warrant, the holder may exercise the warrant on a cashless basis. When exercised on a cashless basis, a portion of the warrant is cancelled in payment of the purchase price payable in respect of the number of shares of our common stock purchasable upon such exercise.

Exercise Price. Each warrant represents the right to purchase one share of common stock at an exercise price of \$1.055 per share (January 8, 2021) or \$2.88 per share (March 23, 2021). In addition, the exercise price per share is subject to adjustment for stock dividends, distributions, subdivisions, combinations, or reclassifications, and for certain dilutive issuances. Subject to limited exceptions, a holder of warrants will not have the right to exercise any portion of the warrant to the extent that, after giving effect to the exercise, the holder, together with its affiliates, and any other person acting as a group together with the holder or any of its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to its exercise. The holder, upon notice to the Company, may increase or decrease the beneficial ownership limitation provisions of the warrant, provided that in no event shall the limitation exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise of the warrant.

Transferability. Subject to applicable laws and restrictions, a holder may transfer a warrant upon surrender of the warrant to us with a completed and signed assignment in the form attached to the warrant. The transferring holder will be responsible for any tax that liability that may arise as a result of the transfer.

Exchange Listing. We do not intend to apply to list the warrants on any securities exchange or recognized trading system.

Rights as Stockholder. Except as set forth in the warrant, the holder of a warrant, solely in such holder's capacity as a holder of a warrant, will not be entitled to vote, to receive dividends, or to any of the other rights of our stockholders.

Warrants Outstanding

As of June 30, 2021, warrants to purchase 22,572,854 shares of common stock were outstanding including:

	Outstanding Warrants to	Purchase Shares	Exercise Price	Expiration date
May 2018 warrants	770,854	\$	4.05	May 30, 2022
December 2020 warrants	6,489,500	\$	1.00	December 11, 2024-June 21, 2025
January 2021 warrants	4,500,000	\$	1.055	July 8, 2025
March 2021 warrants	10,812,500	\$	2.88	September 22, 2025
	<u>22,572,854</u>			

Warrant Activity

During the three and six months ended June 30, 2021, the Company received approximately \$10,196,000 and \$42,956,000 respectively, from the exercises of warrants. As a result of the warrant exercises, the Company cancelled approximately 5,091,000 and 37,155,000 warrants, respectively, for the three and six months ended June 30, 2021 and issued approximately 5,091,000 and 37,155,000 million shares of common stock for the same period. There were no warrant exercises during the three or six months ended June 30, 2020.

Conversion of Series B Convertible Preferred Stock

During the three and six months ended June 30, 2021, certain holders of the Series B convertible preferred stock exercised their conversion option and converted an aggregate of 33 and 34 shares, into 9,377 and 9,662 shares of the Company's common stock, respectively. During the three and six months ended June 30, 2020, certain holders of the Series B convertible preferred stock exercised their conversion option and converted an aggregate of 45 shares, into 12,786 shares of the Company's common stock.

NOTE 10: NET LOSS PER SHARE

The Company follows the two-class method when computing net loss per share as the Company has issued warrants and preferred stock that meet the definition of participating securities. The two-class method determines net loss per share for each class of common and participating securities according to dividends declared or accumulated and participation rights in undistributed earnings. The two-class method requires income available to common stockholders for the period to be allocated between common and participating securities based upon their respective rights to receive dividends as if all income for the period had been distributed.

Basic net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares outstanding. In addition, in computing the dilutive effect of convertible securities, the numerator is adjusted to add back any convertible preferred dividends. Diluted net loss per common share is computed by dividing net loss attributable to common stockholders by the weighted average number of common shares that would have been outstanding during the period assuming the issuance of common shares for all potential dilutive common shares outstanding. Potential common shares consist of potential future exercises of outstanding stock options and common stock warrants. Because the inclusion of potential common shares would be anti-dilutive for all periods presented, they have been excluded from the calculation.

The Company's common stock warrants and preferred stock contractually entitles the holders of such securities to participate in dividends but do not contractually require the holders of such securities to participate in losses of the Company. Accordingly, in periods in which the Company reports a net loss, such losses are not allocated to such participating securities. In periods in which the Company reports a net loss attributable to common stockholders, diluted net loss per share attributable to common stockholders is the same as basic net loss per share attributable to common stockholders, since dilutive common shares are not assumed to have been issued if their effect is anti-dilutive. The Company reported a net loss attributable to common stockholders for the three and six months ended June 30, 2021 and 2020.

The following table summarizes the Company's calculation of net loss per common share:

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Numerator				
Net loss attributable to common shareholders	\$ (7,039,248)	\$ (3,906,142)	\$ (10,577,317)	\$ (6,853,562)
Denominator				
Weighted average common shares outstanding used to compute net loss per share, basic and diluted	121,572,091	9,187,588	107,159,698	9,159,286
Net loss per share of common stock, basic and diluted:	<u>\$ (0.06)</u>	<u>\$ (0.43)</u>	<u>\$ (0.10)</u>	<u>\$ (0.75)</u>

The following table sets forth the number of potential common shares excluded from the calculation of net loss per diluted share, because including them would be anti-dilutive:

	<u>Three Months Ended June 30,</u>		<u>Six Months Ended June 30,</u>	
	<u>2021</u>	<u>2020</u>	<u>2021</u>	<u>2020</u>
Options to purchase common stock	8,905,274	5,993,823	7,991,432	5,151,103
Series B convertible preferred stock	175,335	182,520	176,348	186,568
Warrants to purchase common stock	26,918,409	1,070,028	26,002,649	1,070,028
	<u>35,999,018</u>	<u>7,246,371</u>	<u>34,170,429</u>	<u>6,407,699</u>

NOTE 11: INCOME TAXES

Deferred income tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial reporting and tax bases of assets and liabilities and are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. A valuation allowance is provided for the amount of deferred tax assets that, based on available evidence, are not expected to be realized.

As a result of the Company's cumulative losses, management has concluded that a full valuation allowance against the Company's net deferred tax assets is appropriate. No income tax liabilities existed as of June 30, 2021 and December 31, 2020, due to the Company's continuing operating losses.

NOTE 12: CONCENTRATION OF CREDIT RISK

Financial instruments that potentially subject the Company to concentration of credit risk consist principally of cash deposits. Accounts at each institution are insured by the Federal Deposit Insurance Corporation ("FDIC") up to \$250,000. At June 30, 2021 and December 31, 2020, the Company had \$142,266,985 and \$39,345,260 in excess of the FDIC insured limit, respectively.

NOTE 13: COMMITMENTS AND CONTINGENCIES**Lease Commitments**

The Company evaluates all contractual agreements at inception to determine if they contain a lease. Lease liabilities are measured at present value of lease payments not yet paid, using a discounted cash flow model that requires the use of a discount rate, or incremental borrowing rate.

The Company's operating lease assets consist of a copier system lease and an office lease. Our office lease expired on February 28, 2021. On March 1, 2021, the Company entered into a new operating lease for office space to pay monthly rent of \$750 for a term of 12 months. As a result of COVID-19, the Company has adopted a remote work practice. Our copier system lease expires in October of 2021. None of our leases contain options to extend. Total operating lease expense for the three and six months ended June 30, 2021 and 2020, was approximately \$3,300 and \$13,300, respectively, and \$14,700 and 29,400, respectively. Variable lease payments of taxes and insurance were immaterial. As of June 30, 2021, the weighted average remaining lease term was approximately 4.0 months and the weighted average discount rate of our operating lease was 11.3%.

As of June 30, 2021 and 2020, the future minimum lease payments are \$4,968 for 2021. These payments are reported in the condensed consolidated balance sheets at June 30, 2021, net of imputed interest of \$242. The cash paid for amounts included in the measurement of operating lease liabilities for the three and six months ended June 30, 2021 was approximately \$3,700 and \$14,388 respectively and 2020 was approximately \$14,700 and \$28,200, respectively.

The Company had lease expense under short term leases of \$6,931 and \$12,170, during the three and six months ended June 30, 2021 and 2020 was approximately \$4,488 and \$8,873, respectively.

Litigation and Contingencies

We are subject to legal proceedings and claims that arise in the normal course of business. We believe these matters are either without merit or of a kind that should not have a material effect, individually or in the aggregate, on our financial position, results of operations or cash flows.

NOTE 14: STOCK BASED COMPENSATION

Stock Option and Incentive Plan

On March 24, 2020, the Board of Directors approved the adoption of the 2020 Stock Incentive Plan (the "2020 Plan") to provide for the grant of equity-based awards to employees, officers, non-employee directors and other key persons providing services to the Company. No awards may be granted under the 2020 Plan after the date that is 10 years from the date of stockholder approval. An aggregate of 3,000,000 shares were initially reserved for issuance in connection with awards granted under the 2020 Plan and on May 14, 2021 the stockholders approved an additional 15,000,000 shares available for issuance under the 2020 Plan.

The Company granted 3,643,921 options to purchase shares of common stock during the three and six months ended June 30, 2021 and 2,915,000 options for the three and six months ended June 30, 2020, respectively. There were no options exercised during the three and six months ended June 30, 2021 and 2020. There are 12,101,079 shares available for grant under the 2020 Plan as of June 30, 2021. Shares may no longer be granted under the expired 2010 Stock Option and Incentive Plan (the "2010 Plan").

The fair value of the stock options granted for the six months ended June 30, 2021 and 2020 was calculated using the Black-Scholes option-pricing model applying the following assumptions:

	Period ended June 30,	
	2021	2020
Risk-free interest rate	0.89%-1.08%	0.28%-0.47%
Expected term	5.31-6.17 years	4.50-6.18 years
Dividend yield	-	-
Expected volatility	122%-130%	103%-125%

Compensation costs associated with the Company's stock options are recognized, based on the grant-date fair values of these options, over the requisite service period, or vesting period. Accordingly, the Company recognized stock-based compensation expense of \$1,214,110 and \$1,853,861 for the three and six months ended June 30, 2021 and \$1,036,484 and \$1,724,236 for the three and six months ended June 30, 2020, respectively. Compensation cost is recognized in the following captions in the condensed consolidated statements of operations.

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
General and administrative	\$ 852,583	\$ 702,561	\$ 1,302,527	\$ 1,185,561
Research and development	361,527	333,923	551,334	538,675
Total stock compensation expense	\$ 1,214,110	\$ 1,036,484	\$ 1,853,861	\$ 1,724,236

Options issued and outstanding as of June 30, 2021 under the 2020 and 2010 Plans and their activities during the six months then ended are as follows:

	Number of Underlying Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Contractual Life Remaining in Years	Aggregate Intrinsic Value
Outstanding as of January 1, 2021	7,067,436	\$ 2.74	-	-
Granted	3,643,921	2.97	-	96,050
Exercised	-	-	-	-
Forfeited	(75,000)	3.05	-	-
Expired	-	-	-	-
Outstanding as of June 30, 2021	10,636,357	2.82	8.71	\$ 44,150,423
Exercisable as of June 30, 2021	5,552,436	2.96	7.91	\$ 25,562,663
Vested and expected to vest	10,636,357	\$ 2.82	8.71	\$ 44,150,423

At June 30, 2021, there were 5,083,921 unvested options outstanding and the related unrecognized total compensation cost associated with these options was approximately \$10,560,345. This expense is expected to be recognized over a weighted-average period of 1.80 years.

NOTE 15: SUBSEQUENT EVENT

Warrant Activity and Option Exercise Activity

From July 1, 2021 through August 6, 2021, the Company received approximately \$1,500,000 from the exercise of warrants and employee stock options. The exercise resulted in the reduction of approximately 296,000 warrants and 699,410 options and the issuance of approximately 699,000 shares of common stock.

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

The following discussion of the financial condition and results of operations should be read in conjunction with the condensed consolidated financial statements and the related notes included elsewhere in this report. This discussion contains forward-looking statements, which are based on assumptions about the future of the Company's business. The actual results could differ materially from those contained in the forward-looking statements. Please read "Forward-Looking Statements" included below for additional information regarding forward-looking statements.

Forward-Looking Statements

This report contains, in addition to historical information, certain information, assumptions and discussions that may constitute forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act") and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). We have made these statements in reliance on the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements are subject to certain risks and uncertainties, which could cause actual results to differ materially from those projected or anticipated. Although we believe our assumptions underlying our forward-looking statements are reasonable as of the date of this report, we cannot assure you that the forward-looking statements set out in this report will prove to be accurate. We typically identify these forward-looking statements by the use of forward-looking words such as "expect," "potential," "continue," "may," "will," "should," "could," "would," "seek," "intend," "plan," "estimate," "anticipate" or the negative version of those words or other comparable words. Forward-looking statements contained in this report include, but are not limited to, statements about:

- The impact of the ongoing coronavirus pandemic and the degree to which the pandemic negatively impacts our supply chain, clinical trial enrollment and timing and our ability to access capital markets;
- whether we can obtain approval from the U.S. Food and Drug Administration ("FDA"), and foreign regulatory bodies, to commence our clinical trials, including our planned COVID-19 trials, and to sell, market and distribute our therapeutics under development;
- our ability to successfully initiate and complete clinical trials of our pharmaceutical candidates under development, including our oral and topical Endoxifen (an active metabolite of Tamoxifen);
- the success, cost and timing of our product and drug development activities and clinical trials, including whether our study using our oral Endoxifen will enroll a sufficient number of subjects or be completed in a timely fashion or at all;
- whether we will successfully initiate and complete our clinical trial of oral Endoxifen to reduce mammographic breast density and whether the study will meet its objective;
- our ability to contract with third-party suppliers, manufacturers and service providers, including clinical research organizations, and their ability to perform adequately;
- our ability to successfully develop and commercialize new therapeutics currently in development or that we might identify in the future and in the time frames currently expected;
- our ability to successfully defend litigation and other similar complaints that may be brought in the future, in a timely manner and within the coverage, scope and limits of our insurance policies;
- our ability to establish and maintain intellectual property rights covering our products;
- our expectations regarding, and our ability to satisfy, federal, state and foreign regulatory requirements;
- the accuracy of our estimates of the size and characteristics of the markets that our products and services may address;
- whether the final study results will vary from preliminary study results that we may announce;
- our expectations as to future financial performance, expense levels and capital sources;
- our ability to attract and retain key personnel; and
- our ability to raise capital.

These and other forward-looking statements made in this report are presented as of the date on which the statements are made. We have included important factors in the cautionary statements included in this report, particularly in the section titled “ITEM 1A. RISK FACTORS,” that we believe could cause actual results or events to differ materially from the anticipated results as set forth in the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any new information, future events or circumstances that may affect our business after the date of this report. Except as required by law, we do not intend to update any forward-looking statements after the date on which the statement is made, whether as a result of new information, future events or circumstances or otherwise.

Company Overview

We are a clinical-stage biopharmaceutical company seeking to discover and develop innovative medicines in areas of significant unmet medical need in oncology and infectious diseases, with a current focus on breast cancer, other breast conditions and COVID-19. Our drug under development for breast cancer and other breast conditions is Endoxifen which is being developed primarily in two settings: one to reduce tumor cell activity in breast cancer patients in the “window of opportunity” between diagnosis of breast cancer and surgery; and another for women with dense breast tissue to reduce the density. Our two COVID-19 drugs under development are AT-H201, to improve lung function of moderate to severely ill, hospitalized COVID-19 patients and long haul COVID-19 survivors by inhalation; and AT-301, a nasal spray for COVID-19 patients for at-home use. Our business strategy is to advance our programs through clinical studies including with partners, and opportunistically add programs in areas of high unmet medical need through acquisition, collaboration, or internal development.

Summary of Leading Programs

Endoxifen for MBD. Mammographic breast density (“MBD”) is an emerging public health issue affecting over 10 million women in the U.S. Studies conducted by others have shown that MBD increases the risk of developing breast cancer and that reducing MBD can reduce the incidence of breast cancer. We believe our proprietary oral Endoxifen may reduce MBD, based in part on our previous successful Phase 2 study of our topical Endoxifen. Endoxifen is an active metabolite of tamoxifen which is an FDA-approved drug to treat and prevent breast cancer in high risk women. Endoxifen has been studied in over 70 participants in Atossa-conducted clinical studies.

We contracted with Stockholm South General Hospital to conduct a randomized, double-blinded, placebo-controlled Phase 2 study of our oral Endoxifen in pre-menopausal women with measurable MBD who will be dosed over six months. This study will evaluate safety, tolerability and efficacy of Endoxifen. The study has been approved by the European Medical Product Authority. We expect to open this study in Stockholm soon after receiving ethics approval, provided COVID-19 restrictions permit patient recruitment. No assurance can be given that reduction in MBD is an approvable indication.

Endoxifen for Window of Opportunity. Once a woman is diagnosed with breast cancer, it can take several weeks for surgery to be scheduled so that the tumor can be removed through lumpectomy or mastectomy. During this time, without treatment the cancer typically continues to grow. We believe there is a compelling need for therapy with our Endoxifen in this neo-adjuvant or “window of opportunity” setting.

We recently completed a Phase 2 study in Australia in the window of opportunity which enrolled 7 newly-diagnosed women with ER+ and human epidermal growth factor receptor 2 negative (“HER2-”) stage 1 or 2 invasive breast cancer, requiring mastectomy or lumpectomy. In February 2021, we concluded that the study produced substantially positive results and that continuing enrollment in the study would not be useful in advancing the program. We have therefore discontinued the study based in part on results from the first six patients. Final results from the study were shared in June 2021 that showed a 65% reduction in tumor cell proliferation as measured by Ki-67 expression. We now plan to seek guidance from the FDA on conducting a study in the United States. No assurance can be given that reduction in Ki-67 or any other biomarker in the window of opportunity is an approvable indication.

Compassionate Use of Endoxifen. We have supplied our oral Endoxifen to two patients under the FDA’s expanded access, or “compassionate use,” pathway. One patient has ER+ breast cancer and was not responding to tamoxifen. This patient has taken our Endoxifen, both in the window of opportunity and post-surgery for a total of more than 24 months. According to her physician, she has not had a recurrence of breast cancer, has not had treatment-related changes in periodic laboratory blood tests and the treatment has been well tolerated, including an absence of typically seen vasomotor symptoms (night sweats and hot flashes). The other patient has recurrent ovarian cancer. The patient underwent functional molecular genomic testing, using 3D tumor organoid cultures grown in the laboratory from the patient’s tumor. Organoid testing for this patient had previously shown a strong response to Endoxifen in combination with Apolisib. However, the patient has continued to experience disease progression and is not expected to continue treatment with Endoxifen. Compassionate use patients may discontinue treatment with Endoxifen at anytime for a number of reasons, including side effects and lack of therapeutic response.

Under the FDA expanded access program, the use of our oral Endoxifen is restricted to the individual patient in the application. The expanded access studies are being conducted by others; our involvement is limited to supplying our Endoxifen. The results from single-patient expanded access programs does not imply success in a larger patient population.

AT-301. There are currently no FDA-approved drugs to treat COVID-19 at-home. AT-301 is our proprietary drug candidate intended for nasal administration in patients immediately following diagnosis of COVID-19 but who have not yet exhibited symptoms severe enough to require hospitalization. It is intended for at-home use to reduce symptoms of COVID-19 and to slow the infection rate so that a person's immune system can more effectively fight COVID-19.

AT-301 is being developed with a nasal spray delivery mechanism because many COVID-19 patients are infected via the nasal passage. Our nasal spray formulation AT-301 is being designed to contain ingredients that can potentially block SARS-CoV-2 viral entry gene proteins in nasal epithelial cells by interfering with spike protein activation by host proteases, by masking receptor binding domains via electrostatic mechanisms, and by providing a generalized mucoadhesive epithelial barrier. In July 2020, we completed in vitro testing of AT-301 which showed that AT-301 inhibits SARS-CoV-2 infectivity of VERO cells in a laboratory culture.

In October 2020, we completed enrollment in a Phase 1 study of AT-301 which was a double-blinded, randomized, and placebo-controlled safety study of AT-301 nasal spray in 32 healthy adult subjects. An evaluation of the data indicated that there were no serious adverse events, no discontinuations, and only one of the subjects in the study experienced adverse events that were considered moderate in severity. We concluded that our AT-301 nasal spray was safe and well tolerated in this study. These results support advancing this program into a Phase 2 study. We recently received input from the FDA on this program and based in part on that input, we are now preparing to conduct an additional pre-clinical study. Following that, we expect to apply to the FDA to commence a Phase 2 study in the United States.

We may also develop our AT-301 nasal spray to potentially help prevent COVID-19 infection — particularly for people in high-risk environments, such as people living with an infected patient, people living and working in healthcare facilities, emergency responders or teachers.

AT-H201. AT-H201 is a proprietary combination of two drugs previously approved by the FDA to treat other diseases. It is intended to improve compromised lung function for moderate to severely ill, hospitalized COVID-19 patients and long haul COVID-19 survivors by inhalation. In May 2020, we completed in vitro testing of AT-H201 which showed that the components of AT-H201 inhibit SARS-CoV-2 infectivity of VERO cells, which is a standard cell type being used to study infectivity of the coronavirus. The AT-H201 components were found to be at least four times more potent than Remdesivir and at least 20 times more potent than Hydroxychloroquine. Potency was measured by microscopic examination of the cytopathic effect caused by SARS-CoV-2 in VERO cells. We received input from the FDA on potential pathways to develop AT-H201 and the FDA requested that we provide, among other things, additional pre-clinical results and other information on AT-H201.

In July 2021, we received regulatory approval from Human Research Ethics Committee (HREC) in Australia to start our Phase 1/2a study of AT-H201. The study plans to enroll 60 healthy participants and moderately-ill hospitalized COVID-19 patients. HREC will review data after each part of the study. Because the final part of the study in COVID-19 infected patients may require that we use additional study sites, approval of that part of the study, and additional sites may be at a later date depending on COVID-19 infections.

Impact of the Novel Coronavirus

The continued spread of the COVID-19 pandemic is affecting the United States and global economies and may affect the Company's operations and those of third parties on which the Company relies, including causing possible disruptions in the supply of the Company's Endoxifen, AT-H201, AT-301 and the conduct of current and future clinical trials. In addition, the COVID-19 pandemic may affect the operations of the U.S. FDA and other health authorities including similar entities/agencies in Sweden and Australia, which could result in delays in meetings, reviews and approvals. The evolving COVID-19 pandemic could also directly or indirectly impact the pace of enrollment in our clinical trials for at least the next several months and possibly longer as patients may avoid or may not be able to travel to healthcare facilities and physicians' offices except for a health emergency. Such facilities and offices may also be required to focus limited resources on non-clinical trial activities, including treatment of COVID-19 patients, and may not be available, in whole or in part, for clinical trial activities related to the Company's products under development. Additionally, while the potential economic impact brought by, and the duration of, the COVID-19 pandemic is difficult to assess or predict, the impact of the COVID-19 pandemic on the global financial markets may reduce the Company's ability to access capital, which could negatively impact the Company's short-term and long-term liquidity. The ultimate impact of the COVID-19 pandemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, financing or clinical trial activities or on healthcare systems or the global economy as a whole. However, these effects could have a material adverse impact on the Company's liquidity, capital resources, operations, financial position and business and those of the third parties on which we rely. We have not experienced any delay in drug supply for our ongoing and planned clinical studies, including studies of Endoxifen, AT-301 and AT-H201. We anticipate commencing the MBD Endoxifen trial soon after receiving all necessary regulatory approvals; subject to delays in enrollment due to COVID-19 disruptions, which could take several months or longer. We will continue to monitor future enrollment in studies for potential restrictions on site visits, mammograms or the impositions of new restrictions on trials as a result of the COVID-19 pandemic. In addition, enrollment of participants in the AT-H201 study in Australia could be impacted by COVID-19.

Research and Development Phase

We are in the research and development phase and are not currently marketing any products. We do not anticipate generating revenue unless and until we develop and launch our pharmaceutical programs.

Commercial Lease Agreements

On March 1, 2021, the Company entered into an operating lease to pay \$750 monthly rent for a term of 12 months with WW 107 Spring Street LLC to lease office space at 107 Spring Street, Seattle, Washington.

Critical Accounting Policies and Estimates

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

There were no changes in our significant accounting policies and estimates during the three months ended June 30, 2021, from those set forth in "Note 3, *Summary of Accounting Policies*" in our Annual Report on Form 10-K for the year ended December 31, 2020. We believe that the following accounting policies are the most critical to aid you in fully understanding and evaluating our reported financial results and affect the more significant judgments and estimates that we use in the preparation of our condensed consolidated financial statements.

Research and Development

Research and development ("R&D") costs are generally expensed as incurred. R&D expenses include, for example, manufacturing expenses for our drugs under development, expenses associated with clinical trials and associated salaries and benefits. R&D expenses also include an estimated allocation of the CEO's salary and related benefits including non-cash stock-based compensation expense based on time devoted to R&D.

Stock-Based Payments

We follow the provisions of Accounting Standards Codification ("ASC") 718, *Compensation – Stock Compensation*, which requires the measurement and recognition of compensation expense for all stock-based payment awards made to employees, non-employee directors, and consultants, including employee stock options. Stock compensation expense based on the grant date's fair value was estimated in accordance with the provisions of ASC 718 and is recognized as an expense over the requisite service period with forfeitures recognized when they occur.

The fair value of each option grant is estimated using the Black-Scholes option-pricing model, which requires assumptions regarding the expected volatility of our stock options, the expected life of the options, an expectation regarding future dividends on our common stock, and estimation of an appropriate risk-free interest rate. Our expected common stock price volatility assumption is based upon the volatility of our stock price. The expected life assumption for stock option grants was based upon the simplified method provided for under ASC 718-10, which averages the contractual term of the options of ten years with the average vesting term of one to four years. The dividend yield assumption of zero is based upon the fact that we have never paid cash dividends and presently have no intention of paying cash dividends in the future. The risk-free interest rate used for each grant was based upon prevailing short-term interest rates over the expected life of the options.

Financial Instruments with Characteristics of Both Liabilities and Equity

During December 2020, we issued certain financial instruments, including warrants to purchase common stock, which have characteristics of both liability and equity. Financial instruments such as warrants that are classified as liabilities are fair valued upon issuance and are remeasured at fair value at subsequent reporting periods with the resulting change in fair value recorded in "change in fair value of common stock warrants". The fair value of warrants is estimated using valuation models that require the input of subjective assumptions including stock price, strike price, stock price volatility, expected life, an expectation regarding future dividends on our common stock, and estimation of an appropriate risk-free interest rate.

On January 1, 2021, we early adopted ASU 2020-06 which resulted in the elimination of the criteria that resulted in the warrants being classified as liabilities at December 31, 2020. Upon adoption, we recorded a cumulative adjustment to beginning Stockholder's Equity in the amount of \$13,003,075 to reclassify the common stock warrant liability to Stockholders' Equity.

Results of Operations

Comparison of the three and six months ended June 30, 2021 and 2020

Revenue and Cost of Revenue: For the three and six months ended June 30, 2021 and 2020, we have no source of sustainable revenue and no associated cost of revenue.

Operating Expenses: Total operating expenses were approximately \$7,004,000 and \$10,534,000 for the three and six months ended June 30, 2021, respectively, consisting of research and development ("R&D") expenses of approximately \$3,799,000 and \$5,177,000 respectively, and general and administrative ("G&A") expenses of approximately \$3,205,000 and \$5,357,000, respectively. Total operating expenses were approximately \$3,936,000 and \$6,873,000, respectively for the three and six months ended June 30, 2020, and consisted of R&D expenses of approximately \$1,653,000 and \$2,592,000, respectively, and G&A expenses of approximately \$2,283,000 and \$4,281,000 respectively. Total operating expenses for the three and six months ended June 30, 2021 as compared to the same period in 2020 increased approximately \$3,068,000 and \$3,661,000 or 78% and 53%, respectively. The basis for the increased operating expenses in 2021 is explained below.

Research and Development Expenses: R&D expenses for the three months ended June 30, 2021, were approximately \$3,799,000, an increase of approximately \$2,146,000 or 130% from total R&D expenses for the three months ended June 30, 2020, of approximately \$1,653,000. R&D expenses for the six months ended June 30, 2021, were approximately \$5,177,000, an increase of approximately \$2,585,000 or 100% from total R&D expenses for the six months ended June 30, 2020, of approximately \$2,592,000. The increase in R&D expense is attributed primarily to an increase in clinical trial expense of approximately \$1,309,000 and an increase in compensation of approximately \$211,000 due to the addition of two employees, as compared to the same period in 2020. Also included in R&D expenses is an increase of \$1,000,000 attributable to a one-time fee we paid in June 2021 to a U.S. leading research institution for the exclusive right to negotiate for the acquisition of the world-wide rights to two oncology R&D programs. Those negotiations are ongoing and no assurance can be given that they will lead to a definitive agreement. We expect our R&D expenses to continue to increase into 2021 as we seek to commence a clinical study of AT-H201, complete studies of AT-301, launch a Phase 2 clinical trial of Endoxifen in women with high breast density, and continue the development of other indications and therapeutics.

General and Administrative Expenses: G&A expenses were \$3,205,000 for the three months ended June 30, 2021, an increase of approximately \$922,000, or 40% from the total G&A expenses for the three months ended June 30, 2020, of approximately \$2,283,000. G&A expenses for the six months ended June 30, 2021, were approximately \$5,357,000, an increase of approximately \$1,076,000 or 25% from total R&D expenses for the six months ended June 30, 2020, of approximately \$4,281,000. The increase in G&A expenses for the three and six months ended June 30, 2021, is attributed to an increase in insurance costs of approximately \$387,000 due to the addition of the COVID-19 clinical trials, professional fees of approximately \$703,000 due primarily to increased proxy costs and increased compensation of approximately \$170,000, offset by a reduction in legal fees of approximately \$301,000 compared to the same period in 2020. G&A expenses consist primarily of personnel and related benefit costs, facilities, professional services, insurance, and public company related expenses.

Income taxes: We have incurred net operating losses from inception; we did not record an income tax benefit for our incurred losses for the three and six months ended June 30, 2021 and 2020, due to uncertainty regarding utilization of our net operating carryforwards and due to our history of losses.

Liquidity and Capital Resources

We have incurred net losses and negative operating cash flows since inception. For the six months ended June 30, 2021, we recorded a net loss of approximately \$10,577,000 and used approximately \$9,745,000 of cash in operating activities. As of June 30, 2021, we had approximately \$142,433,000 in cash and cash equivalents and working capital of approximately \$144,035,000. We believe we have sufficient cash to fund our projected operating requirements for the next 18 months depending on the timing and extent of the Company's clinical trials.

Cash Flows

As of June 30, 2021, we had cash, cash equivalents and restricted cash of approximately \$142,543,000.

Net Cash Flows from Operating Activities: Net cash used in operating activities was approximately \$9,745,000 for the six months ended June 30, 2021, an increase of approximately \$4,286,000, or 79%, compared to net cash used in operating activities for the six months ended June 30, 2020 of approximately \$5,459,000. The increase in the 2021 period as compared to 2020 is due to a decrease in accounts payable of approximately \$1,790,000 offset by an increase in other assets and accrued expenses related to increased spending on our clinical trials of approximately \$1,244,000. An additional \$1,000,000 of the increase is attributable to a one-time fee we paid in June 2021 to a U.S. leading research institution for the exclusive right to negotiate for the acquisition of the world-wide rights to two oncology R&D programs.

Net Cash Flows from Financing Activities: Net cash provided by financing activities was approximately \$112,624,000 for the six months ended June 30, 2021. For the six months ended June 30, 2021, we sold common stock and warrants for net proceeds of approximately \$69,668,000. The 2021 financing activities also include proceeds of \$42,956,000 from the exercise of warrants. Proceeds from the issuance of common stock was approximately \$348,000 for the six months ended June 30, 2020.

Funding Requirements

We expect to incur ongoing operating losses for the foreseeable future as we continue to develop our planned therapeutic programs including related clinical studies and other programs in the pipeline. We expect that our existing resources will be sufficient to fund our planned operations for approximately the next 18 months from the date of this report.

If we are unable to raise additional capital when needed, however, we could be forced to curtail or cease operations. Our future capital uses and requirements will depend on the time and expenses needed to begin and continue clinical trials for our new drug developments. As mentioned earlier, the COVID-19 outbreak could adversely impact the timing and enrollment of our clinical trials.

Additional funding may not be available to us on acceptable terms or at all. The continued spread of COVID-19 and uncertain market conditions may limit our ability to access capital. In addition, the terms of any financing may adversely affect the holdings or the rights of our stockholders. For example, if we raise additional funds by issuing equity securities or by selling debt securities, if convertible, further dilution to our existing stockholders would result. To the extent our capital resources are insufficient to meet our future capital requirements, we will need to finance our future cash needs through public or private equity offerings, collaboration agreements, debt financings or licensing arrangements.

If adequate funds are not available, we may be required to terminate, significantly modify or delay our development programs, reduce our planned commercialization efforts, or obtain funds through collaborators that may require us to relinquish rights to our technologies or product candidates that we might otherwise seek to develop or commercialize independently. Further, we may elect to raise additional funds even before we need them if we believe the conditions for raising capital are favorable.

Off-Balance Sheet Arrangements

We do not currently have, nor have we ever had, any relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. In addition, we do not engage in trading activities involving non-exchange traded contracts.

Recent Accounting Pronouncements

On May 3, 2021, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2021-04, *Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options* — a consensus of the FASB Emerging Issues Task Force. The ASU provides a principles-based framework to determine whether an issuer should recognize the modification or exchange as an adjustment to equity or an expense. The guidance will be effective for us for fiscal years beginning after December 15, 2021, and interim periods within those fiscal years.

Recently Adopted Accounting Pronouncements

On January 1, 2021, we early adopted Accounting Standards Updated ("ASU") No. 2020-06, *Accounting for Convertible Instruments and Contracts in an Entity's Own Equity (Topic 815)* which simplifies the accounting for certain financial instruments with characteristics of liabilities and equity, including convertible instruments and contracts in an entity's own equity. The guidance is effective for fiscal years beginning on or after December 15, 2023, with early adoption permitted, but not earlier than fiscal years beginning after December 15, 2020. We implemented this ASU using the modified retrospective approach. Upon adoption, we recorded a cumulative adjustment to beginning Stockholders' Equity in the amount of \$13,003,075 to reclassify the common stock warrant liability to accumulated deficit and additional paid-in capital.

On January 1, 2021, we adopted ASU 2019-12, *Income Taxes, (Topic 740): Simplifying the Accounting for Income Taxes*, which amends the existing guidance relating to accounting for income taxes. This ASU is intended to simplify the accounting for income taxes by removing certain exceptions to the general principles of accounting for income taxes and to improve the consistent application of U.S. GAAP for other areas of accounting for income taxes by clarifying and amending existing guidance. This ASU did not have a material effect on our condensed consolidated financial statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not applicable.

ITEM 4. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports that we file or submit under the Securities Exchange Act of 1934, as amended (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 (our principal executive officer) and Chief Financial Officer (our principal financial officer) as appropriate, to allow for timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of June 30, 2021. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of June 30, 2021, our disclosure controls and procedures were not effective because of the material weakness identified in December 2020 as described below which has not been fully remediated.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control over financial reporting includes policies and procedures designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with generally accepted accounting principles.

Under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, our management conducted an evaluation of the effectiveness of our internal control over financial reporting as of June 30, 2021, based on the criteria established in Internal Control -- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Based on this assessment, management concluded that the Company did not maintain effective internal control over financial reporting as of December 31, 2020 due to the following material weakness.

The Company had ineffective controls over the evaluation and accounting for complex financing transactions, specifically, the Company did not have sufficient technical resources to appropriately identify errors in the accounting for warrants issued in a registered offering including whether the warrants should be classified as a liability or as equity.

The control deficiency described above created a reasonable possibility that a material misstatement to the consolidated financial statements would not be prevented or detected on a timely basis. This material weakness resulted in a material adjustment to the classification of certain warrants issued in December 2020 from equity to a liability on the consolidated balance sheet. The classification error was corrected prior to issuance of the consolidated financial statements as of and for the year ended December 31, 2020. On January 1, 2021, the Company early adopted ASU 2020-06 which resulted in the elimination of the criteria that resulted in the warrants being classified as liabilities at December 31, 2020.

Remediation Plan

The remedial actions we are taking, and expect to take, include educating and re-training control owners regarding the accounting standards related to the accounting for complex financial instruments and contracting with appropriate resources to provide accounting interpretation guidance to assist us in identifying and addressing any issues that affect our consolidated financial statements. Management is in the process of implementing remedial actions to ensure that the underlying causes of the material weakness are remediated such that the existing controls will operate effectively.

We believe that the improvements we have outlined above and expect to achieve, will effectively remediate the material weakness. However, the material weakness in our internal control over financial reporting will not be considered remediated until the operation of the remediated control is sufficiently tested.

Changes in Internal Control Over Financial Reporting

No other change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) occurred during the three and six months ended June 30, 2021, that has materially affected, or is reasonably likely to materially affect, our disclosure controls and procedures.

PART II OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

Litigation and Contingencies

We are subject to legal proceedings and claims that arise in the normal course of business. We believe these matters are either without merit or of a kind that should not have a material effect, individually or in the aggregate, on our financial position, results of operations or cash flows.

ITEM 1A. RISK FACTORS

Purchasing of our shares of common stock is an investment in our securities and involves a high degree of risk. You should carefully consider the following information about these risks, together with the other information contained in this Report, before purchasing our securities. If any of the following risks actually occur, our business, financial condition and results of operations would likely suffer. In that case, the market price of the common stock could decline, and you may lose part or all of your investment in our company. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations.

Risks Relating to our Business

We have only a limited operating history, and, as such, an investor cannot assess our profitability or performance based on past results.

We were incorporated in Delaware in April 2009. Initially, our operations were focused on establishing our CLIA-certified laboratory and commercializing our medical devices and laboratory tests. In December 2015, we sold our laboratory, ceased generating revenue, ceased developing and commercializing our medical devices, kits, and tests, and refocused our business on the development of novel therapeutics and delivery methods for the treatment of breast cancer and other breast conditions. In the first quarter of 2020, we began development of a novel potential therapy for hospitalized COVID-19 patients and in the second quarter 2020 we launched a second COVID-19 program for patients who do not require hospitalization. However, this is a departure from our historical focus on breast cancer and we have no operating history as a company in developing treatments for infectious diseases. Because of our limited operating history, particularly in the area of pharmaceutical development, our revenue and income potential is uncertain and cannot be based on prior results. Any evaluation of our business and prospects must be considered in light of these factors and the risks and uncertainties often encountered by companies in the development stage.

Some of these risks and uncertainties include our ability to:

- commence, execute and obtain successful results from our clinical studies;
- obtain regulatory approvals in the U.S. and elsewhere for our pharmaceuticals we are developing;
- work with contract manufacturers to produce our pharmaceuticals under development in clinical and commercial quantities on acceptable terms and in accordance with required standards;
- respond effectively to competition;
- manage growth in operations;
- respond to changes in applicable government regulations and legislation;
- access additional capital when required; and
- attract and retain key personnel.

We have not established sources of ongoing revenue to cover operating costs and allow us to continue as a going concern.

Although we have sufficient capital resources to fund our operations for the next 18 months based on our current business plan, our business plan may change and may require greater expenditures of capital than currently anticipated. We have not yet established an ongoing source of revenue sufficient to cover operating costs and allow us to continue as a going concern. Our ability to continue as a going concern is dependent on obtaining adequate capital to fund operating losses until we become profitable. If we are unable to obtain adequate capital, we may be unable to develop and commercialize our product offerings or geographic reach and we could be forced to cease operations.

If we do not raise additional capital, we anticipate liquidity issues in approximately eighteen months.

For the six months ended June 30, 2021, we incurred a net loss of approximately \$10,577,000 and we had an accumulated deficit of approximately \$119,205,000. As of June 30, 2021, we had cash and cash equivalents of approximately \$142,433,000. As of the date of filing this Quarterly Report with the SEC, we expect that our existing resources will be sufficient to fund our planned operations for approximately the next 18 months. We have not yet established an ongoing source of revenue sufficient to cover our operating costs and allow us to continue as a going concern. Our ability to continue as a going concern is dependent on obtaining adequate capital to fund operating losses until we become profitable. We currently have no products and services approved for commercialization. We may not receive or maintain regulatory clearance for our products and other sources of capital may not be available when we need them or on acceptable terms. If we are unable to raise in a timely fashion the amount of capital we anticipate needing, we would be forced to curtail or cease operations.

We will need to raise substantial additional capital in the future to fund our operations and we may be unable to raise such funds when needed and on acceptable terms.

When we elect to raise additional funds or when additional funds are required, we may raise such funds from time to time through public or private equity offerings, debt financings, corporate collaboration and licensing arrangements or other financing alternatives. These financing arrangements may not be available on acceptable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we will be prevented from developing our pharmaceutical candidates, pursuing acquisitions, invest in other companies including as a sponsor or investor in special purpose acquisition companies, licensing, development and commercialization efforts, and our ability to continue operations, generate revenues, and achieve or sustain profitability will be substantially harmed.

If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. Any debt financing or additional equity, including securities convertible into or exercisable for equity securities, that we raise may contain terms, such as liquidation, conversion and other preferences, that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue streams or product candidates or to grant licenses on terms that may not be favorable to us. Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, our business, operating results, financial condition and prospects could be materially and adversely affected and we may be unable to continue our operations.

Failure to raise additional capital as needed could adversely affect us and our ability to develop our products.

We expect to spend substantial amounts of capital to:

- develop our pharmaceutical programs, including our COVID-19 program;
- perform clinical studies for the pharmaceuticals we are developing;
- continue our research and development activities to advance our product pipeline;
- obtain clinical supplies of the pharmaceuticals for the programs we are developing; and
- pursue acquisitions, invest in other companies including as a sponsor or investor in special purpose acquisition companies, enter into licensing, development and other commercialization arrangements.

We have not identified other sources for additional funding and we cannot be certain that additional funding will be available on acceptable terms, or at all. If we are unable to raise additional capital in sufficient amounts or on acceptable terms, we may have to significantly delay, scale back or discontinue the commercialization of our products or our research and development activities. Furthermore, such lack of funds may inhibit our ability to respond to competitive pressures or unanticipated capital needs, or may force us to reduce operating expenses, which could significantly harm the business and development of operations.

We may expend our capital resources in ways that you don't agree or that don't produce stockholder value.

We intend to use our capital resources to execute on our business plan, which may include acquiring or in-licensing additional programs. We may also use our capital resources to invest directly or indirectly in business opportunities in healthcare or other industries including through purchases of equity in other companies. These investments may be in special purpose acquisition companies either as a sponsor or as an equity investor. Our business plan may evolve to require more capital resources than currently contemplated either because our existing programs progress more quickly or at a greater expense than currently anticipated or because we add additional programs. You may not agree with the ways in which we expend our capital resources and we may not produce stockholder value from the ways we deploy our capital.

We have a history of operating losses and we expect to continue to incur losses in the future.

We have a limited operating history and have incurred net losses each year. Our net loss for the six months ended June 30, 2021 was \$10,577,317. We will continue to incur further losses in connection with research and development costs for development of our programs, including ongoing and additional clinical studies.

Our business may be affected by legal proceedings.

We have been in the past, and may become in the future, involved in legal proceedings.

You should carefully review and consider the various disclosures we make in our reports filed with the SEC regarding legal matters that may affect our business. Civil and criminal litigation is inherently unpredictable and outcomes can result in excessive verdicts, fines, penalties and/or injunctive relief that can affect how we operate our business. Monitoring and defending against legal actions, whether or not meritorious, and considering stockholder demands, is time-consuming for our management and detracts from our ability to fully focus our internal resources on our business activities. In addition, legal fees and costs incurred in connection with such activities may be significant. We cannot predict with certainty the outcome of any legal proceeding in which we become involved, and it is difficult to estimate the possible costs to us stemming from these matters. Settlements and decisions adverse to our interests in legal actions could result in the payment of substantial amounts and could have a material adverse effect on our cash flow, results of operations, and financial position.

Raising funds by issuing equity or debt securities could dilute the value of the Common Stock and impose restrictions on our working capital.

If we raise additional capital by issuing equity securities or through the exercise of warrants currently outstanding or that we may issue in the future, the value of the then outstanding common stock may be reduced. If the additional equity securities are issued at a per share price less than the per share value of the outstanding shares, then all of the outstanding shares would suffer a dilution in value with the issuance of such additional shares. Further, the issuance of debt securities in order to obtain additional funds may impose restrictions on our operations and may impair our working capital as we service any such debt obligations.

The products we may develop may never achieve significant commercial market acceptance.

We may not succeed in achieving commercial market acceptance of any of our products. In order to gain market acceptance for the drugs under development, we will need to demonstrate to physicians and other healthcare professionals the benefits of these therapies including the clinical and economic application for their particular practice. Many physicians and healthcare professionals may be hesitant to introduce new services or techniques into their practice for many reasons, including lack of time and resources, the learning curve associated with the adoption of such new services or techniques into already established procedures, and the uncertainty of the applicability or reliability of the results of a new product. In addition, the availability of full or even partial payment for our products, whether by third-party payors (e.g., insurance companies), or the patients themselves, will likely heavily influence physicians' decisions to recommend or use our products.

The loss of the services of our Chief Executive Officer could adversely affect our business.

Our success is dependent in large part upon the ability to execute our business plan, manufacture our pharmaceutical drugs and attract and retain highly skilled professional personnel. In particular, due to the relatively early stage of our business, our future success is highly dependent on the services of Steven C. Quay, our Chief Executive Officer and founder, who provides much of the necessary experience to execute our business plan.

We may experience difficulty in locating, attracting, and retaining experienced and qualified personnel, which could adversely affect our business.

We will need to attract, retain, and motivate experienced clinical development and other personnel, particularly in the greater Seattle area as we expand our pharmaceutical development activities. These employees may not be available in this geographic region. In addition, competition for these employees is intense and recruiting and retaining skilled employees is difficult, particularly for a development-stage organization such as ours. If we are unable to attract and retain qualified personnel, our development activities may be adversely affected.

Compounds and methods that appear promising in research and development may fail to reach later stages of development for a number of reasons, including, among others, that clinical trials may take longer to complete than expected or may not be completed at all, and interim, top-line or preliminary clinical trial data reports may ultimately differ from actual results once data are more fully evaluated.

Successful development of anti-cancer and other pharmaceutical products is highly uncertain, and obtaining regulatory approval to market drugs to treat cancer and other breast conditions is expensive, difficult, and speculative. Compounds that appear promising in research and development may fail to reach later stages of development for several reasons, including, but not limited to:

- an unacceptable safety profile;
- lack of efficacy;
- delay or failure in obtaining necessary U.S. and international regulatory approvals, or the imposition of a partial or full regulatory hold on a clinical trial;
- difficulties in formulating a compound, scaling the manufacturing process, timely attaining process validation for particular drug products, and completing manufacturing to support clinical studies;
- pricing or reimbursement issues or other factors that may make the product uneconomical to commercialize;
- production problems, such as the inability to obtain raw materials or supplies satisfying acceptable standards for the manufacture of our products;
- equipment obsolescence, malfunctions or failures, product quality/contamination problems or changes in regulations requiring manufacturing modifications;
- inefficient cost structure of a compound, finished drug, or device compared to alternative treatments;
- obstacles resulting from proprietary rights held by others, such as patent rights for a particular compound;
- lower than anticipated rates of patient enrollment as a result of factors, such as the number of patients with the relevant conditions, the proximity of patients to clinical testing centers, perceived cost/benefit of participating in the study, eligibility criteria for tests, and competition with other clinical testing programs;
- nonclinical or clinical testing requiring significantly more time than expected, resources or expertise than originally expected and inadequate financing, which could cause clinical trials to be delayed or terminated;
- failure of clinical testing to show potential products to be safe and efficacious, and failure to demonstrate desired safety and efficacy characteristics in human clinical trials;
- suspension of a clinical trial at any time by us, an applicable collaboration partner or a regulatory authority on the basis that the participants are being exposed to unacceptable health risks or for other reasons;

- delays in reaching or failing to reach agreement on acceptable terms with manufacturers or prospective clinical research organizations ("CROs"), and trial sites;
- availability of vaccines developed by others may reduce the demand and commercial opportunities for our COVID-19 drug candidates; and
- failure of third-parties, such as clinical research organizations, academic institutions, collaborators, cooperative groups, and/or investigator sponsors, to conduct, oversee, and monitor clinical trials and results.

In addition, from time to time we expect to report interim, top-line or "preliminary" data for clinical trials, including for example the interim results reported in May 2020 for our window of opportunity Phase 2 study. Such data are based on a preliminary analysis of then-available efficacy and safety data, and such findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. Interim, top-line or preliminary data are based on important assumptions, estimations, calculations and information then available to us to the extent we have had, at the time of such reporting, an opportunity to fully and carefully evaluate such information in light of all surrounding facts, circumstances, recommendations and analyses. As a result, interim, top-line or "preliminary" results may differ from future results, or different conclusions or considerations may qualify such results once existing data have been more fully evaluated. In addition, third parties, including regulatory agencies, may not accept or agree with our assumptions, estimations, calculations or analyses or may interpret or weigh the importance of data differently, which could impact the value of the particular program, the approvability or commercialization of the particular compound and our business in general.

For example, some participants in the Phase 2 MBD study we conducted in Stockholm, Sweden despite showing reduced MBD as a result of using our topical Endoxifen exited the study before completing a full six months of dosing because of skin irritation and rashes.

If the development of our products is delayed or fails, or if top-line or preliminary clinical trial data reported differ from actual results, our development costs may increase and the ability to commercialize our products may be harmed, which could harm our business, financial condition, operating results or prospects.

We may not obtain or maintain the regulatory approvals required to develop or commercialize some or all of our products.

We are subject to rigorous and extensive regulation by the FDA in the U.S. and by comparable agencies in other jurisdictions, including the Europe Medicines Agency ("EMA") in the European Union ("E.U.") and the Therapeutic Goods Administration (TGA) in Australia.

Our product candidates are currently in research or development and we have not received marketing approval for our products. Our products may not be marketed in the U.S. until they have been approved by the FDA and may not be marketed in other jurisdictions until they have received approval from the appropriate foreign regulatory agencies. Each product candidate requires significant research, development and preclinical testing and extensive clinical investigation before submission of any regulatory application for marketing approval. As a result, the regulatory pathway for these products may be more complex and obtaining regulatory approvals may be more difficult.

Obtaining regulatory approval requires substantial time, effort and financial resources, and we may not be able to obtain approval of any of our products on a timely basis, or at all. The number, size, design, and focus of preclinical and clinical trials that will be required for approval by the FDA, the EMA, or any other foreign regulatory agency varies depending on the compound, the disease or condition that the products are designed to address and the regulations applicable to any particular products. Preclinical and clinical data can be interpreted in different ways, which could delay, limit or preclude regulatory approval. The FDA, the EMA, and other foreign regulatory agencies can delay, limit, or deny approval of a product for many reasons, including, but not limited to:

- a product may not be shown to be safe or effective;
- the clinical and other benefits of a product may not outweigh its safety risks;
- clinical trial results may be negative or inconclusive, or adverse medical events may occur during a clinical trial;
- the results of clinical trials may not meet the level of statistical significance required by regulatory agencies for approval;
- regulatory agencies may interpret data from pre-clinical and clinical trials in different ways than we do;
- regulatory agencies may not approve the manufacturing process or determine that the manufacturing is not in accordance with current good manufacturing practices;
- a product may fail to comply with regulatory requirements; or
- regulatory agencies might change their approval policies or adopt new regulations.

Regulatory agencies may also fail to grant approvals to commence studies for any number of reasons. For example, in May 2020, the FDA asked for additional pre-clinical data and other information for a proposed study of AT-H201. If we cannot provide the requested data and information the FDA may not authorize us to commence this study.

Another example is that HREC provided approval to commence the study but has not approved the final part of the study involving COVID-19 infected patients because it is unclear if that part of the study will be conducted at the site in Australia. The addition of new sites will require additional approvals and we will have to conduct this part of the study where COVID-19 infections allow.

If our products are not approved at all or quickly enough to provide net revenues to defray our operating expenses, our business, financial condition, operating results and prospects could be harmed.

We are developing our AT-H201 drug to treat COVID-19 patients who are severely ill, and patient deaths that occur in our clinical trials could negatively impact our business even if such deaths are not shown to be related to our drugs.

We intend to enroll patients in studies of our drug candidate AT-H201 who are severely ill, including patients on ventilators. COVID patients on ventilators are very sick and many do not recover either because of COVID-19 or other illnesses. As a result, it is likely that we will observe severe adverse outcomes of some patients in our COVID clinical trials for our drugs, including patient death. These adverse outcomes, even if unrelated to our drugs, could expose us to lawsuits and liabilities and could diminish our ability to obtain regulatory approval and/or achieve commercial acceptance for the related drug and our business could be materially harmed.

In the event that we seek and the FDA does not grant accelerated approval or priority review for a drug candidate, we would experience a longer time to commercialization in the U.S., if commercialized at all, and our development costs may increase and our competitive position may be harmed.

We may in the future decide to seek accelerated approval pathway for our products. The FDA may grant accelerated approval to a product designed to treat a serious or life-threatening condition that provides meaningful therapeutic benefit over available therapies upon a determination that the product has an effect on a surrogate endpoint or intermediate clinical endpoint that is reasonably likely to predict clinical benefit. A surrogate endpoint under an accelerated approval pathway may be used in cases in which the advantage of a new drug over available therapy may not be a direct therapeutic advantage, but is a clinically important improvement from a patient and public health perspective. There can be no assurance that the FDA will agree that any endpoint we suggest with respect to any of our drug candidates is an appropriate surrogate endpoint. Furthermore, there can be no assurance that any application will be accepted or that approval will be granted. Even if a product candidate is granted accelerated approval, such accelerated approval is contingent on the sponsor's agreement to conduct one or more post-approval confirmatory trials. Such confirmatory trial(s) must be completed with due diligence and, in some cases, the FDA may require that the trial(s) be designed and/or initiated prior to approval. Moreover, the FDA may withdraw approval of a product candidate or indication approved under the accelerated approval pathway for a variety of reasons, including if the trial(s) required to verify the predicted clinical benefit of a product candidate fails to verify such benefit or does not demonstrate sufficient clinical benefit to justify the risks associated with the drug, or if the sponsor fails to conduct any required post-approval trial(s) with due diligence.

In the event of priority review, the FDA has a goal (but is not required) to take action on an application within a total of eight months (6 months to take action following a 60 day period to determine if the application is acceptable) instead of the 12- months (10 months to take action following a 60 day period to determine if the application is acceptable) allocated for a standard review. The FDA grants priority review only if it determines that a product treats a serious condition and, if approved, would provide a significant improvement in safety or effectiveness when compared to a standard application. The FDA has broad discretion whether to grant priority review, and, while the FDA has granted priority review to other oncology product candidates, our drug candidates may not receive similar designation. Moreover, receiving priority review from the FDA does not guarantee completion of review or approval within the targeted eight-month cycle or thereafter.

A failure to obtain accelerated approval or priority review would result in a longer time to commercialization of the applicable product in the U.S., if commercialized at all, could increase the cost of development and could harm our competitive position in the marketplace.

Even if our products are successful in clinical trials and receive regulatory approvals, we may not be able to successfully commercialize them.

The development and ongoing clinical trials for our drug candidates may not be successful and, even if they are, the resulting products may never be successfully developed into commercial products. Even if we are successful in our clinical trials and in obtaining other regulatory approvals, the respective products may not reach or remain in the market for a number of reasons including:

- they may be found ineffective or cause harmful side effects;
- they may be difficult to manufacture on a scale necessary for commercialization;
- they may experience excessive product loss due to contamination, equipment failure, inadequate transportation or storage, improper installation or operation of equipment, vendor or operator error, inconsistency in yields or variability in product characteristics;
- they may be uneconomical to produce;
- we may fail to obtain reimbursement approvals or pricing that is cost effective for patients as compared to other available forms of treatment or that covers the cost of production and other expenses;
- they may not compete effectively with existing or future alternatives, for example our COVID-19 therapies under development may not effectively compete with traditional vaccines;
- we may be unable to develop commercial operations and to sell marketing rights;
- they may fail to achieve market acceptance; or
- we may be precluded from commercialization of a product due to proprietary rights of third parties.

If we fail to commercialize products or if our future products do not achieve significant market acceptance, we will not likely generate significant revenues or become profitable.

The pharmaceutical business is subject to increasing government price controls and other restrictions on pricing, reimbursement and access to drugs, which could adversely affect our future revenues and profitability.

To the extent our products are developed, commercialized, and successfully introduced to market, they may not be considered cost-effective and third-party or government reimbursement might not be available or sufficient. Globally, governmental and other third-party payors are becoming increasingly aggressive in attempting to contain health care costs by strictly controlling, directly or indirectly, pricing and reimbursement and, in some cases, limiting or denying coverage altogether on the basis of a variety of justifications, and we expect pressures on pricing and reimbursement from both governments and private payors inside and outside the U.S. to continue.

In the U.S., we are subject to substantial pricing, reimbursement, and access pressures from state Medicaid programs, private insurance programs and pharmacy benefit managers, and implementation of U.S. health care reform legislation is increasing these pricing pressures. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act (collectively, the "PPACA" or the "Affordable Care Act"), instituted comprehensive health care reform, and includes provisions that, among other things, reduce and/or limit Medicare reimbursement, require all individuals to have health insurance (with limited exceptions), and impose new and/or increased taxes. The future of the Affordable Care Act and its constituent parts are uncertain at this time.

In almost all markets, pricing and choice of prescription pharmaceuticals are subject to governmental control. Therefore, the price of our products and their reimbursement in Europe and in other countries is and will be determined by national regulatory authorities. Reimbursement decisions from one or more of the European markets may impact reimbursement decisions in other European markets. A variety of factors are considered in making reimbursement decisions, including whether there is sufficient evidence to show that treatment with the product is more effective than current treatments, that the product represents good value for money for the health service it provides, and that treatment with the product works at least as well as currently available treatments.

The continuing efforts of government and insurance companies, health maintenance organizations, and other payors of health care costs to contain or reduce costs of health care may affect our future revenues and profitability or those of our potential customers, suppliers, and collaborative partners, as well as the availability of capital.

We are dependent on third-party service providers for a number of critical operational activities including, in particular, for the manufacture and testing of our products and associated supply chain operations, as well as for clinical trial activities. Any failure or delay in these undertakings by third parties could harm our business.

Our business is dependent on the performance by third parties of their responsibilities under contractual relationships. In particular, we heavily rely on third parties for the manufacture and testing of our products. We do not have internal analytical laboratory or manufacturing facilities to allow the testing or production of products in compliance with Good Manufacturing Practices ("cGMP"). As a result, we rely on third parties to supply us in a timely manner with manufactured product candidates. We may not be able to adequately manage and oversee the manufacturers we choose, they may not perform as agreed or they may terminate their agreements with us. In particular, we depend on third-party manufacturers to conduct their operations in compliance with Good Laboratory Practices ("GLP") or similar standards imposed by the U.S. and/or applicable foreign regulatory authorities, including the FDA and EMA. Any of these regulatory authorities may take action against a contract manufacturer who violates cGMP. Failure of our manufacturers to comply with FDA, EMA or other applicable regulations may cause us to curtail or stop the manufacture of such products until we obtain regulatory compliance.

We may not be able to obtain sufficient quantities of our products if we are unable to secure manufacturers when needed, or if our designated manufacturers do not have the capacity or otherwise fail to manufacture compounds according to our schedule and specifications or fail to comply with cGMP regulations. Furthermore, in order to ultimately obtain and maintain applicable regulatory approvals, any manufacturers we utilize are required to consistently produce the respective products in commercial quantities and of specified quality or execute fill-finish services on a repeated basis and document their ability to do so, which is referred to as process validation. In order to obtain and maintain regulatory approval of a compound, the applicable regulatory authority must consider the result of the applicable process validation to be satisfactory and must otherwise approve of the manufacturing process. Even if our compound manufacturing processes obtain regulatory approval and sufficient supply is available to complete clinical trials necessary for regulatory approval, there are no guarantees we will be able to supply the quantities necessary to effect a commercial launch of the applicable drug, or once launched, to satisfy ongoing demand. Any product shortage could also impair our ability to deliver contractually required supply quantities to applicable collaborators, as well as to complete any additional planned clinical trials.

We also rely on third-party service providers for certain warehousing and transportation. With regard to the distribution of our drugs, we depend on third-party distributors to act in accordance with Good Distribution Practice ("GDP"), and the distribution process and facilities are subject to continuing regulation by applicable regulatory authorities with respect to the distribution and storage of products.

In addition, we depend on medical institutions and CROs (together with their respective agents) to conduct clinical trials and associated activities in compliance with Good Clinical Practices ("GCP") and data privacy standards such as defined under the Health Insurance Portability and Accountability Act ("HIPAA"), California Consumer Privacy Acts ("CCPA"), and General Data Protection Regulation ("GDPR") and in accordance with our timelines, expectations and requirements. We are substantially dependent on the organizations conducting the clinical trials of our proprietary Endoxifen. To the extent any such third parties are delayed in achieving or fail to meet our clinical trial enrollment expectations, fail to conduct our trials in accordance with GCP, patient and data privacy standards such as HIPAA or study protocol or otherwise take actions outside of our control or without our consent, our business may be harmed. Furthermore, we conduct clinical trials in foreign countries, subjecting us to additional risks and challenges, including, patient and data privacy standards such as GDPR and in particular, as a result of the engagement of foreign medical institutions and foreign CROs, who may be less experienced with regard to regulatory matters applicable to us and may have different standards of medical care.

With regard to certain of the foregoing clinical trial operations and stages in the manufacturing and distribution chain of our compounds, we rely on vendors. In most cases we use a primary vendor and have identified, in some cases, secondary vendors. In particular, our current business structure contemplates, at least in the foreseeable future, use of a primary commercial supplier for Endoxifen drug substance. The use of primary vendors for core operational activities, such as, manufacturing, the resulting lack of diversification, expose us to the risk of a material interruption in service related to these primary, outside vendors. As a result, our exposure to this concentration risk could harm our business.

Although we monitor the compliance of our third-party service providers performing the aforementioned services, we cannot be certain that such service providers will consistently comply with applicable regulatory requirements or that they will otherwise timely satisfy their obligations to us. Any such failure and/or any failure by us to monitor their services or to plan for and manage our short- and long-term requirements underlying such services could result in shortage of the compound, delays in or cessation of clinical trials, failure to obtain or revocation of product approvals or authorizations, product recalls, withdrawal or seizure of products, suspension of an applicable wholesale distribution authorization, and/or distribution of products, operating restrictions, injunctions, suspension of licenses, other administrative or judicial sanctions (including civil penalties and/or criminal prosecution), and/or unanticipated related expenditures to resolve shortcomings.

Such consequences could have a significant impact on our business, financial condition, operating results, or prospects.

We may encounter delays in our clinical trials, or may not be able to conduct our trials in a timely manner.

Clinical trials are expensive and subject to regulatory approvals. Potential trial delays may arise from, but are not limited to:

- the effects of the ongoing coronavirus pandemic, including access to clinical trial sites both by study participants and our clinical research organizations;
- failure to obtain on a timely basis, or at all, approval from the applicable institutional review board or ethics committee to open a clinical study;
- lower than anticipated patient enrollment for reasons such as existing conditions, eligibility criteria or if patients perceive a lack of benefit to enroll in the study for whatever reason;
- delays in reaching agreements on acceptable terms with prospective CROs; and
- failure of CROs or other third parties to effectively and timely monitor, oversee, and maintain the clinical trials.

Our products and services may expose us to possible litigation and product liability claims.

Our business may expose us to potential product liability risks inherent in the testing, marketing, and processing personalized medical products, particularly those products and services we offered prior to shifting our focus on pharmaceutical development. Product liability risks may arise from, but are not limited to:

- death of severely ill patients in studies using AT-301 or AT-H201; and
- adverse events related to drugs and therapies we are developing.

A successful product liability claim, or the costs and time commitment involved in defending against a product liability claim, could have a material adverse effect on our business. Any successful product liability claim may prevent us from obtaining adequate product liability insurance in the future on commercially desirable or reasonable terms. An inability to obtain sufficient insurance coverage at an acceptable cost, or otherwise, to protect against potential product liability claims could prevent or inhibit the commercialization of our products.

If we are not able to protect our proprietary technology, others could compete against us more directly, which would harm our business.

Our commercial success will depend, in part, on our ability to obtain additional patents and licenses and to protect our existing patent position, both in the U.S. and in other countries, for therapeutics and related technologies, processes, methods, compositions, and other inventions that we believe are patentable all of which provide limited protection and may not adequately protect our rights or permit us to gain or keep any competitive advantage. As of February 26, 2021, we own and are pursuing 52 (17 U.S. and 35 international applications) pending provisional and non-provisional patent applications. We continue to evaluate the full range of our technologies and file new patent applications.

Our ability to preserve our trade secrets, trademarks and other intellectual property rights is also important to our long-term success. Our success depends in part on obtaining patent protection for our products and processes, preserving trade secrets, patents, copyrights and trademarks, operating without infringing the proprietary rights of third parties, and acquiring licenses for technology or products. If we do not adequately protect our intellectual property, competitors may be able to use our technologies and erode or negate any competitive advantage we may have, which could harm our business and ability to establish or maintain profitability. Patents may also be issued to third parties which could interfere with our ability to bring our therapeutics to market. As the patent and landscape for products for breast disorders, including breast cancers, grows more crowded and becomes more complex we may find it more difficult to obtain patent protection for our products including those related to Endoxifen.

The laws of some foreign countries do not protect our proprietary rights to the same extent as U.S. laws, and we may encounter significant problems in protecting our proprietary rights in these countries. The patent positions of diagnostic companies and pharmaceutical and biotechnology companies, including our patent position, are generally highly uncertain and particularly after the Supreme Court decisions, *Mayo Collaborative Services v. Prometheus Laboratories*, 132 S. Ct. 1289 (2012), *Association for Molecular Pathology v. Myriad Therapeutics, Inc.*, 133 S. Ct. 2107 (2013), *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347 (2014), and *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743 (Fed. Cir. 2019). Our patent positions also involve complex legal and factual questions, for which important legal principles remain unresolved. No consistent policy regarding the breadth of claims allowed in such companies' patents has emerged to date in the U.S. Furthermore, in the biotechnology and pharmaceutical fields, courts frequently render opinions that may affect the patentability of certain inventions or discoveries, including opinions that may affect the patentability of methods for diagnostics, personalized medicine, and analysis and comparison of DNA and, therefore, any patents issued to us may be challenged, deemed unenforceable, invalidated or circumvented. We will be able to protect our proprietary rights from unauthorized use by third parties only to the extent that our proprietary technologies and any future tests and products are covered by valid and enforceable patents or are effectively maintained as trade secrets. In addition, our patent applications may never issue as patents, and the claims of any issued patents may not afford meaningful protection for our products, technology or tests.

The degree of future protection for our proprietary rights is uncertain, and we cannot ensure that:

- we or others were the first to make the inventions covered by each of our patent applications;
- we or others were the first to file patent applications for our claimed inventions;
- others will not independently develop similar or alternative technologies or duplicate any of our technologies;
- any of our patent applications will result in issued patents;
- other parties will not challenge any patents issued to us or any of our patents will be valid or enforceable;
- any patents issued to us and collaborators will provide a basis for commercially viable therapeutics, will provide us with any competitive advantages or will not be challenged by third parties;
- the patents of others will not have an adverse effect on our business; or
- our patents and patent applications or patents and patent applications that we license from others, if any will survive legal challenges, and remain valid and enforceable.

If a third-party files a patent application with claims to a drug we have discovered or developed, a derivation proceeding may be initiated regarding competing patent applications. If a derivation proceeding is initiated, we may not prevail in the derivation proceeding. If the other party prevails in the derivation proceeding, we may be precluded from commercializing our products, or may be required to seek a license. A license may not be available to us on commercially acceptable terms, if at all.

Any litigation proceedings relating to our proprietary technology may fail and, even if successful, may result in substantial costs and distract our management and other employees. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure during this type of litigation. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the price of our common stock. Finally, we may not be able to prevent, alone or with the support of our licensors, if any, misappropriation of our trade secrets or confidential information, particularly in countries where the laws may not protect those rights as fully as in the U.S.

Obtaining and maintaining our patent protection depends on compliance with various procedural, document submission, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

United States Patent and Trademark Office ("USPTO") and various foreign governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent process. Periodic maintenance fees, renewal fees, annuity fees, and various other governmental fees on any issued patents and/or applications are due to be paid to the USPTO and foreign patent agencies in several stages over the lifetime of the patents and/or applications. We have systems in place to remind us to pay these fees, and we employ outside firms and rely on our outside counsel to pay these fees. While an inadvertent lapse may sometimes be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which noncompliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors might be able to enter the market earlier than should otherwise have been the case, which would have a material adverse effect on our business.

Changes in U.S. patent law could diminish the value of patents in general, thereby impairing our ability to protect our products.

As is the case with other biotechnology and pharmaceutical companies, our success is heavily dependent on intellectual property, particularly on obtaining and enforcing patents. Obtaining and enforcing patents in the biotechnology and pharmaceutical industries involve both technological and legal complexity, and is therefore costly, time-consuming and inherently uncertain. For the past several years, the U.S. has conducted proceedings involving post-issuance patent review procedures, such as *inter partes* review ("IPR"), and post-grant review and covered business methods. These proceedings are conducted before the Patent Trial and Appeal Board ("PTAB"), of the USPTO. Each proceeding has different eligibility criteria and different patentability challenges that can be raised. In this regard, the IPR process permits any person (except a party who has been litigating the patent for more than a year) to challenge the validity of U.S. patents on the grounds that it was anticipated or made obvious by prior art. As a result, non-practicing entities associated with hedge funds, pharmaceutical companies who may be our competitors and others have challenged certain valuable pharmaceutical U.S. patents based on prior art through the IPR process. A decision in such a proceeding adverse to our interests could result in the loss of valuable patent rights which would have a material adverse effect on our business, financial condition, results of operations and growth prospects. Any potential future changes to the U.S. patent system could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and growth prospects. Further, recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. In particular, on March 20, 2012, the U.S. Supreme Court issued the *Prometheus* and *Alice* decision, holding that several claims drawn to measuring drug metabolite levels from patient samples were not patentable subject matter. The full impact of the *Prometheus* and *Alice* decision on diagnostic and certain method claims is uncertain. In addition to increasing uncertainty with regard to our ability to obtain patents in the future, this combination of events has created uncertainty with respect to the value of patents once obtained. Depending on decisions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could weaken our ability to obtain new patents or to enforce our existing patents and patents that we might obtain in the future. The standards that courts use to interpret patents are not always applied predictably or uniformly and may evolve, particularly as new technologies develop. In addition, changes to patent laws in the U.S. or other countries may be applied retroactively to affect the validity, enforceability, or term of our patent. For example, the U.S. Supreme Court has modified some legal standards applied by the USPTO in examination of U.S. patent applications, which may decrease the likelihood that we will be able to obtain patents and may increase the likelihood of challenges to patents we obtain or license.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting and defending patents on our products in all countries throughout the world would be prohibitively expensive. In addition, the laws of some foreign countries do not protect intellectual property rights in the same manner and to the same extent as laws in the U.S. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the U.S. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and further, may export otherwise infringing products to territories where we have patent protection but enforcement of such patent protection is not as strong as that in the U.S. These products may compete with our products and services, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing with our products.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products and services in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop.

Our current patent portfolio may not include all patent rights needed for the full development and commercialization of our products. We cannot be sure that patent rights we may need in the future will be available for license on commercially reasonable terms, or at all.

We may be unable to obtain any licenses or other rights to patents, technology, or know-how from third parties necessary to conduct our business and such licenses, if available at all, may not be available on commercially reasonable terms. Others may seek licenses from us for other technology we use or intend to use. Any failure to obtain such licenses could delay or prevent us from developing or commercializing our proposed products, which would harm our business. We may not be able to secure such a license on acceptable terms. Litigation or patent derivation proceedings may need to be brought against third parties, as discussed below, to enforce any of our patents or other proprietary rights, or to determine the scope and validity or enforceability of the proprietary rights of such third parties.

Third-party claims alleging intellectual property infringement may prevent or delay our drug discovery and development efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties, including the intellectual property rights of competitors. There is a substantial amount of litigation, both within and outside the U.S., involving patents and other intellectual property rights in the medical device and pharmaceutical fields, as well as administrative proceedings for challenging patents, including *inter partes* review, post-grant review, derivation, and reexamination proceedings before the USPTO or oppositions and other comparable proceedings in various foreign jurisdictions. These procedures bring uncertainty to the possibility of challenges to our patents in the future, including those patents perceived by our competitors as blocking entry into the market for their products, and the outcome of such challenges. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing our products. As the medical device, biotechnology, and pharmaceutical industries expand and more patents are issued, the risk increases that our activities related to our products may give rise to claims of infringement of the patent rights of others.

We cannot assure you that our current or future products will not infringe on existing or future patents. We may not be aware of patents that have already issued that a third-party might assert are infringed by one of our current or future products.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents of which we are currently unaware with claims to materials, formulations, methods of manufacture, or methods for treatment related to the use or manufacture of our products. Because patent applications can take many years to issue and may be confidential for eighteen months or more after filing, there may be currently pending third-party patent applications which may later result in issued patents that our products may infringe, or which such third-parties claim are infringed by our products and services.

Parties making claims against us for infringement or misappropriation of their intellectual property rights may seek and obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize our products. Defense of these claims, regardless of their merit, would involve substantial expenses and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us by a third-party, we may have to (i) pay substantial damages, including treble damages and attorneys' fees if we are found to have willfully infringed the third-party's patents; (ii) obtain one or more licenses from the third-party; (iii) pay royalties to the third-party; or (iv) redesign any infringing products. Redesigning any infringing products may be impossible or require substantial time and monetary expenditure. Further, we cannot predict whether any required license would be available at all or whether it would be available on commercially reasonable terms. In the event that we could not obtain a license, we may be unable to further develop and commercialize our products, which could harm our business significantly. Even if we were able to obtain a license, the rights may be nonexclusive, which would give our competitors access to the same intellectual property.

In addition to infringement claims against us, if third parties have prepared and filed patent applications in the U.S. that also claim technology related to our products, we may have to participate in derivation proceedings in the USPTO to determine the priority of invention. Third parties may also attempt to initiate reexamination, post-grant review or *inter partes* review of our patents in the USPTO. We may also become involved in similar proceedings in the patent offices in other jurisdictions regarding our intellectual property rights with respect to our products and technology.

We may be subject to claims that our employees, consultants or independent contractors have wrongfully used or disclosed confidential information of third parties.

We have received confidential and proprietary information from third parties. In addition, we employ individuals who were previously employed at other diagnostic, medical device or pharmaceutical companies. We may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise improperly used or disclosed confidential information of these third parties or our employees' former employers. Further, we may be subject to ownership disputes in the future arising, for example, from conflicting obligations of consultants or others who are involved in developing our products. We may also be subject to claims that former employees, consultants, independent contractors, collaborators or other third parties have an ownership interest in our patents or other intellectual property. Litigation may be necessary to defend against these and other claims challenging our right to and use of confidential and proprietary information. If we fail in defending any such claims, in addition to paying monetary damages, we may lose our rights therein. Such an outcome could have a material adverse effect on our business. Even if we are successful in defending against these claims, litigation could result in substantial cost and be a distraction to our management and employees.

We may be unable to adequately prevent disclosure of trade secrets and other proprietary information.

We rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce, and any other elements of our discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. We require all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology, to enter into confidentiality agreements. However, we cannot be certain that all such confidentiality agreements have been duly executed, that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Misappropriation or unauthorized disclosure of our trade secrets could impair our competitive position and may have a material adverse effect on our business. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret.

Risks Related to Our Industry

Legislative or regulatory reforms may make it more difficult and costly for us to obtain regulatory approval of our product candidates and to manufacture, market and distribute our products after approval is obtained.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the regulatory approval, manufacture and marketing of regulated products or the reimbursement thereof. In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of future products. In addition, FDA regulations and guidance are often revised or reinterpreted by the agency in ways that may significantly affect our business and our products. It is impossible to predict whether legislative changes will be enacted or FDA regulations, guidance or interpretations changed, and what the impact of such changes, if any, may be. Similar changes and revisions can also occur in foreign countries.

For example, the FDA may change its clearance and approval policies, adopt additional regulations or revise existing regulations, or take other actions which may prevent or delay approval or clearance of our products under development or impact our ability to modify our currently cleared products on a timely basis. Any change in the laws or regulations that govern the clearance and approval processes relating to our current and future products could make it more difficult and costly to obtain clearance or approval for new products, or to produce, market and distribute existing products. Significant delays in receiving clearance or approval, or the failure to receive clearance or approval for our new products would have an adverse effect on our ability to expand our business.

The FDA recently announced the Coronavirus Treatment Acceleration Program. That program may not, however, lead to a faster review or approval of our FDA submissions including for our COVID-19 studies.

Our inadvertent or unintentional failure to comply with the complex government regulations concerning privacy patients, data subjects, and of medical records could subject us to fines and adversely affect our reputation.

Federal privacy regulations, among other things, restrict our ability to use or disclose protected health information in the form of patient-identifiable laboratory data, without written patient authorization, for purposes other than payment, treatment, or healthcare operations as defined under HIPAA, except for disclosures for various public policy purposes and other permitted purposes outlined in the privacy regulations. The privacy regulations provide for significant fines and other penalties for wrongful use or disclosure of protected health information, including potential civil and criminal fines and penalties. Although the HIPAA statute and regulations do not expressly provide for a private right of damages, we could incur damages under state laws, for example, California Consumer Privacy Act, to private parties for the wrongful use or disclosure of confidential health information or other private personal information.

We intend to implement policies and practices that we believe will make us compliant with the privacy regulations. However, the documentation and process requirements of the privacy regulations are complex and subject to interpretation. Failure to comply with the privacy regulations could subject us to sanctions or penalties, loss of business, and negative publicity.

The HIPAA privacy regulations establish a “floor” of minimum protection for patients as to their medical information and do not supersede state laws that are more stringent. Therefore, we are required to comply with both HIPAA privacy regulations and various state privacy laws. The failure to do so could subject us to regulatory actions, including significant fines or penalties, and to private actions by patients, as well as to adverse publicity and possible loss of business. In addition, federal and state laws and judicial decisions provide individuals with various rights for violation of the privacy of their medical information by healthcare providers such as us.

The collection and use of personal data including personal health data of individuals in the E.U. regardless of citizenship or residence is governed by the provisions of the General Data Protection Regulation 2016/679 (commonly known as GDPR) which came into effect on May 25, 2018 with no transition period, and which has penalties for noncompliance. GDPR supersedes the Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995. GDPR regulates the protection of individuals in E.U. with regard to the processing of personal data and on the free movement of such data within E.U. and outside the E.U. and European Economic Area (“EEA”) areas. GDPR imposes a number of requirements including an obligation to seek the consent of individuals to whom the personal data relates, the information that must be provided to the individuals, notification of data processing obligations to the competent national data protection authorities of individual E.U. Member States, and the security and confidentiality of the personal data. No personal data may be processed unless this processing is done under one of six lawful bases specified by the regulation (consent, contract, public task, vital interest, legitimate interest or legal requirement). When the processing is based on consent the data subject has the right to revoke it at any time.

Failure to comply with the requirements of GDPR, and the related national data protection laws of the E.U. Member States may result in fines and other administrative penalties, litigation, government enforcement actions (which could include civil and/or criminal penalties), and harm our business. Moreover, patients about whom we or our partners obtain information, as well as the providers who share this information with us, may have contractual rights that may limit our ability to use this information. Claims that we have violated patient’s or any individual’s rights or breached our contractual obligations, even if ultimately we are not found liable, could be expensive and time-consuming to defend, and could result in adverse publicity and harm our business.

Further, from January 1, 2021, companies have to comply with the GDPR and also the United Kingdom GDPR, or UK GDPR, which, together with the amended UK Data Protection Act 2018, retains the GDPR in UK national law. The UK GDPR mirrors the fines under the GDPR, i.e., fines up to the greater of £17.5 million or 4% of global turnover. The European Commission has adopted an adequacy decision in favor of the UK, enabling data transfers from EU member states to the UK without additional safeguards. However, the UK adequacy decision will automatically expire in June 2025 unless the European Commission re-assesses and renews/ extends that decision, and remains under review by the Commission during this period. The relationship between the UK and the EU in relation to certain aspects of data protection law remains unclear, and it is unclear how UK data protection laws and regulations will develop in the medium to longer term, and how data transfers to and from the UK will be regulated in the long term. These changes may lead to additional costs and increase our overall risk exposure.

If we experience a significant disruption in our information technology systems or breaches of data security, our business could be adversely affected.

We rely on information technology systems to keep financial records, manage our manufacturing operations, fulfill customer orders, capture laboratory data, maintain corporate records, communicate with staff and external parties and operate other critical functions. Our information technology systems are potentially vulnerable to disruption due to breakdown, malicious intrusion and computer viruses or other disruptive events including but not limited to natural disaster. If we were to experience a prolonged system disruption in our information technology systems or those of certain of our vendors, it could negatively impact our ability to serve our customers, which could adversely impact our business. Although we maintain offsite back-ups of our data, if operations at our facilities were disrupted, it may cause a material disruption in our business if we are not capable of restoring function on an acceptable timeframe. In addition, our information technology systems are potentially vulnerable to data security breaches — whether by employees or others — which may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property, or could lead to the public exposure of personal information (including sensitive personal information) of our employees, customers and others, any of which could have a material adverse effect on our business, reputation, financial condition and results of operations. In addition, any such access, disclosure or other loss of information could result in legal claims or proceedings, liability under laws that protect the privacy of personal information, including state data protection regulations and the E.U. GDPR, and other regulations, the breach of which could result in significant penalties. In addition, these breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may lead to increased harm of the type described above.

The failure to comply with complex federal and state laws and regulations related to submission of claims for services could result in significant monetary damages and penalties and exclusion from the Medicare and Medicaid programs.

We are subject to extensive federal and state laws and regulations relating to the submission of claims for payment for services, including those that relate to coverage of services under Medicare, Medicaid, and other governmental healthcare programs, the amounts that may be billed for services, and to whom claims for services may be submitted, such as billing Medicare as the secondary, rather than the primary, payor. The failure to comply with applicable laws and regulations, for example, enrollment in the Medicare Provider Enrollment, Chain and Ownership System, could result in our inability to receive payment for our services or attempts by third-party payors, such as Medicare and Medicaid, to recover payments from us that we have already received. Submission of claims in violation of certain statutory or regulatory requirements can result in penalties, including civil money penalties of up to \$10,000 for each item or service billed to Medicare in violation of the legal requirement, and exclusion from participation in Medicare and Medicaid. Government authorities may also assert that violations of laws and regulations related to submission of claims violate the federal False Claims Act or other laws related to fraud and abuse, including submission of claims for services that were not medically necessary. The Company will be generally dependent on independent physicians to determine when its services are medically necessary for a particular patient. Nevertheless, we could be adversely affected if it were determined that the services we provided were not medically necessary and not reimbursable, particularly if it were asserted that we contributed to the physician's referrals of unnecessary services. It is also possible that the government could attempt to hold us liable under fraud and abuse laws for improper claims submitted by us if it were found that we knowingly participated in the arrangement that resulted in submission of the improper claims.

In addition to the PPACA, the effect of which cannot presently be quantified, various healthcare reform proposals have also emerged from federal and state governments. Changes in healthcare policy could adversely affect our business.

We cannot predict whether future healthcare initiatives will be implemented at the federal or state level or in countries outside of the U.S. in which we may do business, or the effect any future legislation or regulation will have on us. The taxes imposed by the new federal legislation and the expansion in government's effect on the U.S. healthcare industry may result in decreased profits to us, lower reimbursements by payors for our products or reduced medical procedure volumes, all of which may adversely affect our business, financial condition and results of operations.

Other Risks

The continued spread of coronavirus globally could adversely impact our operations and clinical trials.

Public health pandemics, epidemics or outbreaks could adversely impact our business. The continued spread of the COVID-19 pandemic is affecting the United States and global economies and may affect our operations and those of third parties on which we rely, including causing possible disruptions in the supply of the Company's Endoxifen, AT-H201, AT-301 and the conduct of current and future clinical trials. In addition, the COVID-19 pandemic may affect the operations of the U.S. FDA and other health authorities including similar entities/agencies in Sweden and Australia, which could result in delays in meetings, reviews and approvals. The evolving COVID-19 pandemic could also directly or indirectly impact the pace of enrollment in our clinical trials for at least the next several months and possibly longer as patients may avoid or may not be able to travel to healthcare facilities and physicians' offices except for a health emergency. Such facilities and offices may also be required to focus limited resources on non-clinical trial activities, including treatment of COVID-19 patients, and may not be available, in whole or in part, for clinical trial activities related to our products under development. We have not experienced any delay in drug supply for our ongoing and planned clinical studies, including studies of Endoxifen, AT-301 and AT-H201. However, our Phase 2 clinical study of Endoxifen that was being conducted in Australia was enrolling slower than expected due in part to COVID-19 restrictions. The study site we plan to use in Sweden has been negatively impacted by COVID-19 restrictions which must be lifted before we can begin our study there. We anticipate commencing the MBD Endoxifen study in Sweden soon after receiving all necessary regulatory approvals; subject to delays in enrollment due to COVID-19 disruptions, the duration and severity of which we cannot predict. Additionally, while the potential economic impact brought by, and the duration of, the COVID-19 pandemic is difficult to assess or predict, the impact of the COVID-19 pandemic on the global financial markets may reduce the Company's ability to access capital, which could negatively impact the Company's short-term and long-term liquidity. The ultimate impact of the COVID-19 pandemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, financing or clinical trial activities or on healthcare systems or the global economy as a whole. However, these effects could have a material adverse impact on the Company's liquidity, capital resources, operations, financial position and business and those of the third parties on which we rely. We will continue to monitor future enrollment in studies for potential restrictions on site visits, mammograms or the impositions of new restrictions on trials as a result of the COVID-19 pandemic. The continued spread of the coronavirus globally could adversely impact our operations that are dependent on third-party service providers for a number of critical operational activities including, in particular,

- regulatory (FDA, MPA, IRB, TGA) meetings and approvals could be delayed;
- our drug supply chain could be interrupted and shipping may incur new surcharges;
- enrollment in our clinical studies could slow or be halted;

- operations in general could be disrupted with potential infection of employees and consultants and difficulties with a remote work force;

- quarantines of people and drugs needed for our studies could adversely affect operations;
- our stock price could be adversely impacted and access to capital could be more challenging; or
- our ability to access our facilities and timely prepare and file regulatory reports with the SEC.

Risks Related to the Securities Markets and Investment in our Securities

Our shares of common stock are listed on The Nasdaq Capital Market, but we cannot guarantee that we will be able to satisfy the continued listing standards going forward.

Although our shares of common stock are listed on The Nasdaq Capital Market, we cannot ensure that we will be able to satisfy the continued listing standards of The Nasdaq Capital Market going forward. If we cannot satisfy the continued listing standards going forward, Nasdaq may commence delisting procedures against us, which could result in our stock being removed from listing on The Nasdaq Capital Market.

If our stock price does not satisfy the \$1.00 minimum bid price requirement or we otherwise fail to satisfy other continued listing requirements (and such other continued listing requirements may be enhanced during the period our stock price is below the \$1.00 minimum bid requirement including a requirement that we maintain at least \$5 million in stockholders' equity rather than the \$2.5 million that is typically required for continued listing), we may be delisted from Nasdaq, which could adversely affect our stock price, liquidity, and our ability to raise funding. Our common stock has at times trades below the \$1.00 minimum bid requirement.

The sale of a substantial number of shares of our common stock into the market may cause substantial dilution to our existing stockholders and the sale, actual or anticipated, of a substantial number of shares of common stock could cause the price of our common stock to decline.

We have offered and sold a considerable amount of common shares in recent financings. Any additional or anticipated sales of shares by us, holders of our warrants to purchase common stock or other stockholders may cause the trading price of our common stock to decline. Additional issuances of shares by us may result in dilution to the interests of other holders of our common stock. The sale of a substantial number of shares of our common stock by us, our warrant holders or other stockholders or anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

The trading price of our common stock has been, and is likely to continue to be volatile.

Our stock price is highly volatile. During the one year prior to August 9, 2021, our stock price has ranged from \$0.81 to \$9.80 per share. In addition to the factors discussed in this report, the trading price of our common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- results of clinical studies;
- regulatory and FDA actions, including inspections and warning letters;
- actions of securities analysts who initiate or maintain coverage of us, and changes in financial estimates by any securities analysts who follow our Company, or our failure to meet these estimates or the expectations of investors;
- any ongoing litigation that we are currently involved in or litigation that we may become involved in in the future;
- additional shares of our common stock being sold into the market by us or our existing stockholders or warrant holders or the anticipation of such sales; and
- media coverage of our business and financial performance.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many healthcare companies. Stock prices of many healthcare companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. As a result, an investment in our common stock may decrease in value.

If our common stock is delisted from The Nasdaq Capital Market, we may be subject to the risks relating to penny stocks.

If our common stock were to be delisted from trading on The Nasdaq Capital Market and the trading price of the common stock were below \$5.00 per share on the date the common stock was delisted, trading in our common stock would also be subject to the requirements of certain rules promulgated under the Exchange Act. Our common stock has generally traded below \$5.00 per share, including during the period covered by this report. These rules require additional disclosure by broker-dealers in connection with any trades involving a stock defined as a "penny stock" (i.e., generally, any non-exchange listed equity security that has a market price of less than \$5.00 per share, subject to certain exceptions) and impose various sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors, generally institutions. These additional requirements may discourage broker-dealers from effecting transactions in securities that are classified as penny stocks, which could severely limit the market price and liquidity of such securities and the ability of purchasers to sell such securities in the secondary market.

The ownership of our common stock may become concentrated among a small number of stockholders, and if our principal stockholders, directors, and officers choose to act together, they may be able to significantly influence management and operations, which may prevent us from taking actions that may be favorable to you.

Our ownership may become concentrated among a small number of stockholders. These stockholders, acting together, will have the ability to exert substantial influence over all matters requiring approval by our stockholders, including the election and removal of directors and any proposed merger, consolidation or sale of all or substantially all of our assets. This concentration of ownership could have the effect of delaying, deferring, or preventing a change in control of the Company or impeding a merger or consolidation, takeover or other business combination that could be favorable to you.

If we are unable to implement and maintain effective internal control over financial reporting in the future, investors may lose confidence in the accuracy and completeness of our financial reports and the trading price of our common stock may be negatively affected.

We are required to maintain internal controls over financial reporting and to report any material weaknesses in such internal controls. If we identify material weaknesses in our internal control over financial reporting, if we are unable to comply with the requirements of the Sarbanes-Oxley Act in a timely manner or assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express, if required, an opinion as to the effectiveness of our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and the trading price of our common stock could be negatively affected, and we could become subject to investigations by the stock exchange on which our securities is listed, the Securities and Exchange Commission, or other regulatory authorities, which could require additional financial and management resources. We have identified a material weakness which has been disclosed on our management's report on internal controls over financial reporting. Based on our assessment of internal controls, management concluded that we did not maintain effective internal control over financial reporting as of December 31, 2020 due to the following material weakness. The Company had ineffective controls over the evaluation and accounting for complex financing transactions, specifically, we did not have sufficient technical resources to appropriately identify errors in the accounting for warrants issued in a registered offering and whether the warrants should be classified as a liability or as equity. The classification error was corrected prior to issuance of the consolidated financial statements as of and for the year ended December 31, 2020. For the six months ended June 30, 2021, we began implementing new controls to remediate this material weakness.

The requirements of being a public company may strain our resources and divert management's attention.

We are subject to the reporting requirements of the Exchange Act, the Sarbanes-Oxley Act, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of The Nasdaq Capital Market, and other applicable securities rules and regulations. Compliance with these rules and regulations will increase our legal and financial compliance costs, make some activities more difficult, time-consuming, or costly, and increase demand on our systems and resources. As a result, management's attention may be diverted from other business concerns, which could harm our business and operating results.

In addition, complying with public disclosure rules makes our business more visible, which we believe may result in threatened or actual litigation, including by competitors and other third parties. If such claims are successful, our business and operating results could be harmed, and even if the claims do not result in litigation or are resolved in our favor, these claims, and the time and resources necessary to resolve them, could divert the resources of our management and harm our business and operating results.

Our Stockholder Rights Agreement, the anti-takeover provisions in our charter documents and Delaware law could delay or prevent a change in control which could limit the market price of our common stock and could prevent or frustrate attempts by our stockholders to replace or remove current management and the current Board of Directors.

Our Stockholder Rights Agreement that we adopted in May 2014, our amended and restated certificate of incorporation, and amended and restated bylaws contain provisions that could delay or prevent a change in control or changes in our Board of Directors that our stockholders might consider favorable. These provisions include the establishment of a staggered Board of Directors, which divides the board into three classes, with directors in each class serving staggered three-year terms. The existence of a staggered board can make it more difficult for a third-party to effect a takeover of our Company if the incumbent board does not support the transaction. These and other provisions in our corporate documents, our Shareholder Rights Plan and Delaware law might discourage, delay or prevent a change in control or changes in the Board of Directors of the Company. These provisions could also discourage proxy contests and make it more difficult for an investor and other stockholders to elect directors not nominated by our Board. Furthermore, the existence of these provisions, together with certain provisions of Delaware law, might hinder or delay an attempted takeover other than through negotiations with the Board of Directors.

We do not expect to pay dividends in the future, which means that investors may not be able to realize the value of their shares except through a sale.

We have never, and do not anticipate that we will, declare or pay a cash dividend. We expect to retain future earnings, if any, for our business and do not anticipate paying dividends on common stock at any time in the foreseeable future. Because we do not anticipate paying dividends in the future, the only opportunity for our stockholders to realize the creation of value in our common stock will likely be through a sale of those shares.

We may raise substantial additional capital in the future and we may be unable to raise such funds when needed and on acceptable terms.

We may elect to raise additional funds from time to time through public or private equity offerings, debt financings, corporate collaboration, and licensing arrangements, or other financing alternatives, as well as sales of common stock through a purchase agreement. Additional equity or debt financing or corporate collaboration and licensing arrangements may not be available on acceptable terms, if at all. If we are unable to raise additional capital in sufficient amounts or on terms acceptable to us, we will be prevented from pursuing acquisition, licensing, development and commercialization efforts and our ability to generate revenues and achieve or sustain profitability will be substantially harmed.

If we raise additional funds by issuing equity securities, our stockholders will experience dilution. Debt financing, if available, would result in increased fixed payment obligations and may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, or declaring dividends. Any debt financing or additional equity that we raise may contain terms, such as liquidation preferences, and other rights that are not favorable to us or our stockholders. If we raise additional funds through collaboration and licensing arrangements with third parties, it may be necessary to relinquish valuable rights to our technologies, future revenue streams or product candidates or to grant licenses on terms that may not be favorable to us. Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, our business, operating results, financial condition, and prospects could be materially and adversely affected and we may be unable to continue our operations.

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

Not applicable.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

Not applicable.

ITEM 6. EXHIBITS

(a) Exhibits

Exhibit No.	Description	Incorporated by Reference Herein Form
31.1	Certification pursuant to Rule 13a-14(a) under the securities Exchange Act of 1934 of Steven C. Quay	Filed herewith
31.2	Certification pursuant to Rule 13a-14(a) under the securities Exchange Act of 1934 of Kyle Guse	Filed herewith
32.1	Certification pursuant to 18 U.S.C. Section 1350 of Steven C. Quay	Filed herewith
32.2	Certification pursuant to 18 U.S.C. Section 1350 of Kyle Guse	Filed herewith
101.INS	Inline XBRL Instance Document	
101.SCH	Inline XBRL Taxonomy Extension Schema Document	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document	
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document	
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document	
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)	

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.

Date: August 13, 2021

/s/ Steven C. Quay

President and Chief Executive Officer

(On behalf of the Registrant)

/s/ Kyle Guse

Kyle Guse

Chief Financial Officer, General Counsel and Secretary

(As Principal Financial and Accounting Officer)

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Steven C. Quay, certify that:

1. I have reviewed this Quarterly Report of Atossa Therapeutics, Inc.;

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

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

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

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

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

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

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

5. The registrant's other certifying officers 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 function):

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

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

Date: August 13, 2021

/s/ Steven C. Quay

Steven C. Quay

Chief Executive Officer and President

(Principal executive officer)

**CERTIFICATION PURSUANT TO RULE 13a-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED
AS ADOPTED PURSUANT TO
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Kyle Guse, certify that:

1. I have reviewed this Quarterly Report of Atossa Therapeutics, Inc.;

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

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

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

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

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

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

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

5. The registrant's other certifying officers 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 function):

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

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

Date: August 13 , 2021

/s/Kyle Guse

Kyle Guse

Chief Financial Officer, General Counsel and Secretary

(Principal financial and accounting officer)

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

In connection with the Quarterly Report of Atossa Therapeutics, Inc. (the "Company") on Form 10-Q for the period ending June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Steven C. Quay, Chief Executive Officer and President of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 13, 2021

/s/ Steven C. Quay

Steven C. Quay

Chief Executive Officer and President

(Principal executive officer)

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

In connection with the Quarterly Report of Atossa Therapeutics, Inc. (the "Company") on Form 10-Q for the period ending June 30, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Kyle Guse, Chief Financial Officer, General Counsel and Secretary of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 13, 2021

/s/ Kyle Guse

Kyle Guse

*Chief Financial Officer, General Counsel and Secretary
(Principal financial and accounting officer)*
