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 March 31, 2021

☐ **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: 001-33185

MEDICINOVA, INC.

(Exact name of registrant as specified in its charter)

Delaware	**33-0927979**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**
4275 Executive Square, Suite 300 La Jolla, CA	**92037**
(Address of Principal Executive Offices)	**(Zip Code)**

(858) 373-1500
(Registrant's Telephone Number, Including Area Code)

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

Common Stock, $0.001 par value	**MNOV**	**The Nasdaq Stock Market LLC**
(Title of each class)	(Trading symbol(s))	(Name of each exchange on which registered)

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

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

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

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

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

Emerging growth company ☐

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

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

As of May 11, 2021, the registrant had 48,768,541 shares of Common Stock ($0.001 par value) outstanding.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This quarterly report on Form 10-Q, in particular "Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations," and the information incorporated by reference herein contains “forward-looking statements”. The forward-looking statements are contained principally in the sections titled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” but are also contained elsewhere in this report. Forward-looking statements include all statements that are not historical facts and, in some cases, can be identified by terms such as "believe," "may," "will," "estimate," "continue," "anticipate," "design," "intend," "expect," "could," "plan," "potential," "predict," "seek," "should," "would" or the negative version of these words and similar expressions.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including those described in "Risk Factors" and elsewhere in this report. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our beliefs and assumptions only as of the date of this report. Considering the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all. You should read this report completely and with the understanding that our actual future results may be materially different from what we expect.

The following factors are among those that may cause actual results to differ materially from our forward-looking statements:

- The widespread outbreak of an illness or any other communicable disease, such as COVID-19, or any other public health crisis, could adversely affect our business, results of operations and financial condition;
- Inability to raise additional capital if needed;
- Inability to generate revenues from product sales to continue business operations;
- Inability to develop and commercialize our product candidates;
- Failure or delay in completing clinical trials or obtaining Food and Drug Administration or foreign regulatory approval for our product candidates in a timely manner;
- Unsuccessful clinical trials stemming from clinical trial designs, failure to enroll a sufficient number of patients, undesirable side effects and other safety concerns;
- Inability to demonstrate sufficient efficacy of product candidates;
- Reliance on the success of our MN-166 (ibudilast) and MN-001 (tipelukast) product candidates;
- Delays in commencement or completion of clinical trials or suspension or termination of clinical trials;
- Loss of our licensed rights to develop and commercialize a product candidate as a result of the termination of the underlying licensing agreement;
- Competitors may develop products rendering our product candidates obsolete and noncompetitive;
- Inability to successfully attract partners and enter into collaborations on acceptable terms;
- Dependence on third parties to conduct clinical trials and to manufacture product candidates;
- Dependence on third parties to market and distribute products;
- Our product candidates, if approved, may not gain market acceptance or obtain adequate coverage for third party reimbursement;
- Disputes or other developments concerning our intellectual property rights;
- Actual and anticipated fluctuations in our quarterly or annual operating results;
- Price and volume fluctuations in the overall stock markets;
- Litigation or public concern about the safety of our potential products;
- International trade or foreign exchange restrictions, increased tariffs, foreign currency exchange;
- High quality material for our products may become difficult to obtain or expensive;
- Strict government regulations on our business;
- Regulations governing the production or marketing of our product candidates;
- Loss of, or inability to attract, key personnel; and
- Economic, political, foreign exchange and other risks associated with international operations.

MEDICINOVA, INC.

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PART I. FINANCIAL INFORMATION

ITEM 1. CONDENSED CONSOLIDATED FINANCIAL STATEMENTS.

MEDICINOVA, INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

	March 31, 2021 (Unaudited)	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 76,301,840	$ 60,036,763
Accounts receivable	4,000,000	—
Prepaid expenses and other current assets	1,166,282	680,171
Total current assets	81,468,122	60,716,934
Goodwill	9,600,240	9,600,240
In-process research and development	4,800,000	4,800,000
Property and equipment, net	48,931	55,700
Other non-current assets	183,426	246,236
Total assets	$ 96,100,719	$ 75,419,110
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 428,152	$ 616,629
Accrued expenses and other liabilities	1,402,952	1,577,321
Total current liabilities	1,831,104	2,193,950
Long-term deferred revenue	1,694,163	1,694,163
Deferred tax liability	201,792	201,792
Other non-current liabilities	2,211	2,705
Total liabilities	3,729,270	4,092,610
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.001 par value; 100,000,000 shares authorized at March 31, 2021 and December 31, 2020; 48,768,541 and 45,024,560 shares issued and outstanding at March 31, 2021 and December 31, 2020, respectively	48,769	45,025
Additional paid-in capital	475,532,361	454,296,536
Accumulated other comprehensive loss	(95,040)	(88,219)
Accumulated deficit	(383,114,641)	(382,926,842)
Total stockholders' equity	92,371,449	71,326,500
Total liabilities and stockholders' equity	$ 96,100,719	$ 75,419,110

See accompanying notes.

MEDICINOVA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Unaudited)

	Three months ended March 31,	
	2021	2020
Revenues	$ 4,000,000	$ —
Operating expenses:		
Research, development and patents	2,145,274	1,250,745
General and administrative	2,056,255	1,673,754
Total operating expenses	4,201,529	2,924,499
Operating loss	(201,529)	(2,924,499)
Interest income	36,668	223,280
Other expense	(22,938)	(12,340)
Net loss applicable to common stockholders	$ (187,799)	$ (2,713,559)
Basic and diluted net loss per common share	$ (0.00)	$ (0.06)
Shares used to compute basic and diluted net loss per common share	47,535,307	43,949,291
Net loss applicable to common stockholders	$ (187,799)	$ (2,713,559)
Other comprehensive loss, net of tax:		
Foreign currency translation adjustments	(6,821)	(120)
Comprehensive loss	$ (194,620)	$ (2,713,679)

See accompanying notes.

MEDICINOVA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Unaudited)

	Three Months Ended March 31, 2021					
	Common stock		Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balance at December 31, 2020	45,024,560	$ 45,025	$ 454,296,536	$ (88,219)	$ (382,926,842)	$ 71,326,500
Share-based compensation	—	—	1,139,636	—	—	1,139,636
Issuance of common stock for option exercises	86,250	86	212,089			212,175
Issuance of shares under an employee stock purchase plan (ESPP)	1,424	2	6,108	—	—	6,110
Issuance of common stock in a private placement transaction, net of issuance costs	3,656,307	3,656	19,877,992	—	—	19,881,648
Net loss	—	—	—	—	(187,799)	(187,799)
Foreign currency translation adjustments	—	—	—	(6,821)	—	(6,821)
Balance at March 31, 2021	48,768,541	$ 48,769	$ 475,532,361	$ (95,040)	$ (383,114,641)	$ 92,371,449

	Three Months Ended March 31, 2020					
	Common stock		Additional paid-in capital	Accumulated other comprehensive loss	Accumulated deficit	Total stockholders' equity
	Shares	Amount				
Balance at December 31, 2019	43,908,065	$ 43,908	$ 444,016,341	$ (92,681)	$ (369,072,945)	$ 74,894,623
Share-based compensation	—	—	596,378	—	—	596,378
Issuance of shares under an employee stock purchase plan (ESPP)	1,979	2	6,252	—	—	6,254
Issuance of common stock under at-the-market equity distribution and sales agreements, net of offering costs	68,952	69	412,623	—	—	412,692
Net loss	—	—	—	—	(2,713,559)	(2,713,559)
Foreign currency translation adjustments	—	—	—	(120)	—	(120)
Balance at March 31, 2020	43,978,996	$ 43,979	$ 445,031,594	$ (92,801)	$ (371,786,504)	$ 73,196,268

See accompanying notes.

MEDICINOVA, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

	Three months ended March 31,	
	2021	**2020**
Operating activities:		
Net loss	$ (187,799)	$ (2,713,559)
Adjustments to reconcile net loss to net cash used in operating activities:		
Non-cash stock-based compensation	1,139,636	596,378
Depreciation and amortization	6,453	5,060
Changes in assets and liabilities:		
Accounts receivable	(4,000,000)	—
Prepaid expenses and other assets	(433,374)	(273,037)
Accounts payable, accrued liabilities and other liabilities	(378,868)	(493,464)
Net cash used in operating activities	(3,853,952)	(2,878,622)
Investing activities:		
Acquisition of property and equipment	—	(2,594)
Net cash used in investing activities	—	(2,594)
Financing activities:		
Proceeds from issuance of common stock and exercise of common stock options	20,212,175	426,925
Common stock issuance costs	(118,352)	(14,233)
Proceeds from issuance of equity awards under ESPP	6,110	6,254
Net cash provided by financing activities	20,099,933	418,946
Effect of exchange rate changes on cash and cash equivalents	19,096	(120)
Net change in cash and cash equivalents	16,265,077	(2,462,390)
Cash and cash equivalents, beginning of period	60,036,763	63,792,657
Cash and cash equivalents, end of period	$ 76,301,840	$ 61,330,267

See accompanying notes.

1. Interim Financial Information

Organization and Business

MediciNova, Inc. (the "Company" or "MediciNova") was incorporated in the state of Delaware in September 2000 and is a public company. The Company's common stock is listed in both the United States and Japan and trades on the NASDAQ Global Market and the JASDAQ Market of the Tokyo Stock Exchange. The Company is a biopharmaceutical company focused on developing novel therapeutics for the treatment of serious diseases with unmet medical needs with a commercial focus on the United States market. The Company's current strategy is to focus its development activities on MN-166 (ibudilast) for neurological and other disorders such as progressive multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS), chemotherapy-induced peripheral neuropathy, degenerative cervical myelopathy, glioblastoma, substance dependence and addiction (e.g., methamphetamine dependence, opioid dependence, and alcohol dependence), and prevention of acute respiratory distress syndrome, and MN-001 (tipelukast) for fibrotic diseases such as nonalcoholic steatohepatitis (NASH) and idiopathic pulmonary fibrosis (IPF). The Company's pipeline also includes MN-221 (bedoradrine) for the treatment of acute exacerbation of asthma, and MN-029 (denibulin) for solid tumor cancers.

Basis of Presentation

The accompanying unaudited 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 of the Securities and Exchange Commission (SEC) on Form 10-Q and Rule 10-01 of Regulation S-X. Accordingly, they do not include all the information and disclosures required by GAAP for complete financial statements. In the opinion of management, the consolidated financial statements include all adjustments necessary, which are of a normal and recurring nature, for the fair presentation of the Company's financial position and of the results of operations and cash flows for the periods presented. The accompanying unaudited consolidated financial statements include the accounts of the Company and its wholly owned subsidiaries.

These financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto for the year ended December 31, 2020 included in the Company's Annual Report on Form 10-K filed with the SEC. The results of operations for the interim period shown in this report are not necessarily indicative of the results that may be expected for any other interim period or for the full year. The balance sheet at December 31, 2020 has been derived from the audited financial statements at that date but does not include all the information and footnotes required by GAAP for complete financial statements.

Principles of Consolidation

The consolidated financial statements include the accounts of MediciNova, Inc. and its wholly owned subsidiaries. All intercompany transactions and balances are eliminated in consolidation.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company operates in a single operating segment – the acquisition and development of therapeutics for the treatment of serious diseases with unmet medical needs.

Cash and Cash Equivalents

Cash and cash equivalents consist of cash and other highly liquid investments including money market accounts.

Research, Development and Patents

Research and development costs are expensed in the period incurred. Research and development costs primarily consist of salaries and related expenses for personnel, facilities and depreciation, research and development supplies, licenses and outside services. Such research and development costs totaled $2.0 million and $1.2 million for the three months ended March 31, 2021 and 2020, respectively.

Costs related to filing and pursuing patent applications are expensed as incurred, as recoverability of such expenditures is uncertain. The Company includes all external costs related to the filing of patents on developments in Research, Development and Patents expenses. Such patent-related expenses totaled $0.1 million for each of the three months ended March 31, 2021 and 2020, respectively.

Clinical Trial Accruals and Prepaid Expenses

Costs for preclinical studies, clinical studies and manufacturing activities are recognized as research and development expenses based on an evaluation of the progress by Company vendors towards completion of specific tasks, using data such as patient enrollment, clinical site activations or information provided to the Company by such vendors regarding their actual costs incurred. Payments for these activities are based on the terms of individual contracts and payment timing may differ significantly from the period in which the services are performed. The Company determines accrual estimates through reports from and discussions with applicable personnel and outside service providers as to the progress or state of completion of studies, or the services completed. The Company's estimates of accrued expenses as of each balance sheet date are based on the facts and circumstances known at the time. Costs that are paid in advance of performance are deferred as a prepaid expense and amortized over the service period as the services are provided.

Impact of COVID-19 on the Company's Business

The pandemic caused by an outbreak of a new strain of coronavirus ("COVID-19" or "the pandemic") has resulted, and is likely to continue to result, in significant national and global economic disruption and may adversely affect the Company's business. Although the pandemic resulted in a decrease in the number of patient visits at certain of the Company's clinical trial sites, the Company expects this effect to be temporary. The Company has seen an increase in the number of patient visits compared to earlier in the pandemic and the Company continues to enroll patients in clinical trials. Throughout the pandemic, the Company has continued with routine clinical trial activities including executing new clinical trial agreements, negotiating budgets, institutional review board (IRB) approvals, site training, and other activities related to the initiation of new clinical trial sites. In addition, following the outbreak of the pandemic, the Company designed a clinical trial to evaluate MN-166 (ibudilast) for prevention of acute respiratory distress syndrome (ARDS) caused by COVID-19. Based on the Company's current assessment, the Company does not expect a material negative impact on its clinical development plans, long-term development timeline or liquidity due to the worldwide spread of the COVID-19 virus. However, the Company is actively monitoring this situation and the possible effects on its financial condition, liquidity, operations, suppliers, industry, and workforce.

Use of Estimates

The preparation of the consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. Actual results could differ from those estimates.

Recently Adopted Accounting Pronouncements

In December 2019, the Financial Accounting Standards Board ("FASB") issued ASU No. 2019-12, Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes ("ASU 2019-12"). ASU 2019-12 simplifies the accounting for income taxes by removing certain exceptions to the general principles in Topic 740. ASU 2019-12 also improves the consistent application, and the simplification, of other areas of Topic 740 by clarifying and amending existing guidance. ASU 2019-12 is effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years, with early adoption permitted. The Company adopted ASU 2019-12 on January 1, 2021 with no material impact on its consolidated financial statements and related disclosures.

Recently Issued Accounting Pronouncements

In June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, Financial Instruments— Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). The ASU introduced a new credit loss methodology, the Current Expected Credit Losses ("CECL") methodology, which requires earlier recognition of credit losses, while also providing additional transparency about credit risk. The CECL methodology utilizes a lifetime "expected credit loss" measurement objective for the recognition of credit losses for loans, held-to maturity debt securities, trade receivables and other receivables measured at amortized cost at the time the financial asset is originated or acquired. Subsequent to the issuance of ASU 2016-13, the FASB issued several additional ASUs to clarify implementation guidance, provide narrow-scope improvements and provide additional disclosure guidance. In November 2019, the FASB issued an amendment making this ASU effective for fiscal years beginning after December 15, 2022 for smaller reporting companies. The new standard will be effective for the Company on January 1, 2023 or at such earlier time where it is no longer a smaller reporting company. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

In August 2020, the FASB issued ASU No. 2020-06, Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40) ("ASU 2020-06"). ASU 2020-06 simplifies the accounting for convertible debt instruments by reducing the number of accounting models and the number of embedded features that could be recognized separately from the host contract. Consequently, more convertible debt instruments will be accounted for as a single liability measured at its amortized cost, as long as no other features require bifurcation and recognition as derivatives. ASU 2020-06 also requires use of the if-converted method in the diluted earnings per share calculation for convertible instruments. ASU 2020-06 is effective for fiscal years beginning after December 15, 2023, and interim periods within those fiscal years for smaller reporting companies, with early adoption permitted. The new standard will be effective for the Company on January 1, 2024 or at such earlier time where it is no longer a smaller reporting company. The Company is currently evaluating the potential impact that this standard may have on its consolidated financial statements and related disclosures.

2. Revenue Recognition

Revenue Recognition Policy

Revenues consist mainly of research and development services performed under a contract with a customer. The Company evaluates the separate performance obligation(s) under each contract, allocates the transaction price to each performance obligation considering the estimated stand-alone selling prices of the services and recognizes revenue upon the satisfaction of such obligations over time or at a point in time dependent on the satisfaction of one of the following criteria: (1) the customer simultaneously receives and consumes the economic benefits provided by the vendor's performance (2) the vendor creates or enhances an asset controlled by the customer (3) the vendor's performance does not create an asset for which the vendor has an alternative use, and the vendor has an enforceable right to payment for performance completed to date.

Kissei Pharmaceutical Co., Ltd

In October 2011, the Company entered into a collaboration agreement with Kissei Pharmaceutical Co., Ltd., ("Kissei"), to perform research and development services relating to MN-221 (bedoradrine) in exchange for a non-refundable upfront payment of $2.5 million. Under the terms of the agreement, the Company is responsible for all costs to be incurred in the performance of these services. The Company assessed the services in accordance with the authoritative guidance and concluded that the two studies to be performed under the agreement represented two separate performance obligations. The transaction price was allocated among the two studies that were deemed separate performance obligations based on the expected costs to be incurred for each obligation. Revenue is recognized proportional to the total costs expected for each performance obligation as incurred over the service period. The first study was completed in 2013 and the timing of the second study is undetermined as of March 31, 2021. The amount received from Kissei and allocated, net of the amount recorded as revenue, is included on the balance sheet as long-term deferred revenue and will be recognized as revenue as the remaining performance obligation is satisfied. No revenue was recognized for the three months ended March 31, 2021 and 2020 in connection with the collaboration agreement with Kissei.

Genzyme Corporation

In December 2005, Avigen, Inc. and Genzyme Corporation ("Genzyme") entered into an Assignment Agreement (the "Genzyme Agreement") in which Genzyme acquired certain gene therapy intellectual property, programs and other related assets from Avigen in exchange for an initial $12.0 million payment, Avigen could also receive additional development milestone payments, sublicensing fees and royalty payments based on the successful development of products by Genzyme utilizing technologies previously developed by Avigen. Avigen was subsequently acquired by the Company in December 2009 along with Avigen's rights and obligations under the Genzyme Agreement. If Genzyme fails to diligently pursue the commercialization or marketing of products using the assigned technology, as specified in the Genzyme Agreement, some of the rights assigned could revert back to the Company at a future date.

The development milestones outlined in the Genzyme Agreement did not meet the definition of a substantive milestone obligation under authoritative guidance on revenue recognition for milestone payments, as Genzyme is responsible for the development of the product and there is no further substantive service effort required by the Company. In March 2021, the Company received notice that a gene therapy product based on AAV (adeno-associated virus) vector technology, which is covered under the Genzyme Agreement, achieved two clinical development milestones, triggering two milestone payments. Accordingly, the Company recognized revenue and a corresponding accounts receivable of $4 million for the three months ended March 31, 2021. The Company subsequently received payment of the $4 million in April 2021.

3. Fair Value Measurements

Fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, a three-tier fair value hierarchy has been established, which prioritizes the inputs used in measuring fair value as follows:

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

Level 2: Inputs are quoted prices for similar items in active markets or quoted prices for identical or similar items in markets that are not active near the measurement date; and

Level 3: Unobservable inputs due to little or no market data, which require the reporting entity to develop its own assumptions.

Cash equivalents, including money market accounts of $694,155 and $694,127 measured at fair value as of March 31, 2021 and December 31, 2020, respectively, are classified within Level 1.

4. Stock-based Compensation

Stock Incentive Plans

In June 2013, the Company adopted the 2013 Equity Incentive Plan, or 2013 Plan, under which the Company may grant stock options, stock appreciation rights, restricted stock, restricted stock units and other awards to individuals who are then employees, officers, non-employee directors or consultants of the Company or its subsidiaries. The 2013 Plan is the successor to the Company's Amended and Restated 2004 Stock Incentive Plan, or 2004 Plan. A total of 8,700,000 shares of common stock are reserved for issuance under the 2013 Plan. In addition, "returning shares" that may become available from time to time are added back to the plan. "Returning shares" are shares that are subject to outstanding awards granted under the 2004 Plan that expire or terminate prior to exercise or settlement, are forfeited because of the failure to vest, are repurchased, or are withheld to satisfy tax withholding or purchase price obligations in connection with such awards. Although the Company no longer grants equity awards under the 2004 Plan, all outstanding stock awards granted under the 2004 Plan will continue to be subject to the terms and conditions as set forth in the agreements evidencing such stock awards and the terms of the 2004 Plan. As of March 31, 2021, 1,932,385 shares remain available for future grants under the 2013 Plan.

The Company occasionally issues employee performance-based stock options, the vesting of which is based on a determination made by the board of directors as to the achievement of certain corporate objectives at the end of the performance period. The grant date of such awards is the date on which the board of directors makes its determination. For periods preceding the grant date, the expense related to these awards is measured based on their fair value at each reporting date.

Stock Options

Options granted under the 2013 Plan and the 2004 Plan have terms of ten years from the date of grant unless earlier terminated and generally vest over a three or four year period. The exercise price of all options granted through March 31, 2021 and in 2020, was equal to the market value of the Company's common stock on the date of grant.

A summary of stock option activity and related information as of March 31, 2021 is as follows:

	Number of Option Shares	Weighted Average Exercise Price
Outstanding at December 31, 2020	7,401,387	$ 5.70
Granted	1,221,000	5.95
Exercised	(86,250)	2.46
Cancelled	(256,250)	6.96
Outstanding at March 31, 2021	8,279,887	$ 5.73
Exercisable at March 31, 2021	6,999,887	$ 5.70

Employee Stock Purchase Plan

Under the Company's 2007 Employee Stock Purchase Plan (ESPP), 300,000 shares of common stock were originally reserved for issuance. In addition, the shares reserved automatically increase each year by a number equal to the lesser of: (i) 15,000 shares; (ii) 1% of the outstanding shares of common stock on the last day of the immediately preceding fiscal year; or (iii) such lesser amount as determined by the Board. The ESPP permits full-time employees to purchase common stock through payroll deductions (which cannot exceed 15% of each employee's compensation) at the lower of 85% of fair market value at the beginning of the offering period or the end of each six-month offering period. The ESPP is considered a compensatory plan and the Company records compensation expense included in the Company's statement of operations.

For the three months ended March 31, 2021, an aggregate of 1,424 shares were issued under the ESPP. As of March 31, 2021, there were 212,678 shares available for future issuance under the ESPP.

Compensation Expense

Stock-based compensation expense for stock option awards and ESPP shares are reflected in total operating expenses for each respective year.

The following table summarizes stock-based compensation expense for the three months ended March 31, 2021 and 2020, respectively:

	Three months ended March 31,	
	2021	2020
Research, development and patents	$ 393,242	$ 162,697
General and administrative	746,394	433,681
Total stock-based compensation expense	$ 1,139,636	$ 596,378

The Company uses the Black-Scholes valuation model for determining the estimated fair value for stock-based awards granted to employees and stock purchased under the ESPP. The following table provides the assumptions used in the Black-Scholes valuation model used to estimate the fair value of options granted and stock purchased under the ESPP during the three months ended March 31, 2021 and 2020, and to estimate the fair value of performance-based stock options as of March 31, 2021 and 2020.

	March 31, 2021	March 31, 2020
Stock Option assumptions:		
Risk-free interest rate	0.45 - 0.92%	0.37 - 1.68%
Expected volatility of common stock	75.46 - 76.11%	57.44 - 62.9%
Dividend yield	0%	0%
Expected term (in years)	4.47 - 5.41	4.52 - 5.56

As of March 31, 2021, there was $3.4 million of unamortized compensation cost related to unvested stock option awards which is expected to be recognized over a remaining weighted-average vesting period of 0.81 years, on a straight-line basis.

5. Stockholders' Equity

At-The-Market Issuance Sales Agreements and Private Placement Transcations

On August 23, 2019, the Company entered into an at the market issuance sales agreement (the "2019 ATM Agreement") with B. Riley FBR, Inc. (B. Riley FBR) pursuant to which the Company may sell common stock through B. Riley FBR from time to time up to an aggregate offering price of $75.0 million. Sales of the Company's common stock through B. Riley FBR, if any, will be made by any method that is deemed to be an "at-the-market" equity offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on NASDAQ, on any other existing trading market for the common stock or through a market maker. B. Riley FBR may also sell the common stock in privately negotiated transactions, subject to the Company's prior approval. The Company agreed to pay B. Riley FBR an aggregate commission rate of up to 3.5% of the gross proceeds of any common stock sold under this agreement. Proceeds from sales of common stock will depend on the number of shares of common stock sold to B. Riley FBR and the per share purchase price of each transaction.

On January 29, 2021, the Company sold and issued to an investor 3,656,307 shares of the Company's common stock at a price of $5.47 per share for approximately $20 million in cash proceeds, net of approximately $0.1 million in issuance costs, in a private placement pursuant to the terms and conditions of a Securities Purchase Agreement dated as of January 11, 2021 by and between the Company and such investor.

6. Net Loss Per Share

The Company computes basic net loss per share using the weighted average number of common shares outstanding during the period. Diluted net loss per share is based upon the weighted average number of common shares and potentially dilutive securities (common share equivalents) outstanding during the period. Common share equivalents outstanding, determined using the treasury stock method, are comprised of shares that may be issued under the Company's stock option agreements. Common share equivalents are excluded from the diluted net loss per share calculation if their effect is anti-dilutive.

Potentially dilutive outstanding stock options excluded from diluted net loss per common share due to their anti-dilutive effect totaled 8,279,887 shares and 7,638,250 shares for the three months ended March 31, 2021 and 2020, respectively.

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

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited consolidated financial statements and notes thereto included in this Quarterly Report on Form 10-Q and the audited financial statements and notes thereto as of and for the year ended December 31, 2020 included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC, on February 19, 2021. Past operating results are not necessarily indicative of results that may occur in future periods.

This Quarterly Report on Form 10-Q contains forward-looking statements that are subject to risks and uncertainties, many of which are beyond our control. Our actual results may differ from those anticipated in these forward-looking statements as a result of various factors, including those set forth in Part II of this Quarterly Report on Form 10-Q under the caption "Item 1A. Risk Factors" and under the caption "Item 1A. Risk Factors" in our Annual Report on Form 10-K. The differences may be material. Forward-looking statements discuss matters that are not historical facts. Forward-looking statements include, but are not limited to, statements regarding our plans, strategies, objectives, product development programs, clinical trials, industry, financial condition, liquidity and capital resources, future performance and other statements that are not historical facts. Such forward-looking statements include statements preceded by, followed by or that otherwise include the words "may," "might," "will," "intend," "should," "could," "can," "would," "expect," "believe," "estimate," "anticipate," "predict," "potential," "plan" or similar words. For such statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. You should not rely unduly on these forward-looking statements, which speak only as of the date hereof. We undertake no obligation to update publicly or revise any forward-looking statements, whether as a result of new information, future events or otherwise, unless required by law.

Overview

We are a biopharmaceutical company focused on developing novel therapeutics for the treatment of serious diseases with unmet medical needs and a commercial focus on the United States market. Our current strategy is to focus our development activities on MN-166 (ibudilast) for neurological and other disorders such as progressive multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS), chemotherapy-induced peripheral neuropathy, degenerative cervical myelopathy, glioblastoma, substance dependence and addiction (e.g., methamphetamine dependence, opioid dependence, and alcohol dependence), and prevention of acute respiratory distress syndrome, and MN-001 (tipelukast) for fibrotic diseases such as nonalcoholic steatohepatitis (NASH) and idiopathic pulmonary fibrosis (IPF). Our pipeline also includes MN-221 (bedoradrine) for the treatment of acute exacerbation of asthma and MN-029 (denibulin) for solid tumor cancers. We were incorporated in Delaware in September 2000.

We have incurred significant net losses since our inception. As of March 31, 2021, from inception, our accumulated deficit was $383.1 million. We expect to incur substantial net losses for the next several years as we continue to develop certain of our existing product development programs, and over the long-term if we expand our research and development programs and acquire or in-license products, technologies or businesses that are complementary to our own.

Our goal is to build a sustainable biopharmaceutical business through the successful development of differentiated products for the treatment of serious diseases with unmet medical needs in high-value therapeutic areas. Key elements of our strategy are as follows:

- *Pursue the development of MN-166 (ibudilast) for multiple potential indications with the support of non-dilutive financings.*

  We intend to advance our diverse MN-166 (ibudilast) program through a combination of investigator-sponsored clinical trials, trials funded through government grants or other grants, and trials funded by us. In addition to providing drug supply and regulatory support, we have funded portions of some of the consortium-sponsored trials. For example, we contributed financially to the Secondary and Primary Progressive Ibudilast NeuroNEXT Trial in Multiple Sclerosis (SPRINT-MS) Phase 2b clinical trial of MN-166 (ibudilast) for the treatment of progressive MS, which was primarily funded by the NIH. In addition, we contributed financially to the clinical trials of MN-166 (ibudilast) that enrolled ALS patients. We intend to pursue additional strategic alliances to help support further clinical development of MN-166 (ibudilast).

- *Pursue the development of MN-001 (tipelukast) for fibrotic and other diseases.*

  We intend to advance development of MN-001 (tipelukast) through a variety of means, which may include investigator-sponsored trials with or without grant funding as well as trials funded by us.

- *Consider strategic partnerships with one or more leading pharmaceutical companies to complete product development and successfully commercialize our products.*

  We develop and maintain relationships with pharmaceutical companies that are therapeutic category leaders. We intend to discuss strategic alliances with leading pharmaceutical companies who seek product candidates, such as MN-166 (ibudilast), MN-001 (tipelukast), MN-221 (bedoradrine), and MN-029 (denibulin), which could support our clinical development and product commercialization.

Impact of COVID-19 on Our Business

The pandemic caused by an outbreak of a new strain of coronavirus ("COVID-19" or "the pandemic") has resulted, and is likely to continue to result, in significant national and global economic disruption and may adversely affect our business. Although the pandemic resulted in a decrease in the number of patient visits at certain of our clinical trial sites, we expect this effect to be temporary. We have seen an increase in the number of patient visits compared to earlier in the pandemic and we continue to enroll patients in our clinical trials. Throughout the pandemic, we have continued with routine clinical trial activities including executing new clinical trial agreements, negotiating budgets, institutional review board (IRB) approvals, site training, and other activities related to the initiation of new clinical trial sites. In addition, following the outbreak of the pandemic, we designed a clinical trial to evaluate MN-166 (ibudilast) for prevention of acute respiratory distress syndrome (ARDS) caused by COVID-19, which was based on positive results of a published study of MN-166 (ibudilast) in an animal model of ARDS. During the pandemic, we have been able to continue with routine regulatory activities. For example, we successfully submitted an Investigational New Drug Application (IND) for MN-166 (ibudilast) for prevention of ARDS which was accepted and is now open with the U.S. Food and Drug Administration (FDA). We were also informed by the FDA that the proposed clinical investigation of MN-166 (ibudilast) for the prevention of ARDS in patients with COVID-19 may proceed. Based on management's current assessment, we do not expect a material negative impact on our clinical development plans, long-term development timeline or liquidity due to the worldwide spread of the COVID-19 virus. However, we are actively monitoring this situation and the possible effects on our financial condition, liquidity, operations, suppliers, industry, and workforce.

Revenues and Cost of Revenues

In October 2011, we entered into a collaboration agreement with Kissei Pharmaceutical Co., Ltd., or Kissei, to perform research and development services relating to MN-221 (bedoradrine) in exchange for a non-refundable upfront payment of $2.5 million. Under the terms of the agreement, we are responsible for all costs to be incurred in the performance of these services. We assessed the services in accordance with the authoritative guidance and concluded that the two studies to be performed under the agreement represented two separate performance obligations. The transaction price was allocated between the two studies that were deemed separate performance obligations based on the expected costs to be incurred for each obligation. Revenue is recognized proportional to the total costs expected for each performance obligation as incurred over the service period. The first study was completed in 2013 and the timing of the second study is undetermined as of March 31, 2021. The amount received from Kissei and allocated, net of the amount recorded as revenue, is included on the balance sheet as long-term deferred revenue since it is non-refundable and not expected to be started within the next year and will be recognized as revenue as the remaining performance obligation is satisfied. No revenue was recognized in the three months ended March 31, 2021 and 2020, in connection with the collaboration agreement with Kissei.

In December 2005, Avigen, Inc. and Genzyme Corporation entered into an Assignment Agreement (the "Genzyme Agreement") in which Genzyme acquired certain gene therapy intellectual property, programs and other related assets from Avigen in exchange for an initial $12.0 million payment. Avigen could also receive additional development milestone payments, sublicensing fees and royalty payments based on the successful development of products by Genzyme utilizing technologies previously developed by Avigen. Avigen was subsequently acquired by the Company in December 2009 along with Avigen's rights and obligations under the Genzyme Agreement. If Genzyme fails to diligently pursue the commercialization or marketing of products using the assigned technology, as specified in the Genzyme Agreement, some of the rights assigned could revert back to the Company at a future date. The development milestones outlined in the Genzyme Agreement did not meet the definition of a substantive milestone obligation under authoritative guidance on revenue recognition for milestone payments, as Genzyme is responsible for the development of the products and there is no further substantive service effort required by the Company. In March 2021, the Company received notice that a gene therapy product based on AAV (adeno-associated virus) vector technology, which is covered under the Genzyme Agreement, achieved two clinical development milestones, triggering two milestone payments. Accordingly, the Company recognized revenue of $4 million for the three months ended March 31, 2021.

Research, Development and Patents Expenses

Our research, development and patents expenses consist primarily of license fees related to our product candidates, salaries and related employee benefits, costs associated with the preclinical and clinical development of our product development programs, costs associated with non-clinical activities, such as regulatory expenses, and pre-commercialization manufacturing development activities. We use external service providers to manufacture our compounds to be used in clinical trials and for the majority of the services performed in connection with the preclinical and clinical development of our product candidates. Research, development and patents expenses include fees paid to consultants, contract research organizations, contract manufacturers and other external service providers, including professional fees and costs associated with legal services, patents and patent applications for our intellectual property. Internal research and development expenses include costs of compensation and other expenses for research and development personnel, supplies, facility costs and depreciation. Research, development and patents costs are expensed as incurred and we expect to increase such costs throughout 2021 as our development programs progress.

The following table summarizes our research, development and patents expenses for the periods indicated for each of our product development programs. To the extent that costs, including personnel costs, are not tracked to a specific product development program, such costs are included in the "Other R&D expense" category (in thousands):

	Three months ended March 31,	
	2021	2020
External development expense:		
MN-221	$ 2	$ 3
MN-166	1,249	618
MN-001	15	48
MN-029	—	1
Other	21	—
Total external development expense	1,287	670
R&D personnel expense	658	430
R&D facility and depreciation expense	12	12
Patent expenses	115	71
Other R&D expense	73	68
Total research, development and patent expense	$ 2,145	$ 1,251

General and Administrative

Our general and administrative costs primarily consist of salaries, stock-based compensation, benefits and consulting and professional fees related to our administrative, finance, human resources, business development, legal, information systems support functions, facilities and insurance costs. General and administrative costs are expensed as incurred.

Our general and administrative expenses may increase in future periods if we are required to expand our infrastructure based on the success of our product development programs and in raising capital to support our product development programs or otherwise in connection with increased business development activities related to partnering, out-licensing or product disposition.

Critical Accounting Policies and Estimates

This discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which we have prepared in accordance with United States generally accepted accounting principles. The preparation of these condensed financial statements requires us to make estimates, judgments and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of expenses during the reporting periods. We base our estimates on historical experience and on various other factors and assumptions that we believe are reasonable under the circumstances at the time the estimates are made, the results of which form the basis for making judgments about the book values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. We periodically evaluate our estimates and judgments in light of changes in circumstances, facts and experience.

Our critical accounting policies are those accounting principles generally accepted in the United States that require us to make subjective estimates and judgments about matters that are uncertain and are likely to have a material impact on our financial condition and results of operations, as well as the specific manner in which we apply those principles. For a description of our critical accounting policies, please see the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies" contained in our Annual Report on Form 10-K for the year ended December 31, 2020. There have not been any material changes to the critical accounting policies discussed therein during the three months ended March 31, 2021.

Results of Operations

Comparison of the three months ended March 31, 2021 and 2020

Research, Development and Patents Expenses

Research, development and patents expenses were $2.1 million and $1.3 million for the three months ended March 31, 2021 and 2020, respectively. The increase of $0.8 million was primarily due to higher clinical trial expenses from the ongoing clinical trial of MN-166 (ibudilast) in ALS and higher stock compensation expense for performance-based stock options resulting from an increase in our stock price.

General and Administrative

General and administrative expenses were $2.1 million and $1.7 million for the three months ended March 31, 2021 and 2020, respectively. The increase of $0.4 million was primarily due to higher stock compensation expense for performance-based stock options resulting from an increase in our stock price.

Liquidity and Capital Resources

Net cash used in operating activities during the three months ended March 31, 2021 was $3.9 million compared to $2.9 million during the same period in 2020. The $1.0 million change is primarily related to the increase in accounts receivable of $4.0 million, partially offset by decreased net loss and increased non-cash stock-based compensation expense.

Net cash provided by financing activities was $20.1 million during the three months ended March 31, 2021 compared to $0.4 million during the same period in 2020. Net cash provided by financing activities during the three months ended March 31, 2021 is primarily due to the sale of 3,656,307 shares of common stock under the Securities Purchase Agreement dated as of January 11, 2021 for net proceeds of $19.9 million. Net cash provided by financing activities during the three months ended March 31, 2020 is primarily due to the sale of 68,952 shares of common stock under the 2019 ATM Agreement for net proceeds of $0.4 million. Cash proceeds from financing activities are used for working capital and general corporate purposes.

On August 23, 2019, we entered into an at the market issuance sales agreement (the “2019 ATM Agreement”) with B. Riley FBR, Inc. (B. Riley FBR) pursuant to which we may sell common stock through B. Riley FBR from time to time up to an aggregate offering price of $75.0 million. Sales of our common stock through B. Riley FBR, if any, will be made by any method that is deemed to be an “at-the-market” equity offering as defined in Rule 415 promulgated under the Securities Act of 1933, as amended, including sales made directly on NASDAQ, on any other existing trading market for the common stock or through a market maker. B. Riley FBR may also sell the common stock in privately negotiated transactions, subject to our prior approval. We agreed to pay B. Riley FBR an aggregate commission rate of up to 3.5% of the gross proceeds of any common stock sold under this agreement. Proceeds from sales of common stock will depend on the number of shares of common stock sold to B. Riley FBR and the per share purchase price of each transaction.

No shares of common stock were sold under the 2019 ATM Agreement in the three months ended March 31, 2021.

As of March 31, 2021, we had available cash and cash equivalents of $76.3 million and working capital of $79.6 million. As of the date of this report, we believe we have working capital sufficient to fund operations at least through the end of 2022. However, we cannot provide assurance that these capital resources will be sufficient to conduct all our research and development programs as planned.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments outside the ordinary course of business during the three months ended March 31, 2021.

Off-Balance Sheet Arrangements

At March 31, 2021, we did not have any relationship with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance variable interest, or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements. In addition, we did not engage in trading activities involving non-exchange traded contracts. As a result, we are not exposed to any financing, liquidity, market or credit risk that could arise if we had engaged in such

relationships. We do not have relationships and transactions with persons and entities that derive benefits from their non-independent relationship with us or our related parties except as disclosed herein.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Our primary exposure to market risks are due to changes in interest rates, which relates primarily to the increase or decrease in the amount of interest income we can earn on our investment portfolio. The primary objective of our investment activities is to preserve principal. Our risk associated with fluctuating interest rates is limited to our investments in interest rate sensitive financial instruments and we do not use interest rate derivative instruments to manage exposure to interest rate changes. We mitigate default risk by investing in investment grade securities. A hypothetical 100 basis point adverse move in interest rates along the entire interest rate yield curve would not materially affect the fair value of our interest-rate sensitive financial instruments due to their relatively short-term nature.

Cash and cash equivalents as of March 31, 2021 were $76.3 million and were primarily invested in money market interest bearing accounts and money market funds. A hypothetical 10% adverse change in the average interest rate on our cash and cash equivalents would have had no material effect on net loss for the three months ended March 31, 2021.

ITEM 4. CONTROLS AND PROCEDURES.

We maintain disclosure controls and procedures that are designed to provide reasonable assurance that the information required to be disclosed in our filings under the Securities Exchange Act of 1934, as amended, or the Exchange Act, is (1) recorded, processed, summarized and reported within the time periods specified in SEC's rules and forms, and (2) accumulated and communicated to management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow for timely decisions regarding required disclosure.

Our management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our procedures or our internal controls will prevent or detect all errors and all fraud. Any internal control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Because of the inherent limitations in all control systems, no evaluation of our controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected.

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) of the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures as of the end of the quarter covered by this report. Based on the foregoing, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There has been no change in our internal control over financial reporting during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS.

We are not involved in any material legal proceedings as of March 31, 2021. We may become involved in various disputes and legal proceedings which arise in the ordinary course of business or otherwise. While it is not possible to accurately predict or determine the outcome of these matters, an adverse result in any litigation matter may occur which could harm our business.

ITEM 1A. RISK FACTORS.

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Part I, "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, which are incorporated herein by reference and which could materially affect our business, financial condition or future results. The risks described in our Annual Report on Form 10-K are not the only risks facing our Company. Additional risks and uncertainties not currently known to us or that we currently deem to be immaterial also may materially adversely affect our business, financial condition and/or operating results. We do not believe that there have been any material changes from the risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2020.

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

None

ITEM 3. DEFAULTS UPON SENIOR SECURITIES.

None

ITEM 4. MINE SAFETY DISCLOSURES.

Not applicable

ITEM 5. OTHER INFORMATION.

None

ITEM 6. EXHIBITS.

Exhibit Number	Description
3.1	Restated Certificate of Incorporation of the Registrant, as amended (incorporated by reference to Exhibit 3.1 of the Registrant's Quarterly Report on Form 10-Q filed August 9, 2012).
3.2	Amended and Restated Bylaws of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K filed April 25, 2019).
31.1(1)	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2(1)	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1(1)	Certification of Principal Executive Officer pursuant to 18 U.S.C. Section 1350 (Section 906 of the Sarbanes-Oxley Act of 2002).
32.2(1)	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350 (Section 906 of the Sarbanes-Oxley Act of 2002).
101(1)	The following financial statements from the MediciNova, Inc. Quarterly Report on Form 10-Q for the quarter ended March 31, 2021 are formatted in Inline Extensible Business Reporting Language (iXBRL): (i) Consolidated Balance Sheets; (ii) Consolidated Statements of Operations and Comprehensive Loss; (iii) Consolidated Statements of Stockholders' Equity; (iv) Consolidated Statements of Cash Flows; and (v) the notes to the consolidated financial statements.
104(1)	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

(1) Filed Herewith

SIGNATURES

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

MEDICINOVA, INC.

Date: May 13, 2021

By: /s/ YUICHI IWAKI

Yuichi Iwaki, M.D., Ph.D.
President and Chief Executive Officer
(on behalf of the registrant and
as the registrant's Principal Executive Officer)

By: /s/ EDWARD STEPANOW

Edward Stepanow
Chief Financial Officer
(on behalf of the registrant and
as the registrant's Principal Financial Officer)

Exhibit 31.1

MEDICINOVA, INC.

Certification of the Principal Executive Officer Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002 for the Period Ended March 31, 2021

I, Yuichi Iwaki, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2021 of MediciNova, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 13, 2021

By: /s/ YUICHI IWAKI

Yuichi Iwaki, M.D., Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

MEDICINOVA, INC.

Certification of the Principal Financial Officer Pursuant to
Section 302 of the Sarbanes-Oxley Act of 2002 for the Period Ended March 31, 2021

I, Edward Stepanow, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended March 31, 2021 of MediciNova, Inc.;

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

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

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

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

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

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

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

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

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

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

Date: May 13, 2021

By: /s/ EDWARD STEPANOW
Edward Stepanow
Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the accompanying Quarterly Report on Form 10-Q of MediciNova, Inc. (the "Company") for the period ended March 31, 2021 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Yuichi Iwaki, as President and Chief Executive Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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: May 13, 2021

By: /s/ YUICHI IWAKI

Yuichi Iwaki, M.D., Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and such certification is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

Exhibit 32.2

CERTIFICATION OF
ACTING PRINCIPAL FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350
(SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002)

In connection with the accompanying Quarterly Report on Form 10-Q of MediciNova, Inc. (the "Company") for the period ended March 31, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Edward Stepanow, as Chief Financial Officer of the Company, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to my knowledge:

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: May 13, 2021

By: /s/ EDWARD STEPANOW

Edward Stepanow
Chief Financial Officer
(Principal Financial Officer)

The foregoing certification is being furnished solely to accompany the Report pursuant to 18 U.S.C. Section 1350, and is not being filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, and such certification is not to be incorporated by reference into any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing. A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.