

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

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2020

OR

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

For the transition period from _____ to _____

Commission file number 001-36577

ContraFect Corporation

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

39-2072586
(I.R.S. Employer
Identification No.)

28 Wells Avenue, 3rd Floor, Yonkers, NY
(Address of principal executive offices)

10701
(Zip Code)

(914) 207-2300
(Registrant's telephone number, including area code)

N/A
(Former name, former address, and former fiscal year, if changed since last report)

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, \$0.0001 par value per share	CFRX	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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 outstanding as of November 6, 2020 was 27,810,082.

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SUMMARY RISK FACTORS

Our business is subject to numerous risks and uncertainties, including those described in Part II, Item 1A. “Risk Factors” in this Quarterly Report on Form 10-Q. You should carefully consider these risks and uncertainties when investing in our common stock. The principal risks and uncertainties affecting our business include the following:

- We have incurred significant losses since our inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability.
- We currently have no source of product revenue and have not yet generated any revenues from product sales.
- We have a need for substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.
- Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.
- Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.
- The timing of the milestone and royalty payments we are required to make under certain agreements to The Rockefeller University (“Rockefeller”) is uncertain and could adversely affect our cash flows and results of operations.
- Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.
- The outbreak of the novel coronavirus disease, COVID-19, or other pandemic, epidemic or outbreak of an infectious disease may materially and adversely impact our business, including our preclinical studies and clinical trials.
- We are heavily dependent on the success of our leading product candidate, exebacase. If we are ultimately unable to obtain regulatory approval for exebacase or any other product candidate our business will be substantially harmed.
- If clinical trials of exebacase or any other product candidate that we develop fail to demonstrate safety and efficacy to the satisfaction of the Food and Drug Administration (“FDA”) or similar international regulatory authorities or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of exebacase or any other product candidate.
- We may be required to suspend or discontinue clinical trials due to adverse side effects or other safety risks that could preclude approval of exebacase or any other product candidates.
- Delays in clinical trials are common and have many causes, and any such delays could result in increased costs to us and jeopardize, delay or prevent our ability to obtain regulatory approval and commence product sales as currently contemplated.
- We are significantly dependent on our license agreements with Rockefeller that relate to exebacase.
- We rely on CROs to conduct our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be delayed in obtaining, or may ultimately not be able to obtain, regulatory approval for commercialization of exebacase or any other product candidates.
- Even if the FDA approves exebacase or any other product candidate, adverse effects discovered after approval could adversely affect our markets.
- Any Breakthrough Therapy Designation that we may receive from the FDA for our product candidates may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval.
- Risks associated with the manufacture of our product candidates could include cost overruns, new impurities, difficulties in process or formulation development, scaling up or reproducing manufacturing processes, equipment failures, and lack of timely availability of raw materials.
- Developments by competitors may render our products or technologies obsolete or non-competitive.
- The level of commercial success of exebacase or any other product candidates that we develop will depend upon significant market acceptance of these products among physicians and payors.
- Coverage and reimbursement may not be available for exebacase or any other product candidates that we develop.
- If we are unable to establish our own marketing and sales capabilities, or enter into agreements with third parties, to market and sell our products after they are approved, we may not be able to generate revenues.
- Interim, “topline” and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.
- Risks related to regulatory approval of our product candidates and other legal and compliance matters.
- Risks related to employee matters and managing growth.

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- Risks related to our intellectual property.
- Risks related to our securities and organizational documents.
- Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.
- Our collection, control, processing, sharing, disclosure and otherwise use of personal data could give rise to liabilities as a result of governmental regulation, conflicting legal requirements, and evolving laws concerning data privacy in the E.U. and E.E.A.

FORWARD LOOKING STATEMENTS

The information in this Quarterly Report on Form 10-Q contains forward-looking statements and information 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”), which are subject to the “safe harbor” created by those sections. These forward-looking statements include, but are not limited to, statements concerning our strategy, our beliefs regarding lysins, future operations, future financial position, the sufficiency of our cash and cash equivalents and marketable securities, future revenues, projected costs, prospects and plans and objectives of management. The words “anticipates”, “believes”, “estimates”, “expects”, “intends”, “targets”, “may”, “plans”, “projects”, “potential”, “will”, “would”, “could” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. All such forward-looking statements involve significant risks and uncertainties, including, but not limited to, statements regarding:

- the success, cost, timing and potential indications of our product development activities and clinical trials;
- our ability to advance into and through clinical development and ultimately obtain FDA approval for our product candidates;
- our research and development plans and ability to bring forward additional product candidates into preclinical and clinical development;
- our expectations regarding the impact of COVID-19 on our business, operations and financial performance and position;
- the rate and degree of market acceptance of our product candidates and our expectations regarding the size of the commercial markets for our product candidates;
- our future marketing and sales programs;
- the effect of competition and proprietary rights of third parties;
- the availability of and our ability to obtain additional financing and to continue as a going concern;
- the effects of existing and future federal, state and foreign regulations;
- the seeking of joint development, licensing or distribution and collaboration and marketing arrangements with third parties; and
- the period of time for which our existing cash and cash equivalents will enable us to fund our operations.

As more fully described under the heading “Risk Factors” contained elsewhere in this Quarterly Report on Form 10-Q, many important factors affect our ability to achieve our stated objectives and to develop and commercialize any product candidates. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. These forward-looking statements involve risks and uncertainties that could cause our actual results to differ materially from those in the forward-looking statements, including, without limitation, the risks and uncertainties set forth in our filings with the SEC. You should read this Quarterly Report on Form 10-Q with the understanding that our actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements that we make. The forward-looking statements are applicable only as of the date on which they are made, and we do not assume any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

**CONTRAFECT CORPORATION PART
I – FINANCIAL INFORMATION**

ITEM 1. FINANCIAL STATEMENTS

**CONTRAFECT CORPORATION
Consolidated Balance Sheets**

	<u>September 30, 2020</u>	<u>December 31, 2019</u>
	(unaudited)	(audited)
Assets		
Current assets:		
Cash and cash equivalents	\$ 18,152,046	\$ 24,184,140
Marketable securities	32,082,709	—
Prepaid expenses and other current assets	<u>5,828,086</u>	<u>6,575,375</u>
Total current assets	56,062,841	30,759,515
Property and equipment, net	957,587	1,099,948
Operating lease right-of-use assets	2,870,431	3,043,826
Other assets	<u>105,420</u>	<u>105,420</u>
Total assets	<u>\$ 59,996,279</u>	<u>\$ 35,008,709</u>
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	\$ 2,190,813	\$ 2,622,272
Accrued liabilities	1,996,320	6,803,789
Current portion of lease liabilities	<u>641,249</u>	<u>631,889</u>
Total current liabilities	4,828,382	10,057,950
Warrant liabilities	33,659,991	6,068,978
Long-term portion of lease liabilities	3,038,056	3,264,128
Other liabilities	<u>72,747</u>	<u>72,747</u>
Total liabilities	41,599,176	19,463,803
Commitments and contingencies	—	—
Stockholders' equity:		
Preferred stock, \$0.0001 par value, 25,000,000 shares authorized and none outstanding at September 30, 2020 and December 31, 2019	—	—
Common stock, \$0.0001 par value, 125,000,000 shares authorized, 27,810,082 shares issued and outstanding at September 30, 2020; 200,000,000 shares authorized, 15,332,042 shares issued and outstanding at December 31, 2019	2,781	1,533
Additional paid-in capital	252,268,303	227,657,758
Accumulated other comprehensive loss	(8,305)	—
Accumulated deficit	<u>(233,865,676)</u>	<u>(212,114,385)</u>
Total stockholders' equity	<u>18,397,103</u>	<u>15,544,906</u>
Total liabilities and stockholders' equity	<u>\$ 59,996,279</u>	<u>\$ 35,008,709</u>

See accompanying notes.

CONTRAFECT CORPORATION
Consolidated Statements of Operations
(unaudited)

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Operating expenses				
Research and development	\$ 4,706,012	\$ 5,250,327	\$ 15,354,453	\$ 14,161,543
General and administrative	2,607,472	2,376,248	8,186,169	7,234,244
Total operating expenses	<u>7,313,484</u>	<u>7,626,575</u>	<u>23,540,622</u>	<u>21,395,787</u>
Loss from operations	(7,313,484)	(7,626,575)	(23,540,622)	(21,395,787)
Other income (expense):				
Interest income	58,451	80,747	154,019	334,307
Other income (expense)	9,609	—	(2,165,044)	—
Change in fair value of warrant liabilities	10,689,855	2,186,710	3,800,356	18,622,471
Total other income	<u>10,757,915</u>	<u>2,267,457</u>	<u>1,789,331</u>	<u>18,956,778</u>
Net income (loss)	<u>\$ 3,444,431</u>	<u>\$ (5,359,118)</u>	<u>\$ (21,751,291)</u>	<u>\$ (2,439,009)</u>
Basic net income (loss) per share	<u>\$ 0.12</u>	<u>\$ (0.67)</u>	<u>\$ (1.03)</u>	<u>\$ (0.31)</u>
Shares used in computing basic net income (loss) per share	<u>27,809,169</u>	<u>7,940,931</u>	<u>21,069,057</u>	<u>7,940,931</u>
Diluted net loss per share	<u>\$ (0.19)</u>	<u>\$ (0.67)</u>	<u>\$ (1.03)</u>	<u>\$ (0.31)</u>
Shares used in computing diluted net loss per share	<u>29,079,107</u>	<u>7,940,931</u>	<u>21,069,057</u>	<u>7,940,931</u>

See accompanying notes.

CONTRAFECT CORPORATION
Consolidated Statements of Comprehensive Income (Loss)
(unaudited)

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Net income (loss)	\$ 3,444,431	\$ (5,359,118)	\$ (21,751,291)	\$ (2,439,009)
Other comprehensive (loss) gain:				
Unrealized (loss) gain on available-for-sale securities	(1,176)	—	(8,305)	30,300
Comprehensive income (loss)	<u>\$ 3,443,255</u>	<u>\$ (5,359,118)</u>	<u>\$ (21,759,596)</u>	<u>\$ (2,408,709)</u>

See accompanying notes.

CONTRAFECT CORPORATION
Consolidated Statements of Stockholders' Equity
(unaudited)

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2019	15,332,042	\$ 1,533	\$ 227,657,758	\$ —	\$(212,114,385)	\$ 15,544,906
Share-based compensation	—	—	632,902	—	—	632,902
Unrealized gain on marketable securities	—	—	—	9,199	—	9,199
Net loss	—	—	—	—	(7,578,486)	(7,578,486)
Balance, March 31, 2020	15,332,042	\$ 1,533	\$ 228,290,660	\$ 9,199	\$(219,692,871)	\$ 8,608,521
Issuance of securities in registered offering	11,797,752	1,180	21,107,447	—	—	21,108,627
Issuance of securities in private placement	674,156	67	2,999,927	—	—	2,999,994
Financing cost of sale of securities	—	—	(1,462,310)	—	—	(1,462,310)
Issuance of common stock for exercise of options	282	—	—	—	—	—
Share-based compensation	—	—	652,266	—	—	652,266
Unrealized loss on marketable securities	—	—	—	(16,328)	—	(16,328)
Net loss	—	—	—	—	(17,617,236)	(17,617,236)
Balance, June 30, 2020	27,804,232	\$ 2,780	\$ 251,587,990	\$ (7,129)	\$(237,310,107)	\$ 14,273,534
Issuance of common stock for exercise of warrants	5,850	1	28,664	—	—	28,665
Share-based compensation	—	—	651,649	—	—	651,649
Unrealized loss on marketable securities	—	—	—	(1,176)	—	(1,176)
Net income	—	—	—	—	3,444,431	3,444,431
Balance, September 30, 2020	<u>27,810,082</u>	<u>\$ 2,781</u>	<u>\$ 252,268,303</u>	<u>\$ (8,305)</u>	<u>\$(233,865,676)</u>	<u>\$ 18,397,103</u>

	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Stockholders' Equity
	Shares	Amount				
Balance, December 31, 2018	7,940,931	\$ 794	\$ 204,891,358	\$ (30,300)	\$(199,319,892)	\$ 5,541,960
Share-based compensation	—	—	323,774	—	—	323,774
Unrealized gain on marketable securities	—	—	—	31,336	—	31,336
Net income	—	—	—	—	11,587,015	11,587,015
Balance, March 31, 2019	7,940,931	\$ 794	\$ 205,215,132	\$ 1,036	\$(187,732,877)	\$ 17,484,085
Share-based compensation	—	—	369,927	—	—	369,927
Unrealized gain on marketable securities	—	—	—	960	—	960
Net loss	—	—	—	—	(8,666,906)	(8,666,906)
Balance, June 30, 2019	7,940,931	\$ 794	\$ 205,585,059	\$ 1,996	\$(196,399,783)	\$ 9,188,066
Share-based compensation	—	—	392,005	—	—	392,005
Unrealized loss on marketable securities	—	—	—	(1,996)	—	(1,996)
Net loss	—	—	—	—	(5,359,118)	(5,359,118)
Balance, September 30, 2019	<u>7,940,931</u>	<u>\$ 794</u>	<u>\$ 205,977,064</u>	<u>—</u>	<u>\$(201,758,901)</u>	<u>\$ 4,218,957</u>

See accompanying notes.

CONTRAFECT CORPORATION
Consolidated Statements of Cash Flows
(unaudited)

	Nine Months Ended September 30,	
	2020	2019
Cash flows from operating activities		
Net loss	\$ (21,751,291)	\$ (2,439,009)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	126,143	126,786
Stock-based compensation expense	1,936,817	1,085,706
Change in fair value of warrant liabilities	(3,800,356)	(18,622,471)
Issuance costs allocated to warrants	2,174,653	—
Net amortization of premium on marketable securities	161,142	171,111
Changes in operating assets and liabilities:		
Decrease (increase) in prepaid expenses and other current and non-current assets	720,191	(1,369,020)
(Decrease) increase in accounts payable, accrued liabilities and other liabilities	(5,238,928)	1,257,043
Net cash used in operating activities	(25,671,629)	(19,789,854)
Cash flows from investing activities		
Purchases of marketable securities	(47,555,466)	—
Proceeds from sales and maturities of marketable securities	15,303,309	21,991,125
Purchases of property and equipment	—	(19,999)
Net cash (used in) provided by investing activities	(32,252,157)	21,971,126
Cash flows from financing activities		
Proceeds from issuance of securities	55,499,990	—
Payment of financing costs of securities sold	(3,636,963)	—
Proceeds from the exercise of warrants	28,665	—
Net cash provided by financing activities	51,891,692	—
Net (decrease) increase in cash and cash equivalents	(6,032,094)	2,181,272
Cash and cash equivalents at beginning of period	24,184,140	8,320,317
Cash and cash equivalents at end of period	<u>\$ 18,152,046</u>	<u>\$ 10,501,589</u>
Supplemental disclosures of cash flow information:		
Issuance of warrants to purchase common stock	\$ 31,391,369	\$ —
Right-of-use assets obtained in exchange for lease obligations	\$ —	\$ 4,148,672
Leasehold improvement obtained in exchange for lease incentive obligations	\$ —	\$ 189,227

See accompanying notes.

CONTRAFECT CORPORATION
Notes to Unaudited Consolidated Financial Statements
September 30, 2020

1. Organization and Description of Business

Organization and Business

ContraFect Corporation (the “Company”) is a clinical-stage biotechnology company focused on the discovery and development of direct lytic agents (“DLAs”), including lysins and amurin peptides, as new medical modalities for the treatment of life-threatening, antibiotic-resistant infections. The Company intends to address antibiotic-resistant infections using product candidates from our lysin and amurin peptide platforms. DLAs are fundamentally different than antibiotics and offer a potential paradigm shift in the treatment of antibiotic-resistant infections. The Company’s most advanced product candidate is exebacase, a lysin which targets *Staph aureus*, including methicillin-resistant strains, which causes serious infections such as bacteremia, pneumonia and osteomyelitis. *Staph aureus* is also a common cause of biofilm-driven infections of heart valves (endocarditis), prosthetic joints, indwelling devices and catheters. These infections result in significant morbidity and mortality despite current antibiotic therapy. Exebacase is being studied in a pivotal Phase 3 superiority study to confirm efficacy and safety when used in addition to background standard of care antibiotic therapy for the treatment of *Staph aureus* bacteremia, including right-sided endocarditis. The Phase 2 data for MRSA-infected patients treated with exebacase, which demonstrated superior outcomes in clinical response at Day 14 and in 30-day all-cause mortality, as well as health economics benefits, provided the basis for the Phase 3 study design and Breakthrough Therapy designation.

The Company has incurred losses from operations since inception as a research and development organization and has relied on its ability to fund its operations through public and private debt and equity financings, and, to a lesser extent, grant funding. Management believes its cash, cash equivalents and marketable securities balances as of September 30, 2020, will be sufficient to fund operations for at least 12 months from the issuance date of these financial statements and expects operating losses and negative cash flows to continue at more significant levels in the future. Transition to profitability is dependent upon the successful development, approval, and commercialization of its product candidates and achieving a level of revenues adequate to support the Company’s cost structure. The Company may never achieve profitability, and unless and until it does, the Company will continue to need to raise additional capital. Management intends to fund future operations through additional public or private debt and equity financings, and may seek additional capital through arrangements with strategic partners or from other sources. There can be no assurances that such financing will be available to the Company on satisfactory terms, or at all.

On May 27, 2020, the Company completed an underwritten public offering of 11,797,752 shares of its common stock and warrants to purchase an additional 8,848,314 shares of its common stock at an exercise price of \$4.90 per share (the “2020 Offering”). The public offering price was \$4.45 for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock, resulting in net proceeds to the Company of approximately \$48.9 million after underwriting discounts and commissions and offering expenses payable by the Company. The Company completed a concurrent private placement to Pfizer Inc. (“Pfizer”) of 674,156 shares of common stock and an accompanying warrant to purchase an additional 505,617 shares of its common stock at an exercise price of \$4.90 per share (the “Pfizer Warrant”). The offering price for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock was at a price of \$4.45 per share of common stock, resulting in net proceeds to the Company of approximately \$3.0 million.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial information as of September 30, 2020 and for the three and nine months ended September 30, 2020 and 2019 has been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission (the “SEC”). Certain information and footnote disclosures normally included in consolidated financial statements prepared in accordance with U.S. generally accepted accounting principles (“U.S. GAAP”) have been condensed or omitted pursuant to such rules and regulations. The consolidated balance sheet as of December 31, 2019 was derived from the Company’s audited consolidated financial statements. The Company’s audited consolidated financial statements as of and for the year ended December 31, 2019, including all related disclosures and the complete listing of significant accounting policies as described in Note 2 thereof, are included in the Company’s Annual Report on Form 10-K that was filed with the SEC on March 18, 2020.

In the opinion of management, the unaudited financial information as of September 30, 2020 and for the three and nine months ended September 30, 2020 and 2019 reflects all adjustments, which are normal recurring adjustments, necessary to present a fair statement of financial position, results of operations and cash flows. The results of operations for the three and nine months ended September 30, 2020 are not necessarily indicative of the operating results for the full fiscal year or any future periods.

Principles of Consolidation

The Company has a wholly-owned subsidiary, ContraFect International Limited, in Scotland that establishes legal status for interactions with the European Economic Area. This subsidiary is dormant or is otherwise non-operative. Any inter-company accounts have been eliminated in consolidation.

Significant Risks and Uncertainties

The Company's operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to, the results of clinical testing and trial activities of the Company's products, the Company's ability to obtain regulatory approval to market its products, competition from products manufactured and sold or being developed by other companies, the price of, and demand for, the Company's products, the Company's ability to negotiate favorable licensing or other manufacturing and marketing agreements for its products, the Company's ability to raise capital and the effects of the novel coronavirus, or COVID-19, on the Company's business, operations and financial performance and position.

During the nine months ended September 30, 2020, COVID-19 was declared a pandemic and spread to multiple regions across the globe, including the United States and Europe. The outbreak and government measures taken in response have had an impact, both directly and indirectly, on the Company. The full extent to which the COVID-19 pandemic will directly or indirectly impact the Company's business, results of operations and financial condition, including expenses, research and development costs and clinical trial progress, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain or treat COVID-19, as well as the economic impact on local, regional, national and international vendors, suppliers and investors.

There was no impact from the effects of the COVID-19 pandemic on the Company's financial statements for the three and nine ended September 30, 2020. Given the daily evolution of the pandemic and the global responses to curb its spread, the Company is not currently able to estimate the effects, if any, of the COVID-19 pandemic on its future results of operations, financial condition, or liquidity.

Use of Estimates

The preparation of the consolidated financial statements in conformity with U.S. 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 consolidated financial statements and the reported amounts of expenses during the reporting period. The Company bases estimates and assumptions on historical experience when available and on various factors that it believes to be reasonable under the circumstances. On an ongoing basis, the Company evaluates its estimates and assumptions, including those related to accruals, stock-based compensation, valuation of warrant liabilities and income taxes. The Company's actual results may differ from these estimates under different assumptions or conditions, including the effects of significant risks and uncertainties.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to concentration of credit risk consist primarily of cash, cash equivalents and marketable securities. The Company holds these investments in highly rated financial institutions, and, by policy, limits the amounts of credit exposure to any one financial institution. These amounts at times may exceed federally insured limits. The Company has not experienced any credit losses in such accounts and does not believe it is exposed to any significant credit risk on these funds. The Company has no off-balance sheet concentrations of credit risk, such as foreign currency exchange contracts, option contracts or other hedging arrangements.

Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities at the date of purchase of three months or less to be cash equivalents. Cash and cash equivalents include bank demand deposits, marketable securities with maturities of three months or less at purchase, and money market funds that invest primarily in certificates of deposit, commercial paper and U.S. government and U.S. government agency obligations. Cash equivalents are reported at fair value.

Marketable Securities

Marketable securities consist of investments in corporate debt securities. Management determines the appropriate classification of the securities at the time they are acquired and evaluates the appropriateness of such classifications at each balance sheet date. The Company classifies its marketable securities as available-for-sale pursuant to ASC 320, Investments – Debt and Equity Securities. The Company classifies marketable securities available to fund current operations as current assets on its consolidated balance sheets. Marketable securities are classified as long-term assets on the consolidated balance sheets if (i) the Company has the intent and ability

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to hold the investments for a period of at least one year and (ii) the contractual maturity date of the investments is greater than one year. Marketable securities are recorded at fair value, with unrealized gains and losses included as a component of accumulated other comprehensive (loss) income in stockholders' equity and a component of total comprehensive income (loss) in the consolidated statements of comprehensive income (loss), until realized. The fair value of these securities is based on quoted prices for identical or similar assets. The Company utilizes the specific identification method in computing realized gains and losses on sales of its marketable securities. Realized gains and losses are included in other income (expense) in the consolidated statements of operations. There were \$9,609 of realized gains on sales of marketable securities for the three and nine months ended September 30, 2020. There were no realized gains or losses for the three and nine months ended September 30, 2019. There were no marketable securities that had been in an unrealized loss position for more than 12 months as of September 30, 2020 or December 31, 2019.

The Company reviews marketable securities for other-than-temporary impairment whenever the fair value of a marketable security is less than the amortized cost and evidence indicates that a marketable security's carrying amount is not recoverable within a reasonable period of time. Other-than-temporary impairments of investments are recognized in the consolidated statements of operations if the Company has experienced a credit loss, has the intent to sell the marketable security, or if it is more likely than not that the Company will be required to sell the marketable security before recovery of the amortized cost basis. Evidence considered in this assessment includes reasons for the impairment, compliance with the Company's investment policy, the severity and the duration of the impairment and changes in value subsequent to the end of the period.

Fair Value of Financial Instruments

The Company's financial instruments consist of cash and cash equivalents, marketable securities, accounts payable, accrued liabilities and warrant liabilities. Fair value estimates of these instruments are made at a specific point in time, based on relevant market information. These estimates may be subjective in nature and involve uncertainties and matters of significant judgment and therefore cannot be determined with precision. The fair value of the Company's warrant liabilities are based upon unobservable inputs, as described further below.

The Company is required to disclose information on all assets and liabilities reported at fair value that enables an assessment of the inputs used in determining the reported fair values. Financial Accounting Standards Board ("FASB") Accounting Standard Codification ("ASC") Topic 820, *Fair Value Measurements and Disclosures*, establishes a hierarchy of inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the observable inputs be used when available. Observable inputs are inputs that market participants would use in pricing the asset or liability based on market data obtained from sources independent of the Company. Unobservable inputs are inputs that reflect the Company's assumptions about the inputs that market participants would use in pricing the asset or liability, and are developed based on the best information available in the circumstances. The fair value hierarchy applies only to the valuation inputs used in determining the reported fair value of the investments and is not a measure of the investment credit quality.

The three levels of the fair value hierarchy are described below:

Level 1—Valuations based on unadjusted quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date.

Level 2—Valuations based on quoted prices for similar assets or liabilities in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

Level 3—Valuations that require inputs that reflect the Company's own assumptions that are both significant to the fair value measurement and unobservable.

To the extent that valuation is based on models or inputs that are less observable or unobservable in the market, the determination of fair value requires more judgment. Accordingly, the degree of judgment exercised by the Company in determining fair value is greatest for instruments categorized in Level 3. A financial instrument's level within the fair value hierarchy is based on the lowest level of any input that is significant to the fair value measurement.

The carrying amounts reported in the accompanying financial statements for accounts payable and accrued expenses approximate their respective fair values due to their short-term maturities. The fair value of the warrant liabilities is discussed in Note 4, "Fair Value Measurements."

Stock-based Compensation

The Company accounts for stock-based compensation in accordance with ASC 718, *Compensation—Stock Compensation*, which requires the measurement and recognition of compensation expense for all stock-based payment awards made to employees, non-employees and non-employee directors, including employee stock options. For employee and non-employee directors, compensation expense based on the grant date fair value is generally amortized over the requisite service period of the award on a straight-line basis. For non-employees, effective January 1, 2019, unvested option compensation expense is based on the adoption date fair value and is amortized over the service period on a straight-line basis.

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The fair value of options is calculated using the Black-Scholes option pricing model to determine the fair value of stock options on the date of grant for employee and non-employee directors and as of January 1, 2019 for the unvested non-employee stock options based on key assumptions such as stock price, expected volatility and expected term. The Company's estimates of these assumptions are primarily based on historical data.

Grants

The Company recognizes a receivable and the related reduction in its research and development expenses when the actual reimbursable costs have been incurred and there is reasonable assurance that the Company has complied with the conditions of the grants and the amounts will be received. The Company recognized a reduction to its research and development expense in the amount of approximately \$1.0 million and \$1.3 million for the three months ended September 30, 2020 and 2019 respectively, and \$3.4 million and \$2.4 million for the nine months ended September 30, 2020 and 2019, respectively. The receivable for grants as of September 30, 2020 and December 31, 2019 was approximately \$0.8 million and \$1.1 million, respectively, and is included in prepaid expenses and other current assets on the balance sheet. The Company has approximately \$9.1 million of approved grant award funding remaining as of September 30, 2020.

Net Income (Loss) Per Share

Basic net income (loss) per share is calculated by dividing net income (loss) by the weighted average shares outstanding during the period, without consideration for common stock equivalents. Diluted net income (loss) per share is calculated by adjusting weighted average shares outstanding for the dilutive effect of common stock equivalents outstanding for the period, determined using the treasury-stock method. For purposes of a dilutive net loss per share calculation, stock options and warrants are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share, as their effect would be anti-dilutive given the Company's net loss. Common stock equivalents may also be excluded from the calculation of diluted net income per share if the exercise prices exceed the average market price for the reporting period.

Recently Adopted Accounting Pronouncements

Disclosure Requirements for Fair Value Measurements

The Company adopted Accounting Standards Update, *Fair Value Measurement: Disclosure Framework – Changes to the Disclosure Requirements for Fair Value Measurement*, (ASU 2018-13), as of January 1, 2020. The new standard removes certain disclosures, modifies certain disclosures and adds additional disclosures related to fair value measurement. The new standard had no impact on the Company's disclosures.

Leases

The Company adopted Accounting Standards Update No. 2016-02-*Leases (Topic 842)*, as of January 1, 2019, using the optional modified retrospective approach with no cumulative-effect adjustment to equity as of January 1, 2019. The Company elected the package of practical expedients permitted under the transition guidance within Topic 842, which among other things, allowed it to carry forward the historical lease classification of those leases in place as of January 1, 2019 and to not separate lease and non-lease components when the requisite criteria is met to be treated as such. The Company determined that the only contract containing a lease was the lease of its corporate headquarters at 28 Wells Avenue in Yonkers, New York (see Note 7, "Commitments" in these consolidated financial statements for a description of the leases).

We recognize right-of-use ("ROU") assets at the inception of the arrangement as the present value of the lease payments plus our initial direct costs, if any, less any lease incentives. The corresponding liability is computed as the present value of the lease payments at inception. Assets are classified as either operating or finance ROU assets according to the classification criteria in ASC 842. The present value of the lease payments is computed using the rate implicit in the lease, if known, or our incremental borrowing rate. Operating lease costs are charged to operations on a straight-line basis over the term of the lease. Under our policy, we do not record a ROU asset or corresponding liability for arrangements when the initial lease term is one year or less. Those leases are expensed on a straight-line basis over the term of the lease.

Adoption of the new standard resulted in the recording of ROU assets, net of deferred rent and a lease incentive obligation, of \$3.3 million and lease liabilities of approximately \$4.1 million as of January 1, 2019. The lease liability was classified between a current portion of \$0.6 million and a long-term portion of \$3.5 million. The standard did not impact our consolidated net income (loss) and had no impact on cash flows.

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Non-employee stock compensation

The Company adopted Accounting Standards Update, *Compensation-Stock Compensation (ASU 2018-07)*, as of January 1, 2019. The Company elected to utilize the contractual term for its outstanding option grants to non-employees and to recognize forfeitures of awards when incurred. The adoption of ASU 2018-07 did not have a material impact on its consolidated financial statements.

Statements of equity

In August 2018, the SEC adopted the final rule under SEC Release No. 33-10532, Disclosure Update and Simplification, amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. Additionally, the amendments expanded the disclosure requirements on the consolidated statements of equity for interim financial statements. Under the amendments, a summary of changes in each caption of stockholders' equity presented in the consolidated balance sheets must be provided in a note or separate statement. The consolidated statements of equity should present a reconciliation of a beginning balance to the ending balance of each period for which the consolidated statement of comprehensive income is required to be filed. This final rule was effective in the fourth quarter of 2018. The SEC provided relief on the effective date until the first quarter of 2019, and we adopted this rule in the first quarter of 2019.

Recent Accounting Pronouncements Not Yet Adopted

In June 2016, the FASB issued a new Accounting Standards Update, *Financial Instruments-Credit Losses (ASU 2016-13)*. ASU 2016-13 amends the guidance for measuring and recording credit losses on financial assets measured at amortized cost by replacing the "incurred loss" model with an "expected loss" model. Accordingly, these financial assets will be presented at the net amount expected to be collected. This new standard also requires that credit losses related to available-for-sale debt securities be recorded through an allowance for such losses rather than reducing the carrying amount under the current, other-than-temporary-impairment model. The new standard is effective for interim and annual periods beginning after December 15, 2022. The Company is currently evaluating the impact that this new standard will have on its financial statements and related disclosures.

3. Marketable Securities

Marketable securities at September 30, 2020 consisted of the following:

	<u>Amortized Cost</u>	<u>Unrealized Gains</u>	<u>Unrealized Losses</u>	<u>Fair Value</u>
Current:				
Corporate debt	<u>\$32,091,015</u>	<u>\$ 7,005</u>	<u>\$ (15,311)</u>	<u>\$32,082,709</u>

The Company held no marketable securities as of December 31, 2019.

Corporate debt includes obligations issued by investment-grade corporations, and may include securities that have been guaranteed by governments and government agencies. Investments classified as current have maturities of less than one year, or, for investments that have maturities of greater than one year, management may liquidate within the next twelve months. All of the Company's marketable securities have an effective maturity of less than two years.

At September 30, 2020, the Company held 15 debt securities that individually and in total were in an unrealized loss position for less than one year. The aggregate fair value of debt securities in an unrealized loss position at September 30, 2020 was \$19,592,520. The Company evaluated its securities for other-than-temporary impairment and considered the decline in market value for the securities to be primarily attributable to current economic and market conditions. It is not more likely than not that the Company will be required to sell the securities prior to the recovery of the amortized cost basis. Based on this analysis, these marketable securities were not considered to be other-than-temporarily impaired as of September 30, 2020.

4. Fair Value Measurements

The following fair value hierarchy table presents information about the Company’s financial assets and liabilities measured at fair value on a recurring basis as of September 30, 2020 and December 31, 2019:

	Fair Value Measurement as of September 30, 2020		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents	\$ 16,009,456	\$ —	\$ —
Marketable securities	32,082,709	—	—
Warrant liabilities	—	—	33,659,991
Total	\$ 48,092,165	\$ —	\$ 33,659,991

	Fair Value Measurement as of December 31, 2019		
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash equivalents	\$ 21,433,639	\$ —	\$ —
Warrant liabilities	—	—	6,068,978
Total	\$ 21,433,639	\$ —	\$ 6,068,978

The Company issued warrants to the purchasers of its July 27, 2016 offering (the “2016 Warrants”). The Company determined that these warrants should be classified as a liability and considered as a Level 3 financial instrument (see also Note 8, “Capital Structure”). The 2016 Warrants are re-measured at each subsequent reporting period and changes in fair value are recognized in the consolidated statement of operations. The following assumptions were used in a Black-Scholes option-pricing model to determine the fair value of the warrant liability:

	As of September 30, 2020	As of December 31, 2019
Expected volatility	119.4%	121.4%
Remaining contractual term (in years)	0.83	1.58
Risk-free interest rate	0.12%	1.59%
Expected dividend yield	— %	— %

The Company issued warrants to the purchasers of its July 25, 2017 offering (the “2017 Warrants”). The Company determined that these warrants should be classified as a liability and considered as a Level 3 financial instrument (see also Note 8, “Capital Structure”). The 2017 Warrants are re-measured at each subsequent reporting period and changes in fair value are recognized in the consolidated statement of operations. The following assumptions were used in a Black-Scholes option-pricing model to determine the fair value of the warrant liability:

	As of September 30, 2020	As of December 31, 2019
Expected volatility	123.6%	104.2%
Remaining contractual term (in years)	1.83	2.58
Risk-free interest rate	0.13%	1.60%
Expected dividend yield	— %	— %

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The Company issued warrants to the purchasers of its 2020 Offering (the “2020 Warrants”). The Company determined that these warrants should be classified as a liability and considered as a Level 3 financial instrument (see also Note 8, “Capital Structure”). The 2020 Warrants are re-measured at each subsequent reporting period and changes in fair value are recognized in the consolidated statement of operations. The following assumptions were used in a Black-Scholes option-pricing model to determine the fair value of the warrant liability:

	As of September 30, 2020	At Issuance May 27, 2020
Expected volatility	109.8%	106.4%
Remaining contractual term (in years)	2.67	3.00
Risk-free interest rate	0.16%	0.22%
Expected dividend yield	— %	— %

The following tables present a reconciliation of the Company’s financial liabilities measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the three and nine months ended September 30, 2020 and 2019:

Warrant liabilities

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Balance at beginning of period	\$ 44,349,846	\$ 4,345,902	\$ 6,068,978	\$ 20,781,663
Issuance of 2020 Warrants	—	—	31,391,369	—
Decrease in fair value (1)	(10,689,855)	(2,186,710)	(3,800,356)	(18,622,471)
Balance at end of period	<u>\$ 33,659,991</u>	<u>\$ 2,159,192</u>	<u>\$33,659,991</u>	<u>\$ 2,159,192</u>

- (1) The change in fair values of the warrant liabilities is recorded in other income (expense) in the consolidated statement of operations.

The key inputs into the Black-Scholes option pricing model are the current per-share value and the expected volatility of the Company’s common stock. Significant changes in these inputs will directly increase or decrease the estimated fair value of the Company’s warrant liabilities.

5. Accrued Liabilities

Accrued liabilities consist of the following:

	September 30, 2020	December 31, 2019
Accrued compensation costs	\$ 1,082,550	\$ 1,621,008
Accrued research and development service fees	388,227	3,865,146
Accrued professional fees	369,496	842,613
Accrued facilities operation expenses	154,787	180,158
Other accrued liabilities	1,260	63,387
Accrued insurance costs	—	231,477
Total accrued liabilities	<u>\$ 1,996,320</u>	<u>\$ 6,803,789</u>

6. Net Income (Loss) Per Share of Common Stock

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted-average number of shares of common stock outstanding. For the nine months ended September 30, 2020 and each of the three and nine months ended September 30, 2019, the Company incurred a net loss and therefore diluted net loss per share is the same as basic net loss per share as the Company excluded certain potentially dilutive securities from the computation of diluted weighted average shares outstanding as they would have been anti-dilutive. For the three months ended September 30, 2020, the impact of the outstanding 2020 Warrants was determined to be dilutive. As a result, the Company adjusted the numerator amount used in the calculation of net income (loss) per diluted share to remove the gain associated with the change in fair value of \$8,826,913. Additionally, the 1,269,938 net shares required under the treasury stock method upon exercise of the 2020 Warrants were included in the denominator in the calculation of diluted net loss per share.

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The following table sets forth the computation of basic and diluted net income (loss) per share for common stockholders:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Net income (loss) – basic	\$ 3,444,431	\$ (5,359,118)	\$ (21,751,291)	\$ (2,439,009)
Less: decrease in fair value of 2020 Warrants, net of tax	(8,826,913)	—	—	—
Net loss – diluted	\$ (5,382,482)	\$ (5,359,118)	\$ (21,751,291)	\$ (2,439,009)
Shares used in computing basic net income (loss) income per share	27,809,169	7,940,931	21,069,057	7,940,931
Plus: dilutive effect of 2020 Warrants	1,269,938	—	—	—
Shares used in computing diluted net loss per share	29,079,107	7,940,931	21,069,057	7,940,931
Basic net income (loss) per share	\$ 0.12	\$ (0.67)	\$ (1.03)	\$ (0.31)
Diluted net loss per share	\$ (0.19)	\$ (0.67)	\$ (1.03)	\$ (0.31)

The following table sets forth the potentially dilutive securities outstanding for the three and nine months ended September 30, 2020 and 2019 that were excluded from the computation of diluted weighted average shares outstanding:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Options to purchase common stock	1,864,631	1,246,580	1,864,631	1,246,580
Warrants to purchase common stock	3,006,499	3,033,905	12,354,580	3,033,905
Total	4,871,130	4,280,485	14,219,211	4,280,485

7. Commitments

Leases

As described in Note 2, “Summary of Significant Accounting Policies”, we adopted Topic 842 as of January 1, 2019.

In December 2010, the Company entered into a non-cancellable operating lease for office space and laboratory facilities in Yonkers, New York expiring in December 2025. In December 2011, the Company entered into an amendment which extended the term of the lease through December 2027 (the “Third Floor Lease”). The lease provides for the option to renew for two additional five-year terms. The premises were occupied in June 2011. Monthly rent payments began the date the office and laboratory facilities were ready for occupancy.

In January 2012, the Company entered into a non-cancellable operating lease for additional office space and laboratory facilities in the same building in Yonkers, New York expiring in December 2027 (the “Fourth Floor Lease”). The Fourth Floor Lease provides for an option to renew for two additional five-year terms. Effective August 1, 2017, the Company relinquished 10,912 square feet of space under the Fourth Floor Lease and was relieved of its obligations related to such space.

The Company performed an evaluation of its other contracts in accordance with Topic 842 and has determined that, except for the leases described above, none of its contracts contain a lease.

The balance sheet classification of the Company’s lease liabilities was as follows:

Description	September 30,	December 31,
	2020	2019
Operating lease liabilities:		
Current portion of lease liabilities	\$ 641,249	\$ 631,889
Long-term portion of lease liabilities	\$ 3,038,056	\$ 3,264,128

Operating lease liabilities are based on the net present value of the remaining lease payments over the remaining lease term. The leases are renewable at the end of the lease term at our option. For the purposes of determining the remaining lease term in contemplation of available extensions, the Company did not consider either renewal to be probable at this time. In determining the present value of lease payments, the Company estimated its incremental borrowing rate based on the information available at the adoption date of Topic 842. As of January 1, 2019, the remaining lease term was 9.0 years and the discount rate used to determine the operating lease liability was 9.93%.

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As of September 30, 2020, the maturities of the Company's operating lease liabilities were as follows:

	<u>Amount</u>
October 1, 2020-December 31, 2020	\$ 166,598
Year ending December 31:	
2021	679,719
2022	693,313
2023	707,179
2024	721,323
Thereafter	<u>2,251,688</u>
Total lease payments	5,219,820
Less: Present value adjustment	<u>(1,540,515)</u>
Operating lease liabilities	<u>\$ 3,679,305</u>

Lease costs under the terms of the Company's leases for the three and nine months ended September 30, 2020 and 2019 were as follows:

	<u>Three Months Ended</u> <u>September 30,</u>		<u>Nine Months Ended</u> <u>September 30,</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Operating lease cost (1)	\$153,734	\$153,809	\$460,756	\$460,990
Variable lease costs (2)	43,139	30,034	88,752	81,151
Total lease cost	<u>\$196,873</u>	<u>\$183,843</u>	<u>\$549,508</u>	<u>\$542,141</u>

- (1) Operating lease payments included in the measurement of the Company's lease liabilities are comprised of fixed payments according to the terms of the Company's leases.
- (2) Variable lease payments consist of the Company's utility costs billed by and paid to its landlord. Variable lease payments are presented as operating expenses in the Company's Consolidated Statement of Operations in the same line item as expense arising from fixed lease payments and in net cash used in operating activities in the Company's Statement of Cash Flows.

8. Capital Structure

Common Stock

In February 2020, the Company's board of directors approved a 1-for-10 reverse stock-split of the Company's outstanding shares of common stock, warrants and options and options available for future issuance. The stock split became effective on February 3, 2020. Accordingly, all share and per share amounts for prior periods in the accompanying financial statements and notes have been retroactively adjusted, where applicable, to reflect this reverse stock split. Shares of common stock underlying outstanding stock options and other equity instruments were proportionately decreased and the respective per share value and exercise prices, if applicable, were proportionately increased in accordance with the terms of the agreements governing such securities. In addition, the board of directors approved a decrease in the number of authorized shares of common stock from 200,000,000 shares to 125,000,000 shares.

Follow-on Offerings

On May 27, 2020, the Company completed an underwritten public offering of 11,797,752 shares of its common stock and warrants to purchase an additional 8,848,314 shares of its common stock at an exercise price of \$4.90 per share. The public offering price was \$4.45 for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock, resulting in net proceeds to the Company of approximately \$48.9 million after underwriting discounts and commissions and offering expenses payable by the Company. The Company completed a concurrent private placement to Pfizer of 674,156 shares of common stock and an accompanying warrant to purchase an additional 505,617 shares of its common stock at an exercise price of \$4.90 per share at a price of \$4.45 for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock, resulting in net proceeds to the Company of approximately \$3.0 million.

On December 18, 2019, the Company completed an underwritten public offering of 2,565,000 shares of its common stock resulting in gross proceeds to the Company of approximately \$10.0 million. On December 12, 2019, the Company completed an underwritten public offering of 3,715,000 shares of its common stock and a concurrent private placement of 1,111,111 shares of common stock to Pfizer resulting in total gross proceeds to the Company of approximately \$13.0 million. The combined net proceeds of both public offerings together with the private placement was \$21.3 million after underwriting discounts and commissions and offering expenses payable by the Company.

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The 2020 Warrants, 2017 Warrants and 2016 Warrants contain a fundamental transaction provision that obligates the Company to cash settle the warrants under a limited set of conditions not entirely within the Company's control. Due to this conditional obligation, the Company determined that the 2020 Warrants, the 2017 Warrants and the 2016 Warrants should be classified as liabilities in the Company's consolidated balance sheet. At issuance, the Company determined the fair value of the 2020 Warrants, the 2017 Warrants and 2016 Warrants to be \$31.4 million, \$12.4 million and \$18.6 million, respectively, and reclassified these balances from stockholders' equity to warrant liability. The fair value of these warrants is re-measured at each reporting period and changes in fair value are recognized in the consolidated statement of operations (see Note 4, "Fair Value Measurements"). Additionally, the Company allocated approximately \$2.2 million, \$0.9 million and \$1.6 million of issuance costs to the 2020 Warrants, the 2017 Warrants and 2016 Warrants, respectively, based on the proportion of the proceeds allocated to the fair value of the warrants. The allocated issuance costs were expensed as other expense in the Company's consolidated statement of operations.

The Pfizer Warrant does not contain the same fundamental transaction provision that obligates the Company to cash settle the warrants under a limited set of conditions not entirely within the Company's control. Therefore, the Company determined that the Pfizer Warrant should be classified as equity in the Company's consolidated balance sheet.

On August 14, 2020, the Company filed a new shelf registration statement on Form S-3 (the "Form S-3") with the SEC. The Form S-3 was declared effective by the SEC on August 31, 2020. The Form S-3 allows the Company to offer and sell from time-to-time up to \$150.0 million of common stock, preferred stock, debt securities, warrants or units comprised of any combination of these securities.

Private Placement

On June 12, 2015, the Company closed a private placement of its securities with a group of institutional investors (the "PIPE"). Each investor received one share of common stock and a warrant to purchase one-half share of common stock at a price of \$42.30 per common share purchased. None of the investor warrants were exercised prior to expiration on June 12, 2018 and therefore have been terminated and are no longer exercisable. The placement agents in the PIPE received warrants to purchase 4% of the total number of shares of common stock sold in the PIPE (the "Placement Agent Warrants"), for a total of 18,915 shares of common stock underlying the Placement Agent Warrants. The Placement Warrants expired on June 11, 2020 and therefore have been terminated and are no longer exercisable.

Voting

The holders of shares of common stock are entitled to one vote for each share of common stock held at all meetings of stockholders and written actions in lieu of meetings.

Dividends

The holders of shares of common stock are entitled to receive dividends, if and when declared by the board of directors. As of September 30, 2020, no dividends have been declared or paid on the Company's common stock since inception.

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Reserved for Future Issuance

The Company has reserved for future issuance the following number of shares of common stock as of September 30, 2020 and December 31, 2019:

	September 30, 2020	December 31, 2019
Outstanding options to purchase common stock	1,864,631	1,216,338
Outstanding warrants to purchase common stock	12,354,580	3,033,910
For future issuance under the 2014 Plan	55,075	101,625
	<u>14,274,286</u>	<u>4,351,873</u>

9. Stock Warrants

As of September 30, 2020 and December 31, 2019, the Company had warrants outstanding as shown in the table below.

	September 30, 2020	December 31, 2019
2020 Warrants	8,842,464	—
2017 Warrants	1,599,645	1,599,645
2016 Warrants	1,400,000	1,400,000
Pfizer Warrant	505,617	—
Placement Agent Warrants	—	18,915
Other warrants (1)	6,854	15,350
Warrants to purchase common stock	<u>12,354,580</u>	<u>3,033,910</u>
Weighted-average exercise price per share	<u>\$ 9.16</u>	<u>\$ 22.61</u>

- (1) Other warrants are comprised of warrants issued prior to the Company's IPO, generally in exchange for services rendered to the Company.

The following table summarizes information regarding the Company's warrants outstanding at September 30, 2020:

Exercise Prices	Shares Underlying Outstanding Warrants	Expiration Date
£\$10.00	9,348,652	September 1, 2021 – May 27, 2023
\$10.01 - \$19.99	1,599,645	July 25, 2022
³\$20.00	1,406,283	October 26, 2020 – January 5, 2022
	<u>12,354,580</u>	

10. Stock Option and Incentive Plans

Amended and Restated 2008 Equity Incentive Plan

In July 2008, the Company adopted the 2008 Equity Incentive Plan (the "Plan"). On February 26, 2013, the board of directors approved an amended and restated plan (the "Amended Plan") under which the number of shares of common stock available for issuance was 157,143. For new awards, the period that vested awards would remain exercisable upon termination of service was reduced from ten years to two years. The board of directors also increased the number of shares of common stock available under the Company's Amended Plan on February 24, 2014 and April 29, 2014 to 185,714 and 235,714, respectively. As of the closing of the Company's IPO, there were no further grants made under the Amended Plan.

2014 Omnibus Incentive Plan

In April 2014, the Company's board of directors adopted the 2014 Omnibus Incentive Plan (the "2014 Plan"). The 2014 Plan was approved by the Company's stockholders on July 3, 2014. The 2014 Plan allows for the granting of incentive and non-qualified stock options, restricted stock and stock unit awards, stock appreciation rights and other performance-based awards to the Company's employees, members of the board of directors and consultants of the Company. On July 28, 2014, the effective date of the 2014 Plan, the number of shares of common stock reserved pursuant to the 2014 Plan was 57,143. The 2014 Plan provides for an annual increase,

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to be added on the first day of each fiscal year, beginning with the fiscal year ended December 31, 2015 and ending on January 1, 2024, equal to the lesser of (i) 4% of the outstanding shares of common stock on December 31 immediately preceding such date or (ii) a lesser amount determined by the Company's board of directors. Consistent with the provision for an annual increase, an additional 1,582,967 shares of common stock have been reserved under the 2014 Plan as of September 30, 2020.

The Company recognized compensation expense for stock-based compensation based on the fair value of the underlying instrument. The fair value of each stock option grant is estimated on the date of grant using the Black-Scholes option-pricing model. A summary of stock option activity for the nine months ended September 30, 2020, is summarized as follows:

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Aggregate Intrinsic Value
Options outstanding at December 31, 2019	1,216,338	\$ 19.75		
Granted	789,000	9.77		
Exercised	(750)	4.50		
Expired	(37,988)	41.78		
Forfeited	(101,969)	12.85		
Options outstanding at September 30, 2020	<u>1,864,631</u>	<u>\$ 15.46</u>	7.57	<u>\$568,320</u>
Vested and exercisable at September 30, 2020	<u>890,955</u>	<u>\$ 23.73</u>	5.92	<u>\$198,713</u>

The fair value of each option grant is estimated on the date of the grant using the Black-Scholes option-pricing model. The weighted average grant date fair value of options granted during the three months ended September 30, 2020 and 2019 was \$5.66, and \$5.02 respectively, and during the nine months ended September 30, 2020 and 2019 was \$9.77 and \$4.25, respectively. Total compensation expense recognized amounted to \$651,649 and \$392,005 for the three months ended September 30, 2020 and 2019, respectively, and \$1,936,817 and \$1,805,706 for the nine months ended September 30, 2020 and 2019, respectively. As of September 30, 2020, the total remaining unrecognized compensation cost related to unvested stock options was approximately \$5.8 million which will be recognized over a weighted average period of approximately 2.89 years.

The following assumptions were used to compute the fair value of stock options granted during the period:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Risk free interest rate	0.27%	1.58%	1.15%	2.35%
Expected dividend yield	—	—	—	—
Expected term (in years)	6.12	5.58	6.03	6.06
Expected volatility	97.4%	90.6%	94.6%	89.7%

Expected volatility—The Company based the expected volatility on the historical volatility of its own common shares.

Expected term—The Company based expected term on the midpoint of the vesting period and the contractual term of each respective option grant.

Risk-free interest rate—The Company estimated the risk-free interest rate in reference to yield on U.S. Treasury securities with a maturity date commensurate with the expected term of the associated award.

Expected dividend yield—The Company estimated the expected dividend yield based on consideration of its historical dividend experience and future dividend expectations. The Company has not historically declared or paid dividends to common stockholders. Moreover, it does not intend to pay dividends in the future, but instead expects to retain any earnings to invest in its continued growth.

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

You should read the following discussion and analysis of our financial condition in conjunction with the information set forth in our financial statements and the notes to those statements 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, 2019 and the related Management's Discussion and Analysis of Financial Condition and Results of Operations, both of which are contained in our Annual Report on Form 10-K filed by us with the Securities and Exchange Commission ("SEC") on March 18, 2020.

Overview

We are a clinical-stage biotechnology company focused on the discovery and development of direct lytic agents ("DLAs"), including lysins and amurin peptides, as new medical modalities for the treatment of life-threatening, antibiotic-resistant infections. Antibiotic-resistant infections account for 2,000,000 illnesses in the United States and 700,000 deaths worldwide each year. We intend to address antibiotic-resistant infections using product candidates from our lysin and amurin peptide platforms. DLAs are fundamentally different than antibiotics and offer a potential paradigm shift in the treatment of antibiotic-resistant infections.

Lysins are recombinantly-produced enzymes, that when applied to bacteria cleave a key component of the target bacteria's peptidoglycan cell wall, resulting in rapid bacterial cell death. In addition to the speed of action and potent cidal activity, we believe lysins are differentiated by their other hallmark features, which include the demonstrated ability to eradicate biofilms and synergistically boost the efficacy of conventional antibiotics in animal models. Lysins also tend to have a "targeted spectrum," meaning they kill only specific species of bacteria or closely related bacteria. Amurin peptides are a new class of direct lytic agents, discovered in our laboratories, which disrupt the outer membrane of gram-negative bacteria, resulting in rapid bacterial cell death, offering a distinct mechanism of action from lysins. Amurins are further differentiated from lysins by potent "broad spectrum" *in vitro* activity against a wide range of gram-negative pathogens in, including deadly, drug-resistant *Pseudomonas aeruginosa* ("P. aeruginosa"), *Klebsiella pneumoniae*, *Escherichia coli*, *Acinetobacter baumannii* ("A. baumannii") and *Enterobacter cloacae* bacteria species as well as difficult to treat pathogens such as *Stenotrophomonas*, *Achromobacter* and *Burkholderia* species. The highly differentiated properties of DLAs have shown these agents to be complementary to and synergistic with conventional antibiotics enabling the potential use of these agents in addition to conventional antibiotics with the goal of improving clinical outcomes compared to conventional antibiotics alone. The development of these novel compounds utilizes innovative clinical study designs and regulatory pathways, including superiority design clinical trials with the goal of delivering significantly improved clinical outcomes for the treatment of serious, antibiotic-resistant bacterial infections, including biofilm-driven infections. This approach affords potential clinical benefits to patients as well as the potential ability to mitigate against further development of antibiotic resistance.

We have not generated any revenues and, to date, have funded our operations primarily through our IPO, our follow-on public offerings, private placements of securities, and grant funding received. On May 27, 2020, we completed an underwritten public offering of 11,797,752 shares of our common stock and warrants to purchase an additional 8,848,314 shares of our common stock at an exercise price of \$4.90 per share. The public offering price was \$4.45 one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock, resulting in net proceeds of approximately \$48.9 million after underwriting discounts and commissions and offering expenses payable by us. We also completed a concurrent private placement to Pfizer Inc. ("Pfizer") of 674,156 shares of common stock and an accompanying warrant to purchase an additional 505,617 shares of our common stock at an exercise price of \$4.90 per share. The offering price for the warrant was \$4.45 for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock, resulting in net proceeds of approximately \$3.0 million. This was the second investment by Pfizer, for a total of \$6.0 million invested into the Company.

We have never been profitable and our net losses were \$12.8 million, \$37.7 million and \$15.5 million for the years ended December 31, 2019, 2018 and 2017, respectively. Our operating loss for the nine months ended September 30, 2020 was \$23.5 million. We expect to incur significant expenses and increasing operating losses for the foreseeable future. We expect our expenses to increase in connection with our ongoing activities, particularly as we advance our product candidates through preclinical activities and clinical trials to seek regulatory approval and, if approved, commercialize such product candidates. Accordingly, we will need additional financing to support our continuing operations. We expect to seek to fund our operations through public or private equity, debt financings, equity-linked financings, collaborations, strategic alliances, licensing arrangements, research grants or other sources. Adequate additional financing may not be available to us on acceptable terms, or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy. We will need to generate significant revenues to achieve profitability, and we may never do so.

In the first half of 2020, COVID-19, was declared a pandemic and spread to multiple regions across the globe, including the United States and Europe. The outbreak and government measures taken in response have had an impact, both directly and indirectly, on the Company. During the second and third quarters, we took steps in line with guidance from the State of New York and the U.S. Centers for Disease Control and Prevention ("CDC") to protect the health and safety of our employees and the community. We adjusted our business operations, with a majority of our employees working remotely, and as a result, incurred minor delays in certain research activities earlier in the pandemic. For the employees that have returned to our workplace, and for any visitors, we implemented health and safety measures including daily screening for COVID-19 symptoms, the mandatory use of personal protective equipment, increased cleaning and sanitizing, and the rearranging of rooms and workspaces to allow for social distancing. The COVID-19 pandemic has not affected our supply chain or our ability to supply the

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Phase 3 DISRUPT study of exebacase. Enrollment into the Phase 3 DISRUPT study is ongoing and clinical trial sites remain open and active. Unlike other trials targeting non-acutely lethal diseases (e.g. diabetes, hypertension, etc.), the Phase 3 DISRUPT trial targets *Staph aureus* bacteremia, a life-threatening infection that continues to present in patients, even as COVID-19 infections occur. As of the date of this filing, clinical sites are continuing to enroll patients, although some sites in high impact areas have delayed new patient enrollment as dictated by local conditions. We continue to assess the impact of the COVID-19 pandemic to best mitigate risk and continue the operations of our business.

The full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations and financial condition, including expenses, research and development costs and clinical trial progress, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning COVID-19 and the actions taken to contain or treat COVID-19, as well as the economic impact on local, regional, national and international vendors, suppliers and investors.

There was no material impact from the effects of the COVID-19 pandemic on our results of operations or liquidity during the three or nine months ended September 30, 2020. Given the daily evolution of the pandemic and the global responses to curb its spread, we are not currently able to estimate the effects, if any, of the COVID-19 pandemic on our future results of operations, financial condition, or liquidity.

Financial Operations Overview

Revenue

We have not generated any revenues to date. In the future, we may generate revenues from product sales. In addition, to the extent we enter into licensing or collaboration arrangements, we may have additional sources of revenue. We expect that any revenue we generate will fluctuate from quarter to quarter as a result of the amount and timing of payments that we may recognize upon the sale of our products, to the extent that any products are successfully commercialized, and the amount and timing of fees, reimbursements, milestone and other payments received under any future licensing or collaboration arrangements. If we fail to complete the development of our product candidates in a timely manner or obtain regulatory approval for them, our ability to generate future revenue, and our results of operations and financial position, would be materially adversely affected.

Research and Development Expenses

Research and development expenses consist primarily of costs incurred for our research activities, including our drug discovery efforts, and the development of our product candidates, which include:

- employee-related expenses, including salaries, benefits, travel and non-cash share-based compensation expense;
- external research and development expenses incurred under arrangements with third parties such as contract research organizations, or CROs, contract manufacturers, consultants and academic institutions; and
- facilities and laboratory and other supplies.

We expense research and development costs to operations as incurred. We account for non-refundable advance payments for goods and services that will be used in future research and development activities as expenses when the service has been performed or when the goods have been received, rather than when the payment is made.

The following summarizes our most advanced current research and development programs.

Exebacase

Our most advanced clinical candidate, exebacase, is an investigational novel lysin that targets *Staphylococcus aureus* (“*Staph aureus*”), including methicillin-resistant (“MRSA”) strains, which causes serious infections such as bacteremia, pneumonia and osteomyelitis. *Staph aureus* is also a common cause of biofilm-driven infections of heart valves (endocarditis), prosthetic joints, indwelling devices and catheters. These infections result in significant morbidity and mortality despite currently available antibiotic therapies. Exebacase completed a Phase 2 superiority design study that evaluated its safety, tolerability, efficacy and pharmacokinetics (“PK”) when used in addition to background standard of care (“SOC”) antibiotics compared to SOC antibiotics alone for the treatment of *Staph aureus* bacteremia, including endocarditis in adult patients. In January 2019, we announced topline results from this study which showed clinically meaningful improvement in clinical responder rates among patients treated with exebacase in addition to SOC antibiotics compared to SOC antibiotics alone.

In the Phase 2 study, the primary efficacy analysis population of 116 patients with documented *Staph aureus* bacteremia, including endocarditis, who received a single intravenous (“IV”) infusion of blinded study drug, the clinical responder rate at Day 14 was 70.4% for patients treated with exebacase and 60.0% for patients dosed with SOC antibiotics alone (p=0.314). In a pre-specified analysis of MRSA-infected patients, the clinical responder rate at Day 14 in patients treated with exebacase was nearly 43-percentage

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points higher than in patients treated with SOC antibiotics alone (74.1% for patients treated with exebacase compared to 31.3% for patients treated with SOC antibiotics alone (p=0.010)). In addition to the higher rate of clinical response, MRSA-infected patients treated with exebacase showed a 21-percentage point reduction in 30-day all-cause mortality (p=0.056), a four-day lower mean length of hospital stay and meaningful reductions in hospital readmission rates. The clinical responder rate at Day 14 in the subset of patients with bacteremia including right-sided endocarditis was 80.0% for patients treated with exebacase compared to 59.5% for patients treated with SOC antibiotics alone, an increase of 20.5% (p=0.028). In the subset of patients with bacteremia alone, the clinical responder rate at Day 14 was 81.8% for patients treated with exebacase compared to 61.5% for patients treated with SOC antibiotics alone, an increase of 20.3% (p=0.035). Exebacase was well-tolerated and treatment emergent adverse events, including serious treatment-emergent serious adverse events (“SAEs”) were balanced between the treatment groups. There were no SAEs that we determined to be related to exebacase, there were no reports of hypersensitivity related to exebacase and no patients discontinued treatment with study drug in either treatment group. We believe these data have established proof of concept for exebacase and for DLAs as therapeutic agents. In particular, the data for MRSA-infected patients treated with exebacase, which, in this study, demonstrated superior outcomes in clinical response at Day 14 and in 30-day all-cause mortality, as well as health economics benefits, provided the basis for our proposed Phase 3 study design and Breakthrough Therapy designation which was granted by the FDA in February 2020.

In September 2019, we held an End-of-Phase 2 meeting with the FDA regarding the design of the Phase 3 clinical study and the regulatory pathway to approval, informed by the data from the Phase 2 study as noted above. We obtained concurrence with the FDA on key design features of the Phase 3 protocol, including the endpoints and the size of the safety database that would be needed to support a Biologics License Application (“BLA”) for approval of exebacase, under the FDA’s “streamlined development” paradigm for agents to treat bacterial infections associated with high unmet medical need. Based on the outcome of the meeting, we proceeded to initiate the single Phase 3 DISRUPT (Direct Lysis of *Staph aureus* Resistant Pathogen Trial) study of exebacase in December 2019. The DISRUPT study is a randomized, double-blind, placebo-controlled Phase 3 clinical trial conducted in the U.S. alone to assess the efficacy and safety of exebacase in approximately 350 patients with *Staph aureus* bacteremia, including right-sided endocarditis. Patients entering the study will be randomized 2:1 to either exebacase or placebo, with all patients receiving SOC antibiotics. The primary efficacy endpoint of the study is clinical response at Day 14 in patients with MRSA bacteremia, including right-sided endocarditis. Secondary endpoints will include clinical response at Day 14 in the All *Staph aureus* patient group (MRSA and methicillin-sensitive *Staph aureus* (“MSSA”)), 30-day all-cause mortality in MRSA patients, and clinical response at later timepoints. We will also evaluate the impact of treatment with exebacase on health resource utilization, including hospital length of stay, ICU length of stay and 30-day readmission rates. We plan to conduct an interim futility analysis following the enrollment of approximately 60% of the study population.

The FDA recently granted Breakthrough Therapy designation to exebacase for the treatment of MRSA bloodstream infections (bacteremia), including right-sided endocarditis, when used in addition to SOC anti-staphylococcal antibiotics in adult patients, based on the final data from the Phase 2 superiority trial of exebacase. Breakthrough Therapy designation is a program designed by the FDA to expedite the development and review of medicines for serious or life-threatening diseases where preliminary clinical evidence suggests that the investigational therapy may demonstrate substantial improvement on at least one clinically significant endpoint over available therapies. The Breakthrough Therapy designation provides additional benefits, such as the opportunity for more frequent interactions with the FDA and the potential for priority review, over the Fast Track designation granted to exebacase in August 2015.

We performed a post-hoc Phase 3 simulation analysis using the actual Phase 2 data to evaluate the clinical outcomes in the subset of the Phase 2 patient population that would meet the Phase 3 inclusion/exclusion criteria. In this simulated Phase 3 analysis population of 84 U.S. patients with documented *Staph aureus* bacteremia, including right-sided endocarditis, who received a single IV infusion of blinded study drug, the clinical responder rate at Day 14 was 83.7% for patients treated with exebacase and 54.3% for patients dosed with SOC antibiotics alone, an improvement in the responder rate of 29.4%. The clinical responder rate at Day 14 in the subset of patients with MRSA bacteremia including right-sided endocarditis was 82.6% for patients treated with exebacase compared to 33.3% for patients treated with SOC antibiotics alone, an improvement in the responder rate of 49.3%. In the subset of patients with MSSA bacteremia including right-sided, the clinical responder rate at Day 14 was 84.6% for patients treated with exebacase compared to 66.7% for patients treated with SOC antibiotics alone, an increase of 17.9%.

Other Programs

We have developed a novel, engineered variant of exebacase, known as CF-296, which we believe provides an additional opportunity for a potential targeted therapy for deep-seated, invasive biofilm-associated *Staph aureus* infections. We are conducting further *in vitro* and *in vivo* characterization of CF-296 to evaluate the full profile of this compound. We have been awarded up to \$7.2 million of funding from the Military Infectious Diseases Research Program, United States Army Medical Research and Development Command (“USAMRDC”) over the course of three years to advance CF-296 through Investigational New Drug (“IND”) enabling studies.

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We have discovered and engineered a new lysin product candidate, CF-370, that has demonstrated potent activity in preclinical studies against antibiotic-resistant *P. aeruginosa* bacteria, a major cause of morbidity and mortality in patients with hospital acquired pneumonia and a major medical challenge for patients with cystic fibrosis. We have initiated IND-enabling activities and we expect CF-370 to be our next molecule in clinical studies. We were recently awarded up to \$18.9 million, in addition to previous awards of \$3.3 million, in funding from CARB-X (Combating Antibiotic-Resistant Bacteria Biopharmaceutical Accelerator) to support the advancement of CF-370 to Phase 1 clinical studies. Beyond our lysin programs, we continue our research to advance potential product candidates from our amurin peptide platform. Amurin peptides used alone have demonstrated highly potent in vitro activity against pathogens designated as “Urgent Threats” by the CDC. There are few or no conventional antibiotic treatments for these pathogens, namely carbapenem-resistant Enterobacteriaceae and *A. baumannii*. We plan to initiate animal studies of what we believe are our most promising amurins with the goal of moving this program into clinical studies as soon as possible. We have been awarded up to \$6.9 million of funding from CARB-X to support the amurin peptide program. Receipt of the full amount is contingent on reaching certain project milestones.

In August 2020, Trellis Bioscience LLC (“Trellis”) exercised its option to re-acquire and/or license all rights to the CF-404 program, pursuant to a new license agreement (“New Agreement”) under which Trellis will complete its development and commercialization of CF-404. This New Agreement replaces and supersedes the License Agreement between Trellis and ContraFect dated January 29, 2014 and its Amendment dated June 15, 2014 (collectively, the “Original Agreement”). If Trellis is no longer able to advance its development and/or commercialization activities, ContraFect will re-acquire all of its rights to CF-404 and the Original Agreement may be re-instated.

To date, a large portion of our research and development work has related to the establishment of our platform technologies, the advancement of our research projects to discovery of clinical candidates, manufacturing and preclinical testing of our clinical candidates and clinical testing of exebacase. We currently expect to focus the majority of our resources on the exebacase program. As our pipeline progresses, we hope to further leverage our employee and infrastructure resources across multiple development programs as well as research projects. For the three months ended September 30, 2020 and 2019, we recorded approximately \$4.7 million and \$5.3 million, respectively, of research and development expenses and for the nine months ended September 30, 2020 and 2019, we recorded approximately \$15.4 million and \$14.2 million, respectively, of research and development expenses. A breakdown of our research and development expenses by category is shown below. We do not currently utilize a formal time or laboratory project expense allocation system to allocate employee-related expenses, laboratory costs or depreciation to any particular project. Accordingly, we do not allocate these expenses to individual projects or product candidates. However, we do identify and account for portions of our research and development expenses in the product development, external research and licensing and professional fees categories to exebacase, and beginning on January 1, 2020, for CF-370, subsequent to its selection as our next product candidate, as shown below.

The following table summarizes our research and development expenses by category for the three and nine months ended September 30, 2020 and 2019:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Product development	\$2,711,043	\$ 3,177,435	\$10,691,203	\$ 8,045,759
Personnel related	1,175,018	809,319	3,200,969	2,465,974
Professional fees	903,338	625,878	2,710,469	2,079,279
Laboratory costs	394,427	929,140	1,022,660	1,645,322
External research and licensing costs	340,362	862,882	661,170	2,011,454
Share-based compensation	165,880	124,778	492,672	360,486
Expenses reimbursed by grants	(984,056)	(1,279,105)	(3,424,690)	(2,446,731)
Total research and development expense	<u>\$4,706,012</u>	<u>\$ 5,250,327</u>	<u>\$15,354,453</u>	<u>\$14,161,543</u>

The following table summarizes our research and development expenses by program for the three and nine months ended September 30, 2020 and 2019:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2020	2019	2020	2019
Exebacase	\$2,646,340	\$ 3,465,484	\$10,155,989	\$ 9,120,241
CF-370	406,278	—	1,014,631	—
Other research and development	1,296,552	2,129,851	3,914,882	4,661,573
Personnel related and share-based compensation	1,340,898	934,097	3,693,641	2,826,460
Expenses reimbursed by grants	(984,056)	(1,279,105)	(3,424,690)	(2,446,731)
Total research and development expense	<u>\$4,706,012</u>	<u>\$ 5,250,327</u>	<u>\$15,354,453</u>	<u>\$14,161,543</u>

We anticipate that our research and development expenses will increase substantially in connection with the commencement of additional clinical trials for our product candidates. However, the successful development of future product candidates is highly uncertain. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- the scope, rate of progress and expense of our research and development activities;

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- clinical trial results;
- the terms and timing of regulatory approvals;
- our ability to market, commercialize and achieve market acceptance for our product candidates in the future; and
- the expense, filing, prosecuting, defending and enforcing of patent claims and other intellectual property rights.

A change in the outcome of any of these variables with respect to the development of exebacase or any other product candidate that we may develop could mean a significant change in the costs and timing associated with the development of exebacase or any such product candidate. For example, if the FDA or other regulatory authority were to require us to conduct clinical trials beyond those which we currently anticipate will be required for the completion of clinical development of exebacase or if we experience significant delays in enrollment in any clinical trials of exebacase, we could be required to expend significant additional financial resources and time on the completion of the clinical development of exebacase.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related costs for personnel, including non-cash share-based compensation expense, in our executive, finance, legal, human resource and business development functions. Other general and administrative expenses include facility costs, insurance expenses and professional fees for legal, consulting and accounting services.

We anticipate that our general and administrative expenses will increase in future periods to support increases in our research and development activities and as a result of increased headcount, expanded infrastructure, increased legal, compliance, accounting and investor and public relations expenses associated with being a public company and increased insurance premiums, among other factors.

Interest Income

Interest income consists of interest earned on our cash and cash equivalents and marketable securities.

Critical Accounting Policies and Use of Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our financial statements, which we have prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities in our financial statements. On an ongoing basis, we evaluate our estimates and judgments. We base our estimates on our limited historical experience, known trends and events and various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

During the nine-month period ended September 30, 2020, there have been no material changes to our critical accounting policies from the information provided in the section "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in our Annual Report on Form 10-K for the year ended December 31, 2019 filed by us with the SEC on March 18, 2020.

Results of Operations

The following table summarizes key components of our results of operations for the periods indicated.

	Three Months Ended September 30,			Nine Months Ended September 30,		
	2020	2019	Dollar Change	2020	2019	Dollar Change
Operating expenses:						
Research and development	\$ 4,706,012	\$5,250,327	\$ (544,315)	\$15,354,453	\$14,161,543	\$ 1,192,910
General and administrative	\$ 2,607,472	\$2,376,248	\$ 231,224	\$ 8,186,169	\$ 7,234,244	\$ 951,925
Other income, net	\$10,757,915	\$2,267,457	\$ 8,490,458	\$ 1,789,331	\$18,956,778	\$(17,167,447)

Comparison of Three Months Ended September 30, 2020 and 2019

Research and Development Expenses

Research and development expenses were \$4.7 million for the three months ended September 30, 2020 compared with \$5.3 million for the three months ended September 30, 2019, a decrease of \$0.5 million. This decrease was primarily attributable to a \$1.1 million decrease in internal and external research costs and a \$1.0 million decrease in our chemistry, manufacturing and controls (CMC) activities. These decreases were partially offset by a \$0.7 million increase in clinical headcount and related personnel costs and professional fees to support the ongoing Phase 3 clinical study of exebacase, a \$0.5 million increase in CRO expenses related to the execution of the Phase 3 clinical study and a \$0.3 million decrease in our expenses that are reimbursable under our grants compared to the prior year period.

General and Administrative Expenses

General and administrative expenses were \$2.6 million for the three months ended September 30, 2020 compared with \$2.4 million for the three months ended September 30, 2019, an increase of \$0.2 million. This increase was primarily attributable to an increase of \$0.1 million in professional fees and \$0.1 million in insurance costs.

Other income, net

Other income was \$10.8 million for the three months ended September 30, 2020 compared with \$2.3 million for the three months ended September 30, 2019, an increase of \$8.5 million. The increase in other income relates primarily to the non-cash gain of \$10.7 million in the current year period compared to \$2.2 million in the prior year period, resulting from the change in fair value of our warrant liabilities in each reporting period.

Comparison of Nine Months Ended September 30, 2020 and 2019

Research and Development Expenses

Research and development expenses were \$15.4 million for the nine months ended September 30, 2020 compared with \$14.2 million for the nine months ended September 30, 2019, an increase of \$1.2 million. This increase was primarily attributable to a \$2.3 million increase in spending related to chemistry, manufacturing and controls (CMC) activities that will ultimately support a BLA filing for exebacase. We also increased both our clinical headcount and related personnel costs and professional fees to support the ongoing Phase 3 clinical study, resulting in a \$1.4 million increase over the prior year period. These increases were partially offset by a \$1.6 million decrease in internal and external research costs and a \$0.9 million increase in our expenses that are reimbursable under our grants compared to the prior year period.

General and Administrative Expenses

General and administrative expense was \$8.2 million for the nine months ended September 30, 2020, compared with \$7.2 million for the nine months ended September 30, 2019, an increase of \$1.0 million. This increase was due primarily to the increase in administrative headcount and related personnel costs, despite lower travel costs during the ongoing pandemic.

Other income, net

Other income was \$1.8 million for the nine months ended September 30, 2020, compared with \$19.0 million for the nine months ended September 30, 2019, a decrease of \$17.2 million. The decrease in other income relates primarily to the non-cash gain of \$3.8 million in the current year period compared to \$18.6 million in the prior year period, resulting from the change in fair value of our warrant liabilities at each reporting period. In addition, the current year period has a charge to other expense of \$2.2 million for issuance expenses allocated to warrants, for which there was no such expense in the prior year period. Finally, we earned \$0.2 million less in interest income in the current year period primarily due to the comparatively low interest rates on our marketable securities.

Liquidity and Capital Resources

Sources of Liquidity

We have financed our operations to date primarily through proceeds from sales of common stock, common stock and warrants, convertible preferred stock and convertible debt and, to a lesser extent, grant funding. To date, we have not generated any revenue from the sale of products. We have incurred losses and generated negative cash flows from operations since inception.

Since the date of our initial public offering, we have funded our operations through the sale of registered securities for gross proceeds of \$200.3 million, \$9.6 million from the exercise of the Class B Warrants issued in our IPO, \$26.0 million from the sale of securities in private placements and the receipt of \$8.7 million of grant funding.

On August 14, 2020, we filed a new shelf registration statement on Form S-3 (the “Form S-3”) with the SEC. The Form S-3 was declared effective by the SEC on August 31, 2020. The Form S-3 allows us to offer and sell from time-to-time up to \$150.0 million of common stock, preferred stock, debt securities, warrants or units comprised of any combination of these securities. The Form S-3 is intended to provide us flexibility to conduct registered sales of our securities, subject to market conditions and our future capital needs. The terms of any future offering under the shelf registration statement will be established at the time of such offering and will be described in a prospectus supplement filed with the SEC prior to the completion of any such offering.

As of September 30, 2020, we had approximately \$50.2 million in cash, cash equivalents and marketable securities. We have relied on our ability to fund our operations primarily through public and private debt and equity financings, but there can be no assurances that, if needed, such financing will continue to be available to us on satisfactory terms, or at all, particularly in light of the economic uncertainty related to the COVID-19 pandemic. If we need and are unable to obtain funding, we may be forced to delay, reduce or eliminate our research and development programs, which could adversely affect our business prospects, or we may be unable to continue operations. We have also been successful in obtaining grants to supplement our financings with non-dilutive funding. During the three months ended September 30, 2020, we were awarded up to \$18.9 million in funding from CARB-X to support the CF-370 program. The award provides initial funding of \$4.9 million, and we could receive additional funding if certain project milestones are met. Any funding beyond the initial \$4.9 million is at the sole discretion of CARB-X and subject to available funds. We continue to pursue additional non-dilutive opportunities and have proceeded to the final stage for potential funding from Biomedical Advanced Research and Development Authority (“BARDA”). However, there can be no assurances that BARDA will award funding to the Company.

Cash Flows

The following table provides information regarding our cash flows for the nine months ended September 30, 2020 and 2019:

	Nine Months Ended September 30,	
	2020	2019
Net cash (used in) provided by:		
Operating activities	\$(25,671,629)	\$(19,789,854)
Investing activities	\$(32,252,157)	\$ 21,971,126
Financing activities	\$ 51,891,692	\$ —

Net Cash Used in Operating Activities

Net cash used in operating activities resulted primarily from our net losses adjusted for non-cash items and changes in the components of working capital. Net cash used in operating activities for the nine months ended September 30, 2020 increased by \$5.9 million compared to the same period in 2019, due to payments to our contract research organizations conducting the ongoing Phase 3 clinical study of exebacase and to our contract manufacturing organizations to support the CMC activities that will ultimately support a BLA filing for exebacase.

Net Cash (Used in) Provided by Investing Activities

Net cash used in investing activities for the nine months ended September 30, 2020 resulted from the investment of proceeds from our 2020 Offering into marketable securities, less proceeds received from the sales and maturities of securities. Net cash provided by investing activities for the nine months ended September 30, 2019 was used to fund our operations and resulted from the proceeds received from the maturities of marketable securities less the funds used for capital expenditures.

Net Cash Provided by Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2020 resulted from the \$48.9 million of net proceeds of our 2020 Offering of securities and \$3.0 million of proceeds from the concurrent private placement of securities to Pfizer.

Funding Requirements

All of our product candidates are in clinical or preclinical development. We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future. We anticipate that our expenses will increase substantially if and as we:

- continue our ongoing clinical trials, and initiate the planned clinical trials of our product candidates;
- continue our ongoing preclinical studies, and initiate additional preclinical studies, of our product candidates;

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- continue the research and development of our other product candidates and our platform technology;
- seek to identify additional product candidates;
- acquire or in-license other products and technologies;
- seek marketing approvals for our product candidates that successfully complete clinical trials;
- establish, either on our own or with strategic partners, a sales, marketing and distribution infrastructure to commercialize any products for which we may obtain marketing approval;
- maintain, leverage and expand our intellectual property portfolio; and
- add operational, financial and management information systems and personnel, including personnel to support our product development and future commercialization efforts.

We believe that our existing cash, cash equivalents and marketable securities will be sufficient to fund operations for at least 12 months from the issuance date of these financial statements. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, and the extent to which we may enter into collaborations with third parties for development and commercialization of our product candidates, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development of our current product candidates. We plan to continue to fund our operations through public or private debt and equity financings and grant funding but there can be no assurances that such financing or grants will be available to us on satisfactory terms, or at all. Our future capital requirements will depend on many factors, including:

- the progress and results of the clinical trials of our lead product candidates;
- the scope, progress, results and costs of compound discovery, preclinical development, laboratory testing and clinical trials for our other product candidates;
- the effects of COVID-19 on, among other things, our financial performance, business and operations;
- the extent to which we acquire or in-license other products and technologies;
- the costs, timing and outcome of regulatory review of our product candidates;
- the costs of future commercialization activities, including product sales, marketing, manufacturing and distribution, for any of our product candidates for which we receive marketing approval;
- revenue, if any, received from commercial sales of our product candidates, should any of our product candidates receive marketing approval;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims; and
- our ability to establish any future collaboration arrangements on favorable terms, if at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity and debt offerings, grants, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or other securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available, 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. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our product development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

We incur significant costs as a public company, including, but not limited to, increased personnel costs, increased directors fees, increased directors and officers insurance premiums, audit and legal fees, investor relations and external communications fees, expenses for compliance with the Sarbanes-Oxley Act and rules implemented by the SEC and Nasdaq and various other costs and expenses.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments outside the ordinary course of business from those disclosed under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations- Contractual Obligations and Commitments” in our Annual Report on Form 10-K filed with the SEC on March 18, 2020.

Effects of Inflation

We do not believe that inflation or changing prices had a significant impact on our results of operations for any periods presented herein.

Off-Balance Sheet Arrangements

We did not have during the periods presented, and we are currently not party to, any off-balance sheet arrangements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our primary exposure to market risk is interest income sensitivity, which is affected by changes in the general level of U.S. interest rates. As of September 30, 2020, we had cash, cash equivalents and marketable securities of \$50.2 million. Because of the low interest rates earned on our cash equivalents and marketable securities, we do not believe that an increase in market rates would have any significant impact on the fair value of our cash equivalents or marketable securities. If a 10% change in interest rates were to have immediately occurred on September 30, 2020, this change would not have had a material effect on the fair value of our investment portfolio as of that date.

While we believe our cash, cash equivalents and marketable securities do not contain excessive credit or liquidity risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits.

We do not own any derivative financial instruments. Accordingly, we do not believe that there is any material market risk exposure with respect to derivative, foreign currency or other financial instruments that would require disclosure under this item.

ITEM 4. CONTROLS AND PROCEDURES

Limitations on Effectiveness of Controls and Procedures

In designing and evaluating our disclosure controls and procedures, management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives. In addition, the design of disclosure controls and procedures must reflect the fact that there are resource constraints and that management is required to apply judgment in evaluating the benefits of possible controls and procedures relative to their costs.

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) and Rule 15d-15(b) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation as of the end of the period covered by this Quarterly Report on Form 10-Q of the effectiveness of our disclosure controls and procedures. Based on that evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of September 30, 2020.

Changes in Internal Control

As required by Rule 13a-15(d) and Rule 15d-15(d) of the Exchange Act, our management, including our principal executive officer and our principal financial officer, conducted an evaluation of our internal control over financial reporting to determine whether any changes occurred during the quarter ended September 30, 2020 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, our principal executive officer and principal financial officer concluded that there were no such changes during the quarter ended September 30, 2020 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

We are not a party to any material legal proceedings at this time. From time to time, we may be subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Although the results of litigation and claims cannot be predicted with certainty, we do not believe we are party to any claim or litigation the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

ITEM 1A. RISK FACTORS

The following description of risk factors includes any material changes to, and supersedes the description of, risk factors associated with the Company's business previously disclosed in the section entitled "Risk Factors" in the Company's Annual Report on Form 10-K, filed with the SEC on March 18, 2020 and the Company's Quarterly Report on Form 10-Q, filed with the SEC on August 14, 2020. Our business, financial condition and operating results can be affected by a number of important factors, whether currently known or unknown, including but not limited to those described below, any one or more of which could, directly or indirectly, cause the Company's actual results of operations and financial condition to vary materially from past, or from anticipated future, results of operations and financial condition. Any of these factors, in whole or in part, could materially and adversely affect the Company's business, financial condition, results of operations and common stock price. Other factors may exist that we do not consider significant based on information that is currently available. In addition, new risks may emerge at any time, and we cannot predict those risks or estimate the extent to which they may affect us. Past financial performance should not be considered to be a reliable indicator of future performance, and investors should not use historical trends to anticipate results or trends in future periods.

The following discussion of risk factors contains forward-looking statements. These risk factors may be important to understanding any statement in this Form 10-Q or elsewhere. The following information should be read in conjunction with our financial statements and related notes in Part I, Item 1, "Financial Statements" and Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" of this Quarterly Report on Form 10-Q.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability.

We are a clinical-stage biopharmaceutical company with no approved products, and we have not generated any revenue from product sales to date. To date, we have focused exclusively on developing our product candidates and have funded our operations primarily through the sale of common stock and warrants, convertible preferred stock and issuances of convertible debt to our investors, and to a lesser extent, grant funding. We have not yet demonstrated an ability to overcome many of the risks and uncertainties frequently encountered by companies in the pharmaceutical industry, and you should analyze our company in light of such risks and uncertainties.

Since inception, we have incurred significant operating losses. Our loss from operations was \$23.5 million for the nine months ended September 30, 2020 and we had an accumulated deficit of \$233.9 million as of September 30, 2020. Our net losses were \$12.8 million, \$37.7 million and \$15.5 million for the years ended December 31, 2019, 2018 and 2017, respectively. We have devoted substantially all of our efforts to research and development. We expect to continue to incur significant expenses and increasing operating losses for at least the next several years. The net losses we incur may fluctuate significantly from quarter to quarter and year to year.

We anticipate that our expenses will increase substantially as clinical trials for any of our product candidates commence or progress. Our expenses will increase if and as we:

- seek to discover or develop additional product candidates;
- seek marketing approvals for any of our product candidates that successfully complete clinical trials;
- in-license or acquire other products and technologies;
- maintain, expand and protect our intellectual property portfolio;
- hire additional clinical, quality control and scientific personnel; and
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts.

We currently have no source of product revenue and have not yet generated any revenues from product sales.

To date, we have not completed the development of any products and have not generated any revenues from product sales. Our ability to generate revenue from product sales and achieve profitability will depend upon our ability to successfully commercialize products, including any of our current product candidates, or other product candidates that we may in-license or acquire in the future. Even if we are able to successfully achieve regulatory approval for these product candidates, we may never generate revenues that are significant enough to achieve profitability. Our ability to generate revenue from product sales from our current or future product candidates also depends on a number of additional factors, including our ability to:

- successfully complete development activities, including the necessary clinical trials;
- complete and submit BLAs to the FDA, and obtain regulatory approval for indications for which there is a commercial market;
- complete and submit applications to, and obtain approval from, foreign regulatory authorities;
- set a commercially viable price for our products;
- develop a commercial organization capable of sales, marketing and distribution for any products we intend to sell ourselves in the markets which we choose to commercialize on our own;
- find suitable distribution partners to help us market, sell and distribute our products in other markets; and
- obtain coverage and adequate reimbursement from third parties, including government and private payors.

In addition, because of the numerous risks and uncertainties associated with product development, including that any of our product candidates may not advance through development or achieve the desired endpoints of applicable clinical trials, we are unable to predict the timing or amount of increased expenses, or when or if we will be able to achieve or maintain profitability. Even if we are able to complete the development and regulatory process for any product candidates, we anticipate incurring significant costs associated with commercializing these products.

Even if we are able to generate revenues from the sale of our products, we may not become profitable. If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital to expand our business or continue our operations. A decline in the value of our company could also cause you to lose all or part of your investment.

We have a need for substantial additional funding. If we are unable to raise capital when needed, we could be forced to delay, reduce or eliminate our product development programs or commercialization efforts.

We expect our expenses to increase in connection with our ongoing activities, particularly as we continue the clinical development of exebacase and possibly acquire and develop new product candidates or technologies. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we could be forced to delay, reduce or eliminate our research and development programs or any future commercialization efforts. For example, the trading prices for our and other biopharmaceutical companies' stock have been highly volatile as a result of the COVID-19 pandemic. As a result, we may face difficulties raising capital through sales of our common stock and any such sales may be on unfavorable terms.

Our future capital requirements will depend on many factors, including:

- the complexity, timing and results of our clinical trials of our product candidates;
- the costs, timing and outcome of regulatory review of our product candidates;

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- the costs of developing our product candidates for additional indications;
- our ability to establish scientific or business collaborations on favorable terms, if at all;
- the costs of preparing, filing and prosecuting patent or other intellectual property applications, maintaining and protecting our intellectual property rights and defending against intellectual property-related claims;
- the extent to which we in-license or acquire other product candidates or technologies; and
- the scope, progress, results and costs of product development for our product candidates.
- the effects of COVID-19 on, among other things, our financial performance, business and operations;

Conducting clinical trials is a time-consuming, expensive and uncertain process that takes years to complete, and we may never generate the necessary data or results to obtain marketing approval and achieve product sales. In addition, if approved, exebacase or any other product candidate that we develop may not achieve commercial success. Accordingly, we may need to continue to rely on additional financing to achieve our business objectives. In addition, we may seek additional capital due to favorable market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. Adequate additional financing may not be available to us on acceptable terms, or at all.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights to our technologies or product candidates.

Until such time, if ever, as we can generate substantial product revenues, we may finance our cash needs through a combination of equity offerings, debt financings, grants, collaborations, strategic alliances and marketing, distribution or licensing arrangements. We do not have any committed external source of funds. To the extent that we raise additional capital through the sale of equity or convertible debt securities, your ownership interest will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect your rights as a stockholder. Debt financing, if available, 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.

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

Our short operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.

We were incorporated in 2008 and commenced active research operations in 2010. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital and acquiring and developing exebacase and other potential product candidates. We have not yet demonstrated our ability to successfully complete Phase 3 clinical trials, obtain marketing approval, manufacture a commercial scale product, or arrange for a third-party to do so on our behalf, or conduct sales and marketing activities necessary for successful product commercialization. Consequently, any predictions you make about our future success or viability may not be as accurate as they could be if we had a longer operating history.

In addition, we may encounter unforeseen expenses, difficulties, complications, delays and other known and unknown factors. We will need to transition from a company with a product development focus to a company capable of supporting commercial activities. We may not be successful in such a transition.

The timing of the milestone and royalty payments we are required to make under certain agreements to Rockefeller is uncertain and could adversely affect our cash flows and results of operations.

We are party to certain agreements with Rockefeller pursuant to which we have acquired licenses to certain patents and patent applications and other intellectual property related to a series of compounds, including exebacase to develop and commercialize therapeutics. Under our agreements with Rockefeller, we have obligations to achieve diligence minimums and to make payments upon achievement of specified development and regulatory milestones. We will also make additional payments upon the achievement of future sales milestones and for royalties on future net sales.

The timing of milestone payments under our licenses and sponsored research agreements is subject to factors relating to the clinical and regulatory development and commercialization of products, many of which are beyond our control. We may become obligated to make a milestone payment when we do not have the cash on hand to make such payment, which could require us to delay our clinical trials, curtail our operations, scale back our commercialization and marketing efforts or seek funds to meet these obligations on terms unfavorable to us.

Our ability to utilize our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 and related provisions of the Internal Revenue Code of 1986, as amended (the “Code”), if a corporation undergoes an “ownership change” (generally defined as a greater than 50% change (by value) in its equity ownership over a three year period), the corporation’s ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes to offset its post-change income may be limited. As a result of our past transactions, we may have experienced an “ownership change.” At this time, we have not completed a study to assess whether an ownership change under Section 382 of the Code has occurred, or whether there have been multiple ownership changes since our formation, due to the costs and complexities associated with such a study. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. Thus, our ability to utilize carryforwards of our net operating losses and other tax attributes to reduce future tax liabilities may be substantially restricted. Further, U.S. tax laws limit the time during which these carryforwards may be applied against future taxes. Therefore, we may not be able to take full advantage of these carryforwards for federal or state tax purposes. As of December 31, 2019, we had federal and state net operating loss carryforwards of approximately \$201.3 million and \$217.8 million, respectively, and federal research and development credits of approximately \$3.1 million, the use of which could be limited or eliminated by virtue of one or more “ownership changes.”

Risks Related to the Discovery, Development and Commercialization of Our Product Candidates

The outbreak of the novel coronavirus disease, COVID-19, or other pandemic, epidemic or outbreak of an infectious disease may materially and adversely impact our business, including our preclinical studies and clinical trials.

During the first half of 2020, the novel coronavirus disease, COVID-19, was declared a pandemic and spread to multiple regions across the globe, including the United States and Europe. The outbreak and government measures taken in response have also had a significant impact on the economy and, to a lesser extent, both directly and indirectly, on our business. We adjusted our business operations, with a majority of our employees working remotely, and as a result, incurred minor delays in internal research activities. Our Phase 3 DISRUPT clinical trial has also experienced some delays as a result of the COVID-19 pandemic, as some clinical sites in high impact areas have delayed new patient enrollment as dictated by local conditions.

As a result of the COVID-19 pandemic or other pandemic, epidemic or outbreak of an infectious disease, we may experience disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- delays or difficulties in enrolling patients in our clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and staff;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of our clinical trials;
- delays in preclinical studies due to restricted or limited operations resulting from restrictions on our on-site activities; and
- interruption or delays of our sourced discovery and clinical activities.

The COVID-19 pandemic continues to rapidly evolve. The extent to which the outbreak further impacts our business, preclinical studies and clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the pandemic and future waves of infection, the timing and effectiveness of any new vaccines, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease. If we or any of the third parties with whom we engage were to experience shutdowns or other business disruptions, our ability to conduct our business in the manner and on the timelines presently planned could be materially and negatively impacted. Additionally, concerns over the economic impact of COVID-19 pandemic have caused extreme volatility in financial and other capital markets which has and may continue to adversely impact our stock price and our ability to access capital markets.

We are heavily dependent on the success of our leading product candidate, exebacase. The approval process of the FDA and comparable foreign regulatory authorities is lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for exebacase or any other product candidate our business will be substantially harmed.

Our near-term business prospects are substantially dependent on our ability to develop and commercialize exebacase. We cannot market or sell exebacase or any other product candidate in the United States without FDA approval, but this approval, if ever issued, is at least several years away. To commercialize exebacase or any other product candidate outside of the United States, we will need applicable foreign regulatory approvals. The clinical development of exebacase or any other product candidate is susceptible to the inherent risks of any drug development program, including a failure to achieve efficacy across a broad population of patients, the potential occurrence of severe adverse events and the risks that the FDA or any applicable foreign regulatory authority will determine that a drug product is not approvable.

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The process required to obtain approval for commercialization from the FDA and similar foreign authorities is unpredictable, and typically takes many years even after the commencement of clinical trials, depending on numerous factors. In addition, approval policies, regulations, or the type and amount of clinical data necessary to obtain regulatory approval may change during the course of a product's clinical development. We may fail to obtain regulatory approval for exebacase or any other product candidate for many reasons, including the following:

- we may not be able to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that exebacase or any other product candidate is safe and effective for any indication;
- the results of clinical trials may not meet the level of clinical or statistical significance required for approval by the FDA or comparable foreign regulatory authorities;
- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may not be able to demonstrate that exebacase or any other product candidate's clinical and other benefits outweigh its safety risks;
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from preclinical studies or clinical trials;
- the FDA or comparable foreign regulatory authorities may identify deficiencies in data generated at our clinical trial sites;
- the FDA or comparable foreign regulatory authorities may identify deficiencies in the clinical practices of the third-party contract research organizations ("CROs") we use for clinical trials; and
- the FDA or comparable foreign regulatory authorities may identify deficiencies in the manufacturing processes or facilities of third-party manufacturers with which we or our collaborators enter into agreements for clinical and commercial supplies.

This lengthy approval process as well as the unpredictability of future clinical trial results may prevent us from obtaining regulatory approval to market exebacase or any other product candidate, which would significantly harm our business. In addition, disruptions caused by the COVID-19 pandemic may increase the likelihood that we encounter such difficulties or delays in obtaining regulatory review and approval.

If clinical trials of exebacase or any other product candidate that we develop fail to demonstrate safety and efficacy to the satisfaction of the FDA or similar regulatory authorities outside the United States or do not otherwise produce positive results, we may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of exebacase or any other product candidate.

Before obtaining marketing approval from regulatory authorities for the sale of exebacase or any other product candidate, we must complete preclinical development and conduct extensive clinical trials to demonstrate the safety and efficacy of our product candidates in humans. Clinical testing is expensive, difficult to design and implement, can take many years to complete and is uncertain as to outcome. A failure of one or more clinical trials can occur at any stage of testing. The outcome of preclinical testing and early clinical trials may not be predictive of the success of later clinical trials, and interim results of a clinical trial do not necessarily predict final results. Moreover, preclinical and clinical data are often susceptible to varying interpretations and analyses, and many companies that have believed their product candidates performed satisfactorily in preclinical studies and clinical trials have nonetheless failed to obtain marketing approval of their products.

We may experience numerous unforeseen events during, or as a result of, clinical trials that could delay or prevent our ability to receive marketing approval or commercialize our product candidates, including:

- clinical trials of our product candidates may produce negative or inconclusive results, or significant adverse side effects, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;

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- the number of patients required for clinical trials of our product candidates may be larger than we anticipate, enrollment in these clinical trials may be slower than we anticipate or participants may drop out of these clinical trials at a higher rate than we anticipate;
- our third-party contractors may fail to comply with regulatory requirements or meet their contractual obligations to us in a timely manner, or at all;
- regulators or IRBs may not authorize us or our investigators to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- we may have delays in reaching or fail to reach agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- we may voluntarily suspend or terminate clinical trials of our product candidates for various reasons, including a finding that the participants are being exposed to unacceptable health risks;
- regulators or IRBs may require that we or our investigators suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- the cost of clinical trials of our product candidates may be greater than we anticipate;
- the supply or quality of our product candidates or other materials necessary to conduct clinical trials of our product candidates may be insufficient or inadequate;
- our product candidates may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators or IRBs to suspend or terminate the trials; or
- the effects of the COVID-19 pandemic.

If we are required to conduct additional clinical trials or other testing of exebacase or any other product candidate that we develop beyond those that we contemplate, if we are unable to successfully complete clinical trials of our product candidates or other testing, if the results of these trials or tests are not positive or are only modestly positive or if there are safety concerns, we may:

- be delayed in obtaining marketing approval or sales revenues for our product candidates;
- not obtain marketing approval at all;
- obtain approval for indications or patient populations that are not as broad as intended or desired;
- obtain approval with labeling that includes significant use or distribution restrictions or safety warnings, including boxed warnings;
- be subject to additional post-marketing testing requirements; or
- have the product removed from the market after obtaining marketing approval.

Our product development costs will also increase if we experience delays in testing or marketing approvals. We do not know whether any clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. Significant clinical trial delays also could shorten any periods during which we may have the exclusive right to commercialize our product candidates or may allow our competitors to bring products to market before we do and may impair our ability to successfully commercialize our product candidates and may harm our business and results of operations.

We may be required to suspend or discontinue clinical trials due to adverse side effects or other safety risks that could preclude approval of exebacase or any other product candidates.

Our clinical trials may be suspended at any time for a number of reasons. For example, it is possible that exposure to exebacase could result in adverse clinical events such as localized inflammation in the region surrounding blood vessels, or having a hypersensitivity reaction, such as serum sickness or anaphylaxis. A clinical trial may be prevented from commencing or may be suspended or terminated by us, our collaborators, IRBs, the FDA or other regulatory authorities due to the risks of or occurrence of such adverse events, an unacceptable safety risk to participants, a failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, presentation of unforeseen safety issues or adverse side effects, failure to demonstrate a benefit from using the investigational drug, changes in governmental regulations or administrative actions, lack of adequate funding to continue the clinical trial, or negative or equivocal findings of the data safety monitoring board or IRBs for a clinical trial. We may voluntarily suspend or terminate our clinical trials if at any time we believe that they present an unacceptable risk to participants. If we elect or are forced to suspend or terminate any clinical trial of any product candidates that we develop, the commercial prospects of such product candidates will be harmed and our ability to generate product revenues, if at all, from any of these product candidates will be delayed or eliminated. Any of these occurrences may significantly harm our business.

Delays in clinical trials are common and have many causes, and any such delays could result in increased costs to us and jeopardize, delay or prevent our ability to obtain regulatory approval and commence product sales as currently contemplated.

We may experience delays in clinical trials of our product candidates. Our planned clinical trials might not begin on time, might need to be redesigned, might not enroll a sufficient number of patients or might not be completed on schedule, if at all. Clinical trials can be delayed for a variety of reasons, including the following:

- imposition of a clinical hold by the FDA or other regulatory authorities;
- delays in reaching agreement on acceptable terms with prospective CROs and clinical trial sites;
- delays in recruiting suitable patients to participate in a trial;
- delays in having patients complete participation in a trial or return for post-treatment follow-up;
- clinical sites dropping out of a trial to the detriment of enrollment;
- adverse side effects in patient populations;
- time required to add new sites;
- delays resulting from negative or equivocal findings of the data safety monitoring board for a trial;
- delays in completing, or as a result of findings from, preclinical studies;
- delays in developing adequate processes for manufacture of, or formulations for, sufficient supplies of clinical trial materials; or
- the diversion of healthcare resources to combat epidemics, such as the COVID-19 pandemic or the potential effects of the COVID-19 pandemic on clinical operations.

Patient enrollment, a significant factor in the timing of clinical trials, is affected by many factors, including the size and nature of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the trial, the design of the clinical trial, competing clinical trials and clinicians' and patients' perceptions as to the potential advantages of the drug being studied in relation to other available therapies, including any new drugs that may be approved for the indications we are investigating. Our ability to enroll patients in our clinical trials has been, and may in the future be impacted by governmental restrictions and diversion of healthcare resources resulting from the COVID-19 pandemic. Any of these delays in completing our clinical trials could increase our costs, slow down our product development and approval process and jeopardize our ability to commence product sales and generate revenues.

Our Phase 3 DISUPT clinical trial has experienced some delays as a result of the COVID-19 pandemic, as some clinical sites in high impact areas have delayed new patient enrollment as dictated by local conditions. We expect that such delays could adversely affect the expected timelines for our product development and approval process and may adversely affect our business, financial condition and results of operations.

We are significantly dependent on our license agreements with Rockefeller that relate to exebacase.

Under our various license agreements with Rockefeller, we are obligated to use our diligent efforts to develop and commercialize licensed products, including exebacase. Rockefeller may terminate the agreement in the event of our breach of the terms of the license agreements. In the event of such termination, Rockefeller has the right to retain its license and other rights under the agreement, subject to continuing royalties and other obligations. Our breach of the agreement, including non-payment of any milestone payment, and Rockefeller's subsequent termination of the agreement, could result in the loss of our rights to develop and commercialize exebacase, which would seriously harm our ability to generate revenues or achieve profitability.

We rely on CROs to conduct our preclinical studies and clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be delayed in obtaining, or may ultimately not be able to obtain, regulatory approval for commercialization of exebacase or any other product candidates.

We have relied and will continue to rely on CROs for the execution of our preclinical and clinical studies and to recruit patients and monitor and manage data for our clinical programs for exebacase or any other product candidate. We control only certain aspects of our CROs' activities, but we are responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol and legal, regulatory and scientific standards. Our reliance on the CROs does not relieve us of these regulatory responsibilities. We and our CROs are required to comply with the FDA's regulations and current good clinical practices ("GCPs"), which is an international guideline meant to protect the rights and health of clinical trial subjects. The FDA enforces its regulations and GCPs through periodic inspections of trial sponsors, principal investigators and clinical trial sites. If we or our CROs fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable, and the FDA may require us to perform additional clinical trials before approving our product candidates. We cannot assure you that, upon inspection, the FDA

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will determine that any of our clinical trials comply with GCPs. In addition, to evaluate the safety and effectiveness of exebacase or any other product candidate to a statistically significant degree, our clinical trials will require an adequately large number of test subjects. Any clinical trial that a CRO conducts abroad on our behalf is subject to similar regulation. Accordingly, if our CROs fail to comply with these regulations or recruit a sufficient number of patients, we may have to repeat clinical trials, which would delay the regulatory approval process.

In addition, our CROs are not our employees and we cannot control whether or not they devote sufficient time and resources to our non-clinical, preclinical or clinical programs. Our CROs may also have relationships with other commercial entities, including our competitors, for whom they may also be conducting clinical studies or other drug development activities, which could impede their ability to devote appropriate time to our clinical programs. If our CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced, or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements, or for other reasons, our clinical trials may be extended, delayed or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize exebacase or any other product candidate that we seek to develop. As a result, our financial results and the commercial prospects for exebacase or any other product candidate that we seek to develop would be harmed, our costs could increase and our ability to generate revenues could be delayed or ended.

Even if the FDA approves exebacase or any other product candidate, adverse effects discovered after approval could adversely affect our markets.

If we obtain regulatory approval for exebacase or any other product candidate that we develop, and we or others later discover that our products cause adverse effects, a number of potentially significant negative consequences could result, including:

- regulatory authorities may withdraw their approval of the product;
- regulatory authorities may require the addition of labeling statements, such as warnings or contraindications or imposition of a risk management strategy;
- we may be required to change the way the product is administered, conduct additional clinical studies or restrict the distribution of the product;
- we could be sued and held liable for harm caused to patients and our liability insurance may not adequately cover those claims; and
- our reputation may suffer.

Any of these events could prevent us from maintaining market acceptance of the affected product candidate and could substantially increase the costs of, or prevent altogether, the commercialization of our product candidates.

Any Breakthrough Therapy Designation that we may receive from the FDA for our product candidates may not lead to a faster development or regulatory review or approval process, and it does not increase the likelihood that our product candidates will receive marketing approval.

We have received Breakthrough Therapy Designation for exebacase, and we may seek Breakthrough Therapy Designation for our other product candidates. A Breakthrough Therapy is defined as a drug or biologic that is intended to treat a serious or life-threatening disease or condition, and preliminary clinical evidence indicates that the drug or biologic may demonstrate substantial improvement over existing therapies on one or more clinically significant endpoints, such as substantial treatment effects observed in early clinical development. For drugs that have been designated as Breakthrough Therapies, interaction and communication between the FDA and the sponsor can help to identify the most efficient path for clinical development. Drugs designated as Breakthrough Therapies by the FDA are also eligible for rolling review of the associated marketing application, meaning that the agency may review portions of the marketing application before the sponsor submits the complete application, as well as priority review, where the agency aims to act on the application within eight months.

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Designation as a Breakthrough Therapy is within the discretion of the FDA. Accordingly, even if we believe one of our product candidates meets the criteria for designation as a Breakthrough Therapy, the FDA may disagree and instead determine not to make such designation. The receipt of a Breakthrough Therapy Designation for a product candidate, including for exebacase, may not result in a faster development process, review or approval compared to conventional FDA procedures and does not assure ultimate approval by the FDA. In addition, not all products designated as Breakthrough Therapies ultimately will be shown to have the substantial improvement over available therapies suggested by the preliminary clinical evidence at the time of designation. As a result, if the Breakthrough Therapy Designation for exebacase we have received or any future designation we receive is no longer supported by subsequent data, the FDA may rescind the designation.

There are underlying risks associated with the manufacture of our product candidates, which could include cost overruns, new impurities, difficulties in process or formulation development, scaling up or reproducing manufacturing processes and lack of timely availability of raw materials.

We do not currently have nor do we plan to build the infrastructure or capability internally to manufacture exebacase or any other product candidates.

We employ the services of Fujifilm UK to supply the active pharmaceutical ingredient for exebacase. We have not yet manufactured supplies for late phase human clinical trials, scaled up the process for manufacture of such supplies, validated the processes, or contractually secured our commercial supplies.

We employ the services of other vendors to produce exebacase in its final vialled drug product form. We do not have contracts for the commercial supply of exebacase drug product.

We intend to pursue agreements with third-party manufacturers regarding commercial supply at an appropriate future time. We intend to locate second fill finish third-party manufacturers to supply other world regions such as the E.U. or Asia.

Late stage process development activities, including manufacturing process scale up and validation of the bulk drug substance, pose inherent risks that may be greater for biological products than for small molecules. The process will undergo scale up from the current clinical process and then be repeated under protocol successfully three times for validation.

In addition, regulatory requirements could pose barriers to the manufacture of our active pharmaceutical ingredient and finished drug product for our product candidates. Our third-party manufacturers are required to comply with current good manufacturing practices (“cGMPs”). As a result, the manufacturing facilities and processes used by Fujifilm UK and any of our future manufacturers must pass inspection by the FDA as part of our BLA review and before approval of the applicable product candidate. Similar regulations apply to manufacturers of our products for use or sale in foreign countries. If our manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA and any applicable foreign regulatory authority, we will not be able to secure the applicable approval for our product candidates. If these facilities are not deemed compliant with cGMPs for the commercial manufacture of our product candidates, we may need to find alternative manufacturing facilities, which would result in significant delays of up to several years in obtaining approval. In addition, our manufacturers will be subject to ongoing periodic unannounced inspections by the FDA and corresponding state and foreign agencies for compliance with cGMPs and similar regulatory requirements.

Recently, we were notified by Fujifilm UK that they experienced equipment failures that will impact their manufacturing timelines. To mitigate delays, Fujifilm UK has proposed the transition of the exebacase manufacturing process to Fujifilm USA. While steps will be taken to improve timelines, we may still experience delays.

If Fujifilm UK, Fujifilm USA, or any alternate supplier of an active pharmaceutical ingredient, or any supplier of finished drug product for our product candidates, experiences any significant difficulties in its respective manufacturing processes, does not comply with the terms of its agreement with us or does not devote sufficient time, energy and care to providing our manufacturing needs, we may experience delays. Moreover, as a result of the COVID-19 pandemic, third-party manufacturers may be affected, which could disrupt their activities and, as a result, we could face difficulty sourcing key components necessary to produce supply of our product candidates. As a result, we could experience significant interruptions in the supply of our product candidates, which could impair our ability to supply our product candidates at the levels required for our clinical trials and commercialization and prevent or delay its successful development and commercialization. For example, a lot of the exebacase investigational drug product did not meet manufacturing release specifications, resulting in the delay of our Phase 2 study.

Developments by competitors, many of which have greater financial and other resources than we do, may render our products or technologies obsolete or non-competitive.

The pharmaceutical and biotechnology industries are intensely competitive. We compete directly and indirectly with other pharmaceutical companies, biotechnology companies and academic and research organizations in developing therapies to treat diseases. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations and well-established sales forces. We compete with companies that have products on the market or in development for the same indications as our product candidates. We may also compete with organizations that are developing similar technology platforms. Competitors may develop more effective, more affordable or more convenient products or may achieve earlier patent protection or commercialization of their products. These competing products may render our product candidates obsolete or limit our ability to generate revenue from our product candidates. Mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, drug products that are more effective or less costly than exebacase and our other product candidates.

The level of commercial success of exebacase or any other product candidates that we develop will depend upon attaining significant market acceptance of these products among physicians and payors.

Even if exebacase or any other product candidates that we develop is approved by the appropriate regulatory authorities for marketing and sale, physicians may not prescribe the approved product. Market acceptance of exebacase or any other product candidate that we develop by physicians, patients and payors will depend on a number of factors, many of which are beyond our control, including:

- the indications for which the product is approved;
- acceptance by physicians and payors of each product as a safe and effective treatment;
- the availability, efficacy and cost of competitive drugs;
- the effectiveness of our or any third-party partner's sales force and marketing efforts;
- the extent to which the product is approved for inclusion on formularies of hospitals and managed care organizations;
- whether the product is designated under physician treatment guidelines as a first-line therapy or as a second- or third-line therapy for particular infections;
- the availability of adequate reimbursement by third parties, such as insurance companies and other health care payors, and/or by government health care programs, including Medicare and Medicaid;
- limitations or warnings contained in a product's FDA-approved labeling; and
- prevalence and severity of adverse side effects.

Even if the medical community accepts that our product candidates are safe and efficacious for their approved indications, physicians may not immediately be receptive to the use or may be slow to adopt our product candidates as accepted treatments for their approved indications. While we believe our product candidates may demonstrate significant advantages in clinical studies, we cannot assure you that labeling approved by the FDA will permit us to promote these advantages. In addition, our efforts to educate the medical community and third-party payors on the benefits of any product candidates that we develop may require significant resources and may never be successful.

Coverage and reimbursement may not be available for exebacase or any other product candidates that we develop, which could make it difficult for us to sell our products profitably.

Market acceptance and sales of exebacase or any other product candidate that we develop will depend on coverage and reimbursement policies and may be affected by health care reform measures. Government authorities and third-party payors, such as private health insurers and health maintenance organizations, decide which drugs they will pay for and establish reimbursement levels. We cannot be sure that reimbursement will be available for exebacase or any other product candidate that we develop. Also, we cannot be sure that the amount of reimbursement available, if any, will not reduce the demand for, or the price of, our products. If reimbursement is not available or is available only at limited levels, we may not be able to successfully commercialize exebacase or any other product candidate that we develop.

In both the United States and some foreign jurisdictions, there have been a number of legislative and regulatory proposals to change the health care system in ways that could affect our ability to sell our products profitably. In March 2010, the Affordable Care Act became law in the United States. The goal of the Affordable Care Act is to reduce the cost of health care and substantially change the way health care is financed by both governmental and private insurers. The Affordable Care Act, among other things, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees on manufacturers of certain branded prescription

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drugs, required manufacturers to participate in a discount program for certain outpatient drugs under Medicare Part D and promoted programs that increase the federal government's comparative effectiveness research, which will impact existing government healthcare programs and will result in the development of new programs. An expansion in the government's role in the United States healthcare industry may further lower rates of reimbursement for pharmaceutical products.

The current presidential administration and U.S. Congress attempted to repeal or "repeal and replace" the Affordable Care Act. Although those efforts did not succeed, the presidential administration may continue to seek to modify, repeal, or otherwise invalidate all, or certain provisions of, the Affordable Care Act. There is still uncertainty with respect to the impact President Trump's administration and the U.S. Congress may have on the Affordable Care Act, if any, and any changes will likely take time to unfold. Additionally, since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act. For example, on December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, or Texas District Court Judge, ruled that the entire Affordable Care Act is invalid based primarily on the fact that the Tax Cuts and Jobs Act of 2017 repealed the tax-based shared responsibility payment imposed by the Affordable Care Act, on certain individuals who fail to maintain qualifying health coverage for all or part of a year, which is commonly referred to as the "individual mandate". On December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court's decision that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the Affordable Care Act are invalid as well. It is unclear how these decisions, subsequent appeals, if any, or other efforts to challenge, repeal or replace the Affordable Care Act will impact the law, or our business or financial condition.

Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. For example, the Budget Control Act of 2011, among other things, resulted in aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments to the statute, will remain in effect through 2029 unless additional Congressional action is taken. Further, on January 2, 2013, the American Taxpayer Relief Act of 2012 was signed into law, or the ATRA, which, among other things, further reduced Medicare payments to several providers. Recently there has also been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed and enacted legislation designed to, among other things, reform government program reimbursement methodologies. For example, the Cures Act changes the reimbursement methodology for infusion drugs and biologics furnished through durable medical equipment in an attempt to remedy over- and underpayment of certain drugs.

While we cannot predict the impact these new laws will have in general or on our business specifically, they may result in downward pressure on pharmaceutical reimbursement, which could negatively affect market acceptance of exebacase or any future products.

We expect to experience pricing pressures in connection with the sale of exebacase or any other product candidate that we develop, due to the trend toward managed health care, the increasing influence of health maintenance organizations and additional legislative proposals. If we fail to successfully secure and maintain coverage and reimbursement for our products or are significantly delayed in doing so, we will have difficulty achieving market acceptance of our products and our business will be harmed.

We currently have no marketing and sales organization and have no experience in marketing drug products. If we are unable to establish our own marketing and sales capabilities, or enter into agreements with third parties, to market and sell our products after they are approved, we may not be able to generate revenues.

We do not have the capabilities to market, sell and distribute any of our drug products. In order to commercialize any products, we must develop these capabilities on our own or make arrangements with third parties for the marketing, sales and distribution of our products. The establishment and development of our own sales force would be expensive and time consuming and could delay any product launch, and we cannot be certain that we would be able to successfully develop this capability. As a result, we may seek one or more third parties to handle some or all of the sales, marketing or distribution for exebacase or any other product candidate in the United States or elsewhere. However, we may not be able to enter into arrangements with third parties to sell exebacase or any other product candidate on favorable terms or at all. In the event we are unable to develop our own marketing and sales force or collaborate with a third-party marketing and sales organization, we would not be able to commercialize exebacase or any other product candidate that we develop, which would negatively impact our ability to generate product revenues. Further, whether we commercialize products on our own or rely on a third party to do so, our ability to generate revenue will be dependent on the effectiveness of the sales force. In addition, to the extent we rely on third parties to commercialize our approved products, we may likely receive less revenues or profits than if we commercialized these products ourselves.

We may form or seek strategic alliances in the future, and we may not realize the benefits of such alliances.

We may form or seek strategic alliances, create joint ventures or collaborations or enter into licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to exebacase or any future product candidate that we may develop. Any of these relationships may require us to incur non-recurring and other charges, increase our near-and long-term expenditures, issue securities that dilute our existing stockholders or disrupt our management and business. In addition, we face significant competition in seeking appropriate strategic alliances and the negotiation process is time-consuming and complex. Moreover, we may not be successful in our efforts to establish a strategic collaboration or other alternative arrangements for exebacase and any future product candidate because it may be deemed to be at too early of a stage of development for collaborative effort and third parties may not view exebacase or any future product candidate as having the requisite potential to demonstrate safety and efficacy. Any delays in entering into new strategic collaboration agreements could delay the development and commercialization of exebacase or any other product candidate that we develop, which would harm our business prospects, financial condition and results of operations.

Interim, “topline” and preliminary data from our clinical trials that we announce or publish from time to time may change as more patient data become available and are subject to audit and verification procedures that could result in material changes in the final data.

From time to time, we may publicly disclose interim, topline or preliminary data from our clinical trials, which is based on a preliminary analysis of then-available data, and the results and related findings and conclusions are subject to change following a more comprehensive review of the data related to the particular study or trial. We also make assumptions, estimations, calculations and conclusions as part of our analyses of data, and we may not have received or had the opportunity to fully and carefully evaluate all data. As a result, the topline or preliminary results that we report may differ from future results of the same studies, or different conclusions or considerations may qualify such results, once additional data have been received and fully evaluated. Topline or preliminary data also remain subject to audit and verification procedures that may result in the final data being materially different from the top-line or preliminary data we previously published. As a result, topline and preliminary data should be viewed with caution until the final data are available.

From time to time, we may also disclose interim data from our preclinical studies and clinical trials. Interim data from clinical trials that we may complete are subject to the risk that one or more of the clinical outcomes may materially change as patient enrollment continues and more patient data become available. Adverse differences between interim data and final data could significantly harm our business prospects. Further, disclosure of interim data by us or by our competitors could result in volatility in the price of our common stock.

Further, others, including regulatory agencies, may not accept or agree with our assumptions, estimates, calculations, conclusions 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 product candidate or product and our company in general. In addition, the information we choose to publicly disclose regarding a particular study or clinical trial is based on what is typically extensive information, and you or others may not agree with what we determine is material or otherwise appropriate information to include in our disclosure.

If the interim topline or preliminary data that we report differ from actual results, or if others, including regulatory authorities, disagree with the conclusions reached, our ability to obtain approval for, and commercialize, our product candidates may be harmed, which could harm our business, operating results, prospects or financial condition.

Risks Related to Regulatory Approval of Our Product Candidates and Other Legal Compliance Matters

If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize, or will be delayed in commercializing, exebacase and any future product candidate, and our ability to generate revenue will be materially impaired.

Exebacase and any other product candidate that we develop and the activities associated with their development and commercialization, including their design, testing, manufacture, recordkeeping, labeling, storage, approval, advertising, promotion, sale, distribution, importation and exportation are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by comparable authorities in other countries. Failure to obtain marketing approval for a product candidate will prevent us from commercializing the product candidate. We have not received approval to market any product from regulatory authorities in any jurisdiction. Securing regulatory approval requires the submission of extensive preclinical and clinical data and supporting information to the various regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing regulatory approval also requires the submission of information about the product manufacturing process to, and inspection of manufacturing facilities by, the relevant regulatory authority. Exebacase and any other product candidate that we develop may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use.

The process of obtaining marketing approvals, both in the United States and abroad, is expensive, may take many years, if approval is obtained at all, and can vary substantially based upon a variety of factors, including the type, complexity and novelty of the product candidates involved. Changes in marketing approval policies during the development period, changes in or the enactment of additional statutes or regulations, or changes in regulatory review for each submitted product application, may cause delays in the approval or rejection of an application. The FDA and comparable authorities in other countries have substantial discretion in the approval process and may refuse to accept any application or may decide that our data is insufficient for approval and require additional preclinical, clinical or other studies. If we experience delays in obtaining approvals or if we fail to obtain approval of our product candidates that we develop, our ability to generate revenues will be materially impaired.

We face extensive regulatory requirements and our products may face future development and regulatory difficulties.

Even if we obtain regulatory approval in the United States, the FDA may still impose significant restrictions on the indicated uses or marketing of the approved product, or impose ongoing requirements for potentially costly post-approval studies or post-market surveillance. The holder of an approved BLA is obligated to monitor and report adverse events and any failure of a product to meet the specifications in the BLA. The holder of an approved BLA must also submit new or supplemental applications and obtain FDA approval for certain changes to the approved product, product labeling or manufacturing process. Advertising and promotional materials must comply with FDA rules and are subject to FDA review, in addition to other potentially applicable federal and state laws.

In addition, drug product manufacturers and their facilities are subject to payment of user fees and continual review and periodic inspections by the FDA and other regulatory authorities for compliance with cGMPs and adherence to commitments made in the BLA. If we or a regulatory agency discovers previously unknown problems with a product such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, a regulatory agency may impose restrictions relative to that product or the manufacturing facility, including requiring recall or withdrawal of the product from the market or suspension of manufacturing.

If the FDA or a comparable foreign regulatory authority approves any of our product candidates, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration requirements and continued compliance with cGMPs and GCPs for any clinical trials that we conduct post-approval.

If we or our partners fail to comply with applicable regulatory requirements following approval of any of our future product candidates, a regulatory agency may:

- issue a warning or untitled letter asserting that we are in violation of the law;
- seek an injunction or impose civil or criminal penalties or monetary fines;
- suspend or withdraw regulatory approval;
- suspend any ongoing clinical trials;
- refuse to approve a pending BLA or supplements to a BLA submitted by us;
- seize product; or
- refuse to allow us to enter into supply contracts, including government contracts.

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Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. The occurrence of any event or penalty described above may inhibit our ability to commercialize our future products and generate revenues.

In addition, we cannot predict the likelihood, nature or extent of government regulation that may arise from future legislation or administrative or executive action, either in the United States or abroad. For example, certain policies of the current presidential administration may impact our business and industry. Namely, the administration has taken several executive actions, including the issuance of a number of Executive Orders, that could impose significant burdens on, or otherwise materially delay, FDA's ability to engage in routine regulatory and oversight activities such as implementing statutes through rulemaking, issuance of guidance, and review and approval of marketing applications. It is difficult to predict how these executive actions, including the current Executive Orders, will be implemented, and the extent to which they will impact the FDA's ability to exercise its regulatory authority. If these executive actions impose constraints on FDA's ability to engage in oversight and implementation activities in the normal course, our business may be negatively impacted.

We have no experience as a company in bringing a drug to regulatory approval.

As a company, we have never obtained regulatory approval for, or commercialized, a drug or biologic. It is possible that the FDA may refuse to accept any or all of our planned BLAs for substantive review or may conclude after review of our data that our application is insufficient to obtain regulatory approval of exebacase or any other product candidate. If the FDA does not accept or approve any or all of our planned BLAs, it may require that we conduct additional preclinical, clinical or manufacturing validation studies, which may be costly, and submit that data before it will reconsider our applications. Depending on the extent of these or any other FDA required studies, approval of any BLA or application that we submit may be significantly delayed, possibly for several years, or may require us to expend more resources than we have available. Any delay in obtaining, or an inability to obtain, regulatory approvals would prevent us from meeting our timelines for commercializing exebacase or any other product candidate, generating revenues and achieving and sustaining profitability.

Disruptions at the FDA and other government agencies caused by funding shortages or global health concerns could hinder their ability to hire, retain or deploy key leadership and other personnel, or otherwise prevent new or modified products from being developed, approved or commercialized in a timely manner or at all, which could negatively impact our business.

The ability of the FDA to review and or approve new products can be affected by a variety of factors, including government budget and funding levels, statutory, regulatory, and policy changes, the FDA's ability to hire and retain key personnel and accept the payment of user fees, and other events that may otherwise affect the FDA's ability to perform routine functions. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

Disruptions at the FDA and other agencies may also slow the time necessary for new drugs and biologics to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, including for 35 days beginning on December 22, 2018, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical FDA employees and stop critical activities.

Separately, in response to the global pandemic of COVID-19, on March 10, 2020 the FDA announced its intention to postpone most foreign inspections of manufacturing facilities and products through April 2020, and subsequently, on March 18, 2020, the FDA temporarily postponed routine surveillance inspections of domestic manufacturing facilities. Subsequently, on July 10, 2020, the FDA announced its intention to resume certain on-site inspections of domestic manufacturing facilities subject to a risk-based prioritization system. The FDA intends to use this risk-based assessment system to identify the categories of regulatory activity that can occur within a given geographic area, ranging from mission critical inspections to resumption of all regulatory activities. Regulatory authorities outside the United States may adopt similar restrictions or other policy measures in response to the COVID-19 pandemic. If a prolonged government shutdown occurs, or if global health concerns continue to prevent the FDA or other regulatory authorities from conducting their regular inspections, reviews, or other regulatory activities, it could significantly impact the ability of the FDA or other regulatory authorities to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

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Even if we obtain FDA approval of exebacase or any other product candidate, we may never obtain approval or commercialize our products outside of the United States, which would limit our ability to realize their full market potential.

In order to market exebacase or any other products outside of the United States, we must comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries, and regulatory approval in one country does not mean that regulatory approval will be obtained in any other country. Approval procedures vary among countries and can involve additional product testing and validation and additional administrative review periods. Seeking foreign regulatory approvals could result in significant delays, difficulties and costs for us and require additional preclinical studies or clinical trials which would be costly and time consuming. Regulatory requirements can vary widely from country to country and satisfying these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. In addition, our failure to obtain regulatory approval in the United States or any foreign country may delay or have negative effects on the process for regulatory approval in other countries. We do not have any product candidates approved for sale in the United States or any foreign country and we do not have experience as a company in obtaining regulatory approval in international markets.

If foreign approval for exebacase or any other product candidate is obtained, there are inherent risks in conducting business in international markets.

Commercialization of our product candidates in international markets is an element of our long-term strategy. If approved for commercialization in a foreign country, we intend to enter into agreements with third parties to market exebacase or any other product candidate whenever it may be approved and wherever we have the right to market it. Consequently, we expect that we will be subject to additional risks related to entering into international business relationships, including:

- potentially reduced protection for intellectual property rights;
- the potential for so-called parallel importing, which is what happens when a local seller, faced with high or higher local prices, opts to import goods from a foreign market (with low or lower prices) rather than buying them locally;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- economic weakness, including inflation, or political instability in particular foreign economies and markets;
- compliance with laws for employees working and traveling abroad;
- foreign taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues;
- workforce uncertainty in countries where labor unrest is more common than in the United States;

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- production shortages resulting from any events affecting active pharmaceutical ingredient and/or finished drug product supply or manufacturing capabilities abroad;
- business interruptions resulting from geo-political actions, including war and terrorism, epidemics, including the COVID-19 pandemic, or natural disasters including earthquakes, typhoons, floods and fires; and
- failure to comply with the rules and regulations of the Office of Foreign Asset Control, the Foreign Corrupt Practices Act and other applicable anti-bribery rules and regulations in other jurisdictions.

These and other risks may materially adversely affect our ability to attain or sustain revenue from international markets and therefore materially adversely affect our business.

Product liability lawsuits against us could divert our resources, cause us to incur substantial liabilities and limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to the testing of exebacase and any other product candidate that we develop in human clinical trials and we will face higher degrees of this risk if we commercially sell any products that we develop. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- distraction of our management or other internal resources from pursuing our business strategies;
- decreased demand for any product candidates or products that we may develop;
- injury to our reputation and significant negative media attention;
- withdrawal of clinical trial participants;
- significant costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products that we may develop.

We maintain product liability insurance coverage in relation to our clinical trials. Such coverage may not be adequate to cover all liabilities that we may incur. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost or in an amount adequate to satisfy any liability that may arise.

If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on our business.

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. From time to time and in the future, our operations may involve the use of hazardous and flammable materials, including chemicals and biological materials, and may also produce hazardous waste products. Even if we contract with third parties for the disposal of these materials and wastes, we cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties for failure to comply with such laws and regulations.

Although we maintain workers' compensation insurance to cover us for costs and expenses we may incur due to injuries to our employees resulting from the use of hazardous materials, this insurance may not provide adequate coverage against potential liabilities. We do not maintain insurance for environmental liability or toxic tort claims.

In addition, we may incur substantial costs in order to comply with current or future environmental, health and safety laws and regulations. These current or future laws and regulations may impair our research, development or production efforts. Failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Our product candidates may face competition sooner than anticipated.

The Affordable Care Act includes a subtitle called the Biologics Price Competition and Innovation Act of 2009, or BPCIA, which created an abbreviated approval pathway for biological products that are biosimilar to or interchangeable with an FDA-licensed reference biological product. Under the BPCIA, an application for a biosimilar product may not be submitted to the FDA until four years following the date that the reference product was first licensed by the FDA. In addition, the approval of a biosimilar product may

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not be made effective by the FDA until 12 years from the date on which the reference product was first licensed. During this 12-year period of exclusivity, another company may still market a competing version of the reference product if the FDA approves a full BLA for the competing product containing the sponsor's own preclinical data and data from adequate and well-controlled clinical trials to demonstrate the safety, purity and potency of their product. The law is complex and is still being interpreted and implemented by the FDA. As a result, its ultimate impact, implementation, and meaning are subject to uncertainty. While it is uncertain when such processes intended to implement BPCIA may be fully adopted by the FDA, any such processes could have a material adverse effect on the future commercial prospects for our biological products.

We believe that any of our product candidates approved as a biological product under a BLA should qualify for the 12-year period of exclusivity. However, there is a risk that this exclusivity could be shortened due to congressional action or otherwise, or that the FDA will not consider our product candidates to be reference products for competing products, potentially creating the opportunity for generic competition sooner than anticipated. Other aspects of the BPCIA, some of which may impact the BPCIA exclusivity provisions, have also been the subject of recent litigation. Moreover, the extent to which a biosimilar, once approved, will be substituted for any one of our reference products in a way that is similar to traditional generic substitution for non-biological products is not yet clear, and will depend on a number of marketplace and regulatory factors that are still developing.

We may be subject, directly or indirectly, to federal and state healthcare laws, including applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and diminished profits and future earnings.

Healthcare providers, physicians and third-party payors play a primary role in the recommendation and prescription of any product candidates for which we obtain marketing approval. Our business operations and current and future arrangements with third-party payors, healthcare providers and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may constrain the business or financial arrangements and relationships through which we research, develop, market, sell and distribute our products for which we obtain marketing approval. Restrictions under applicable federal and state healthcare laws and regulations include the following:

- the federal healthcare Anti-Kickback Statute prohibits, among other things, persons from knowingly and willfully soliciting, offering, receiving or providing remuneration, directly or indirectly, in cash or in kind, to induce or reward either the referral of an individual for, or the purchase, order or recommendation of, any good or service, for which payment may be made under federal and state healthcare programs such as Medicare and Medicaid. A person or entity does not need to have actual knowledge of the federal Anti-Kickback Statute or specific intent to violate it to have committed a violation; in addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the False Claims Act;
- the federal False Claims Act imposes criminal and civil penalties, including through civil whistleblower or qui tam actions, against individuals or entities for knowingly presenting, or causing to be presented, to the federal government, claims for payment that are false or fraudulent or making a false statement to avoid, decrease or conceal an obligation to pay money to the federal government;
- the federal Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act, imposes criminal and civil liability for executing a scheme to defraud any healthcare benefit program and also imposes obligations, including mandatory contractual terms, with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal false statements statute prohibits knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false statement in connection with the delivery of or payment for healthcare benefits, items or services. Similar to the federal Anti-Kickback Statute, a person or entity does not need to have actual knowledge of the statute or specific intent to violate it to have committed a violation;
- the federal transparency requirements under the Affordable Care Act requires certain manufacturers of drugs, devices, biologics and medical supplies for which payment is available under Medicare, Medicaid or the Children's Health Insurance Program (with certain exceptions) to report to the Department of Health and Human Services information related to physician payments and other transfers of value and ownership and investment interests held by physicians and their immediate family members and payments or other transfers of value made to such physician owners;
- analogous state laws and regulations, such as state anti-kickback and false claims laws, and transparency laws, may apply to sales or marketing arrangements and claims involving healthcare items or services reimbursed by non-governmental third-party payors, including private insurers, and some state laws require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government in addition to requiring drug manufacturers to report information related to payments to physicians and other health care providers or marketing expenditures and pricing information; and

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- similar healthcare laws and regulations in the E.U. and other jurisdictions, including reporting requirements detailing interactions with and payments to healthcare providers and laws governing the privacy and security of certain personal data, including the GDPR, which imposes obligations and restrictions on the collection and use of personal data relating to individuals located in the E.U. and E.E.A. (including with regard to health data).

Efforts to ensure that our business arrangements with third parties will comply with applicable healthcare laws and regulations will involve substantial costs. It is possible that governmental authorities will conclude that our business practices may not comply with current or future statutes, regulations or case law involving applicable fraud and abuse or other healthcare laws and regulations. If our operations are found to be in violation of any of these laws or any other governmental regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, exclusion from government funded healthcare programs, such as Medicare and Medicaid, additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws, imprisonment and the curtailment or restructuring of our operations. Further, defending against any such actions, even if successful, can be costly, time-consuming and may require significant personnel resources. If any of the physicians or other providers or entities with whom we expect to do business are found to be not in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

The unfavorable consequences of any plaintiff attorney investigation or the adverse outcome of litigation or arbitration proceedings commenced by or against us could materially harm our business.

Unfavorable consequences from the most recent and prior investigations by plaintiff attorneys could damage our reputation and disrupt our business. The adverse outcome of any litigation or arbitration proceedings commenced by or against us could have a material adverse effect on our business and impede the achievement of our development and commercialization objectives.

In the ordinary course of our operations, claims involving our actions, actions of third parties or agreements to which we are a party may be brought by and against us. The claims and charges can involve actual damages, as well as contractually agreed upon liquidated sums. These claims, if not resolved through negotiation, are often subject to lengthy and expensive litigation or arbitration proceedings.

The United Kingdom's withdrawal from the European Union may adversely impact our business.

Following a national referendum and enactment of legislation by the government of the United Kingdom, the United Kingdom withdrew from the European Union ("Brexit") on January 31, 2020 and entered into a transition period during which it will continue its ongoing and complex negotiations with the European Union relating to the future trading relationship between the parties. Significant political and economic uncertainty remains about whether the terms of the relationship will differ materially from the terms before withdrawal, as well as about the possibility that a so-called "no deal" separation will occur if negotiations are not completed by the end of the transition period. If the United Kingdom and the European Union are unable to negotiate acceptable terms or if other Member States pursue withdrawal, barrier-free access between the United Kingdom and other Member States or among the European economic area overall could be diminished or eliminated. For example, shipments into the United Kingdom of drug substance manufactured for the Company in the European Union may be interrupted or delayed and thereby prevent or delay the manufacture in the United Kingdom of drug product. Similarly, shipments out of the United Kingdom of drug product to the United States or the European Union may be interrupted or delayed and thereby prevent or delay the delivery of drug product to clinical sites. Such a situation could hinder our ability to conduct current and planned clinical trials and have an adverse effect on our business. Additionally, political instability in the European Union as a result of Brexit may result in a material negative effect on credit markets and foreign direct investments in the European Union and United Kingdom.

Further, the United Kingdom's withdrawal from the EU has resulted in the relocation of the EMA from the United Kingdom to the Netherlands. This relocation has caused, and may continue to cause, disruption in the administrative and medical scientific links between the EMA and the U.K. Medicines and Healthcare products Regulatory Agency, including delays in granting clinical trial authorization or marketing authorization, disruption of importation and export of active substance and other components of new drug formulations, and disruption of the supply chain for clinical trial product and final authorized formulations. The cumulative effects of the disruption to the regulatory framework may add considerably to the development lead time to marketing authorization and commercialization of products in the EU and/or the United Kingdom.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to attract and retain qualified personnel, and changes in management may negatively affect our business.

We are dependent on the principal members of our management and scientific teams. Our success and the execution of our growth strategy depend largely on the continued service of these employees. Although we have formal employment agreements with our executive officers, these agreements do not prevent them from terminating their employment with us at any time. The loss of the services of any of these persons could be disruptive to our operations, impede our ability to raise additional funding or delay the achievement of our development and commercialization objectives. Additionally, we cannot be certain that changes in management will not lead to additional management departures or changes, affect our ability to hire or retain key personnel, or otherwise negatively affect our business. We do not maintain “key person” insurance for any of our executives or other employees.

Recruiting and retaining qualified scientific and clinical personnel is critical to our success. We may not be able to attract and retain these personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also compete for the hiring of scientific and clinical personnel from universities and research institutions. In addition, we rely on consultants and advisors, including scientific and clinical advisors, to assist us in formulating our development and commercialization strategy. Our consultants and advisors may be employed by employers other than us and may have commitments under consulting or advisory contracts with other entities that may limit their availability to us.

For our Company to successfully develop and commercialize our product candidates, we may need to expand our development, regulatory and sales, marketing and distribution capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

In order to successfully develop and commercialize our product candidate, we may need to increase the number of our employees and expand the scope of our operations, particularly in the areas of drug discovery, drug development, regulatory affairs and commercialization. To manage our anticipated future growth, we would need to implement and improve our managerial, operational and financial systems, expand our facilities and continue to recruit and train additional qualified personnel. Due to our limited financial resources and the various levels of experience of our management team in managing a company with significant growth, we may not be able to effectively manage a significant expansion of our operations or recruit and train additional qualified personnel. The physical expansion of our operations may lead to significant costs and may divert our management and business development resources. Any inability to manage growth could delay the execution of our business plans or disrupt our operations.

Risks Related to Our Intellectual Property

If we or our licensors are unable to obtain and maintain patent protection for our owned or licensed technology and products, or if the scope of the patent protection is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully commercialize our technology and products may be adversely affected.

Our success depends in large part on our and our licensors’ ability to obtain and maintain patent protection in the United States and other countries with respect to our proprietary technology and products or technology or products that may have been licensed to us. Similar to our licensors, we seek to protect our proprietary position by filing patent applications in the United States and abroad related to our novel technologies and product candidates that are important to our business. This process is expensive and time-consuming, and we or our licensors may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we or our licensors will fail to identify patentable aspects of either our or their research and development output before it is too late to obtain patent protection. Moreover, if we license technology or product candidates from third parties in the future, these license agreements may not permit us to control the preparation, filing and prosecution of patent applications, or to maintain the patents, covering this intellectual property. These agreements could also give our licensors the right to enforce the licensed patents without our involvement, or to decide not to enforce the patents without our consent. Therefore, in these circumstances, we could not be certain that these patents and applications would be prosecuted and enforced in a manner consistent with the best interests of our business.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain and has in recent years been the subject of much litigation. As a result, the issuance, scope, validity, enforceability and commercial value of our patent rights and any patent rights we may license from a third party are highly uncertain. Our or our licensors’ pending and future patent applications may not result in issued patents that protect our technology or products, in whole or in part, or which effectively prevent others from commercializing competitive technologies and products. Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our or our licensors’ patents or narrow the scope of such patent protection.

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The laws of foreign countries may not protect our rights to the same extent as the laws of the United States. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. Assuming the other requirements for patentability are met, historically, in the United States, the first to make the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application is entitled to the patent. The United States currently uses a first-inventor-to-file system in which, assuming the other requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. Therefore, we cannot be certain that we were the first to make the inventions claimed in our patents or pending patent applications, or that we were the first to file for patent protection of such inventions. Moreover, we may be subject to a third party preissuance submission of prior art to the U.S. Patent and Trademark Office, or become involved in opposition, derivation, reexamination, litigation, inter partes review or interference proceedings, in the United States or elsewhere, challenging our patent rights or the patent rights of others. An adverse determination in any such submission, proceeding or litigation could reduce the scope of, or invalidate, our patent rights, allow third parties to commercialize our technology or products and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize products without infringing third-party patent rights. In addition, if the breadth or strength of protection provided by our patents and patent applications is threatened, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Even if our or our licensors' patent applications issue as patents, they may not issue in a form that will provide us with any meaningful protection, prevent competitors from competing with us or otherwise provide us with any competitive advantage. Our competitors may be able to circumvent our owned or licensed patents by developing similar or alternative technologies or products in a non-infringing manner.

The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and licensed patents may be challenged in the courts or patent offices in the United States and abroad. Such challenges may result in loss of exclusivity or freedom to operate or in patent claims being narrowed, invalidated or held unenforceable, in whole or in part, which could limit our ability to prevent others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and products. Given the amount of time required for the development, testing and regulatory review of new product candidates, patents protecting such candidates might expire before or shortly after such candidates are commercialized and such patents may not be able to claim the benefits of any patent term extension laws or regulations. As a result, our patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

We may be subject to claims by third parties asserting that we or our employees have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

Many of our employees were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we use customary non-disclosure agreements and try to ensure that our employees do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or these employees have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's former employer. Litigation may be necessary to defend against these claims.

In addition, while we typically require our employees and contractors who may be involved in the development of intellectual property to execute agreements assigning such intellectual property to us, we may be unsuccessful in executing such an agreement with each party who in fact develops intellectual property that we regard as our own, or such agreements may be inadequately drafted at times thereby not ensuring assignment to us of all potential intellectual property rights. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to management.

We have not yet registered our trademarks in all of our potential markets, and failure to secure those registrations could adversely affect our business.

Our future trademark applications may not be allowed for registration, and our registered trademarks may not be maintained or enforced. During trademark registration proceedings, we may receive rejections from the U.S. Patent and Trademark Office or other applicable foreign intellectual property offices. Although we are given an opportunity to respond to those rejections, we may be unable to overcome such rejections, or have to expend additional resources to secure registrations, such as commencing cancellation proceedings against third-party trademark registrations to remove them as obstacles to our trademark applications. In addition, in the U.S. Patent and Trademark Office and in comparable agencies in many foreign jurisdictions, third parties are given an opportunity to oppose pending trademark applications and to seek to cancel registered trademarks. Opposition or cancellation proceedings may be filed against our trademarks, and our trademarks may not survive such proceedings. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would.

In addition, we have not yet proposed a proprietary name for our product candidates in any jurisdiction. Any proprietary name we propose to use with our product candidates in the United States must be approved by the FDA, regardless of whether we have registered it, or applied to register it, as a trademark. The FDA typically conducts a review of proposed product names, including an evaluation of potential for confusion with other product names. If the FDA objects to any of our proposed proprietary product names, we may be required to expend significant additional resources in an effort to identify a suitable proprietary product name that would qualify under applicable trademark laws, not infringe the existing rights of third parties and be acceptable to the FDA.

Risks Related to Our Securities

The price of our common stock may be volatile and you could lose all or part of your investment.

There has been significant volatility in the market price and trading volume of equity and derivative securities, which is unrelated to the financial performance of the companies issuing the securities, including due to the effects of the COVID-19 pandemic. In addition, equity markets have experienced significant price and volume fluctuations that have affected the market prices for the securities of biotechnology and also newly public companies for a number of reasons, including reasons that may be unrelated to the business or operating performance of the companies. These broad market fluctuations may negatively affect the market price of our common stock.

Prior to our initial public offering, there was no public market for our common stock. The trading price of our securities has been and is likely to continue to be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control, including limited trading volume. In addition to the factors discussed in this “Risk Factors” section and elsewhere in this Quarterly Report, these factors include:

- our ability to implement our preclinical, clinical and other development or operational plans;
- adverse regulatory decisions;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- new laws or regulations, or new interpretations of existing laws or regulations, applicable to our business;
- actual or anticipated fluctuations in our financial condition or annual or quarterly results of operations;
- our cash position;
- public reaction to our press releases, other public announcements and filings with the SEC;
- changes in investor and financial analyst perceptions of the risks and condition of our business;
- changes in, or our failure to meet, performance expectations of investors or financial analysts (including, without limitation, with respect to the status of development of our product candidates);
- changes in market valuations of biotechnology companies;
- changes in key personnel;
- increased competition;
- sales of common stock by us or members of our management team;
- trading volume of our common stock;
- issuances of debt or equity securities;
- the granting or exercise of employee stock options or other equity awards;

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- changes in accounting standards, policies, guidance, interpretations or principles;
- ineffectiveness of our internal controls;
- actions by institutional or other large stockholders;
- significant lawsuits, including patent or stockholder litigation;
- general political, market and economic conditions, including as a result of health pandemics; and
- other events or factors, many of which are beyond our control.

In addition, the stock market in general, and the Nasdaq Capital Market and biotechnology companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. Broad market and industry factors may negatively affect the market price of our common stock, regardless of our actual operating performance. In the past, securities class action litigation has often been instituted against companies following periods of volatility in the market price of a company's securities. This type of litigation, if instituted, could result in substantial costs and a diversion of management's attention and resources, which would harm our business, operating results or financial condition.

Future sales of our common stock or warrants may cause the market price of our securities to decline.

Sales of substantial amounts of shares of our common stock or warrants in the public market, or the perception that these sales may occur, could adversely affect the price of our securities and impair our ability to raise capital through the sale of additional equity securities. As of November 6, 2020, we have approximately 27.8 million shares of common stock outstanding, of which approximately 26.0 million shares of our outstanding common stock are freely tradable, or may become freely tradable, without restriction, in the public market unless held by our "affiliates," as defined under Rule 144 of the Securities Act of 1933, as amended (the "Securities Act"). Additionally, we have warrants to purchase approximately 12.4 million shares of our common stock outstanding as of November 6, 2020. Approximately 11.9 million shares of common stock underlying warrants will be freely tradable upon exercise unless held by our affiliates.

We have registered 1,918,794 shares of our common stock as of November 6, 2020 that we may issue under our employee benefit plans. These shares can be freely sold in the public market upon issuance, unless pursuant to their terms these stock awards have transfer restrictions attached to them. Additionally, pursuant to the 2014 Omnibus Incentive Plan (the "2014 Plan"), our management is authorized to grant stock options and other equity linked award to our employees, directors and consultants. The 2014 Plan provides that the number of shares available for future grant under our 2014 Plan will automatically increase on January 1st each year, from January 1, 2015 through January 1, 2024, by an amount equal to four percent of all shares of our capital stock outstanding as of December 31st of the preceding calendar year, subject to the ability of our board of directors to take action to reduce the size of such increase in any given year. Unless our board of directors elects not to increase the number of shares underlying our 2014 Plan each year, our stockholders may experience additional dilution, which could cause our stock price to decline.

Any failure to maintain effective internal control over financial reporting could have a significant adverse effect on our business and the price of our common stock.

Our management is required to report annually on the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act, or Section 404. The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. Because we are no longer an emerging growth company, our independent registered public accounting firm will be required to formally attest to the effectiveness of our internal control over financial reporting pursuant to Section 404 if we, in the future, no longer qualify under the SEC exemption for low-revenue "smaller reporting companies", as defined in Rule 12b-2 of the Exchange Act. As such, our independent registered public accounting firm may in the future issue a report that is adverse in the event it is not satisfied with the level at which our controls are documented, designed or operating.

In the future, we may identify material weaknesses or significant deficiencies in our internal control over financial reporting, and we may not be able to remediate them in time to meet the deadline imposed by the Sarbanes-Oxley Act for compliance with the requirements of Section 404. In addition, we may encounter problems or delays in completing the implementation of any requested improvements and receiving a favorable attestation report from our independent registered public accounting firm, if such a report is required. We will be unable to issue securities in the public markets through the use of a shelf registration statement if we are not in compliance with Section 404. Furthermore, failure to achieve and maintain an effective internal control environment could materially adversely affect our business, reduce the market's confidence in our common stock, adversely affect the price of our common stock and limit our ability to report our financial results accurately and timely.

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We have no present intention to pay cash dividends and, even if we change that policy, we may be restricted from paying cash dividends on our common stock.

We do not intend to pay cash dividends for the foreseeable future. We currently expect to retain all future earnings, if any, for use in the development, operation and expansion of our business. Any determination to pay cash dividends in the future will depend upon, among other things, our results of operations, plans for expansion, tax considerations, available net profits and reserves, limitations under law, financial condition, capital requirements and other factors that our board of directors considers to be relevant.

Provisions in our corporate charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our corporate charter and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of us that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions could also limit the price that investors might be willing to pay in the future for our securities, thereby depressing the market prices of our securities. In addition, because our board of directors is responsible for appointing the members of our management team, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors. Among other things, these provisions:

- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- establish advance notice requirements for stockholder proposals that can be acted on at stockholder meetings and nominations to our board of directors;
- require that stockholder actions must be effected at a duly called stockholder meeting and prohibit actions by our stockholders by written consent;
- limit who may call stockholder meetings;
- authorize our board of directors to issue preferred stock without stockholder approval, which could be used to institute a stockholder rights plan, or so-called “poison pill,” that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our board of directors; and
- require the approval of the holders of at least 75% of the votes that all our stockholders would be entitled to cast to amend or repeal certain provisions of our charter or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner.

Risks Related to Cybersecurity, Data Protection and Privacy

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

In the ordinary course of our business, we store sensitive data, including intellectual property, proprietary business information and personally identifiable information, in our data centers and on our networks. The secure processing, maintenance and transmission of this information is critical to our operations and business strategy. Despite our security measures, our information technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance, or other disruptions. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in significant costs to address and remediate the incident, lead to legal claims or proceedings, disrupt our operations, and damage our reputation.

We maintain cyber risk insurance, but this insurance may not be sufficient to cover all of our losses from any future breaches of our systems.

Our collection, control, processing, sharing, disclosure and otherwise use of personal data could give rise to liabilities as a result of governmental regulation, conflicting legal requirements, and evolving laws concerning data privacy in the E.U. and E.E.A.

The regulatory environment with regard to privacy and data protection issues is increasingly challenging. For example, the GDPR repealed the Data Protection Directive (95/46/EC) and is directly applicable in all E.U. and E.E.A. Member States since its effective date of May 25, 2018. The GDPR applies to companies established in the E.U. or E.E.A., as well as companies that are not established in the E.U. or E.E.A. and which collect and use personal data in relation to offering goods or services to, or monitoring the behavior of, individuals located in the E.U. or E.E.A., including, for example, through the conduct of clinical trials (whether the trials are conducted directly by the company itself or through a clinical vendor or collaborators). The GDPR permits E.U. and E.E.A. Member State derogations for certain matters and, accordingly, we are also subject to E.U. national laws relating to the processing of certain data such as genetic data, biometric data and health data. It imposes a strict data protection compliance regime including: providing detailed disclosures about how personal data is collected and processed (in a concise, intelligible and easily accessible form); demonstrating that valid consent or another appropriate legal basis is in place or otherwise exists to justify data processing activities; appointing data protection officers in certain circumstances; granting new rights for data subjects in regard to their personal data (including the right to be “forgotten” and the right to data portability), as well as enhancing current rights (e.g., data subject access requests); introducing the obligation to notify data protection regulators or supervisory authorities (and in certain cases, affected individuals) of significant data breaches; imposing limitations on retention of personal data; maintaining a record of data processing; defining for the first time pseudonymized (i.e., key-coded) data; and complying with principal of accountability and complying with the obligation to demonstrate compliance through policies, procedures, training and audit.

We are also subject to E.U. rules with respect to cross-border transfers of personal data out of the E.U. and E.E.A. These rules are under scrutiny from time to time. For example, the Court of Justice of the European Union (the “CJEU”) ruled in July 2020 that the EU-U.S. Privacy Shield was invalid. The E.U.-U.S. Privacy Shield Framework was designed by the U.S. Department of Commerce and the European Commission to provide companies operate in both regions with a mechanism to comply with data protection requirements when transferring personal data from the European Union to the United States in support of numerous business activities. Following the decision of the CJEU, the E.U.-U.S. Privacy Shield can no longer be used as a legal basis for transferring personal data from the European Union to the United States and the CJEU made clear that standard contractual clauses (a standard form of contract approved by the European Commission as an adequate personal data transfer mechanism, and potential alternative to the Privacy Shield) may not be a sufficient alternative. Identifying an alternative data transfer mechanism may lead to additional costs, complaints or regulatory investigations or fines. If we are otherwise unable to transfer personal data between and among countries and regions in which we operate, it could affect the manner in which we conduct our clinical trials and could adversely affect our business and financial results.

We depend on a number of third parties in relation to the operation of our business (including clinical research organizations), a number of which process personal data on our behalf. There is no assurance that our own privacy and security-related safeguards and/or any contractual measures that we enter into with these providers will protect us from the risks associated with the third-party processing, storage and transmission of such information. Any violation of data or security laws by our third-party processors could have a material adverse effect on our business and result in the fines and penalties outlined below.

Fines for certain breaches of the GDPR are significant: up to the greater of 4% of total worldwide turnover, or €20 million. In addition to the foregoing, a breach of the GDPR could result in regulatory investigations, reputational damage, orders to cease/ change our processing of our data, enforcement notices, assessment notices (for a compulsory audit), as well potential civil claims including class action type litigation where individuals suffer harm. Our actual or alleged failure to comply with the GDPR could result in enforcement actions and significant penalties against us (as outlined above), which could result in negative publicity, increase our operating, business and/or legal costs, subject us to claims or other remedies and have a material adverse effect on our clinical trials, business, financial condition, and operations.

We are also subject to evolving E.U. privacy laws on cookies, and e-marketing. The E.U. is in the process of replacing the e-Privacy Directive with a new set of rules taking the form of a regulation. The draft E-Privacy Regulation imposes strict opt-in marketing rules with limited exceptions for business-to-business communications, alters rules on third-party cookies, web beacons and similar technology and significantly increases fining powers to the same levels as the GDPR (i.e. the greater of 20 million Euros or 4% of total global annual revenue). While the e-Privacy Regulation was originally intended to be adopted on May 25, 2018 (alongside the GDPR), it is still going through the European legislative process and commentators now expect it to be adopted during the second half of 2020 or during 2021 following a transition period. We are likely to be required to expend further capital and other resources to ensure compliance with these changing laws and regulations.

We are also subject to applicable U.S. state privacy and data security laws and regulations in the states in which we operate, such as the new California Consumer Privacy Act (“CCPA”) effective as of January 2020. The CCPA provides for a private right of action for unauthorized access, theft or disclosure of personal information in certain situations with possible damage awards of \$100 to \$750 per consumer per incident, or actual damages, whichever is greater, and also permits class action lawsuits. In order to comply with such laws, we may incur substantial expenses, which may divert resources from other initiatives, and a failure to comply could impact our clinical trials, financial condition and operations.

General Risk Factors

We may become involved in lawsuits to protect or enforce our patents or other intellectual property, which could be expensive, time consuming and unsuccessful, and which could result in our patents or other intellectual property rights becoming invalidated.

Competitors may infringe our or our licensors’ patents, trademarks, copyrights or other intellectual property. To stop infringement or unauthorized use, we or our licensors may be required to file infringement claims, which can be expensive and time consuming. Any claims we or our licensors assert against perceived infringers could provoke these parties to assert counterclaims against us alleging that some or all of our patents or other intellectual property rights are not valid or that we or our licensors infringe their patents or other intellectual property rights. In addition, in a patent infringement proceeding, a court may decide that a patent of ours or our licensors is invalid or unenforceable, in whole or in part, construe the patent’s claims narrowly, or may refuse to stop the other party from using the technology at issue on the grounds that such patents do not cover the technology in question and therefore cannot be infringed. Similarly, if we assert trademark infringement claims, a court may determine that the marks we have asserted are invalid, unenforceable, or not infringed, or that the party against whom we have asserted trademark infringement claims has superior rights to the marks in question. In this case, we could ultimately be forced to cease use of such marks. In any infringement litigation, any award of monetary damages may be unlikely or very difficult to obtain, and any such award we may receive may not be commercially valuable. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that we could incur substantial litigation costs or that some of our confidential information could be compromised by disclosure during this type of litigation.

Third parties may initiate legal proceedings alleging that we or our licensors are infringing their intellectual property rights, the outcome of which would be uncertain and could have a material adverse effect on the success of our business.

Our commercial success depends upon our ability to develop, manufacture, market, or sell our or our licensors’ product candidates and use our proprietary technologies without infringing the intellectual property and other proprietary rights of third parties. There is considerable intellectual property litigation in the biotechnology and pharmaceutical industries, and we may become party to, or threatened with, future adversarial proceedings or litigation regarding intellectual property rights with respect to our products and technology, including reexamination or interference proceedings before the U.S. Patent and Trademark Office. Third parties may assert infringement claims against us based on existing or future intellectual property rights.

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If we or our licensors are found to infringe a third party's intellectual property rights, we or our licensors could be enjoined from further using certain products and technology or may be required to obtain a license from such third party to continue developing and marketing such products and technology. However, we may not be able to obtain any required license on commercially reasonable terms or at all. Even if we were able to obtain a license, it could be non-exclusive, thereby giving our competitors access to the same technologies licensed to us. We could be forced, including by court order, to cease commercializing the infringing technology or product. In addition, we could be found liable for monetary damages, including treble damages and attorneys' fees if we are found to have willfully infringed a patent or other intellectual property rights of a third party. A finding of infringement could prevent us from commercializing our product candidates or force us to cease some of our business operations, which could materially harm our business. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar negative impact on our business.

Intellectual property litigation could cause us to spend substantial resources and could distract our personnel from their normal responsibilities.

Even if resolved in our favor, litigation or other legal proceedings relating to intellectual property claims may cause us to incur significant expenses, and could distract our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and 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. Such litigation or proceedings could substantially increase our operating losses and reduce the resources available for development, sales, marketing or distribution activities. We may not have sufficient financial or other resources to adequately conduct or defend such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

In addition to seeking patents for some of our technology and products, we also rely on trade secrets, including unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect these trade secrets, in part, by entering into non-disclosure and confidentiality agreements with parties who have access to them, such as our employees, corporate collaborators, outside scientific collaborators, contract manufacturers, consultants, advisors and other third parties. However, we cannot guarantee that we have executed these agreements with each party that may have or have had access to our trade secrets, nor can we guarantee that such agreements will always be adequately drafted so as to be enforceable. If we are unable to protect the confidentiality of our trade secrets, our business and competitive position would be harmed.

Enforcing a claim that a party illegally disclosed or misappropriated a trade secret is difficult, expensive and time-consuming, and the outcome is unpredictable. In addition, because of potential differences in laws in different jurisdictions, some courts inside and outside the United States are less willing or unwilling to protect trade secrets. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, we would have no right to prevent them, or those to whom they communicate it, from using that technology or information to compete with us. If any of our trade secrets were to be disclosed to or independently developed by a competitor, our competitive position would be harmed.

We may issue additional shares of common stock, warrants or other securities to finance our growth.

We may finance the development of our product pipeline or generate additional working capital through additional equity financing. Therefore, subject to the rules of the Nasdaq, we may issue additional shares of our common stock, warrants and other equity securities of equal or senior rank, with or without stockholder approval, in a number of circumstances from time to time. The issuance by us of shares of our common stock, warrants or other equity securities of equal or senior rank will have the following effects:

- the proportionate ownership interest in us held by our existing stockholders will decrease;
- the relative voting strength of each previously outstanding share of common stock may be diminished; and
- the market price of our common stock may decline.

In addition, if we issue shares of our common stock and/or warrants in a future offering (or, in the case of our common stock, the exercise of outstanding warrants to purchase our common stock), it could be dilutive to our security holders.

If shares of our common stock become subject to the penny stock rules, it would become more difficult to trade them.

The SEC has adopted regulations which generally define a "penny stock" to be an equity security that has a market price of less than \$5.00 per share or an exercise price of less than \$5.00 per share, subject to specific exemptions, including an exemption for any securities listed on a national securities exchange. The rules impose additional sales practice requirements on broker-dealers for transactions involving "penny stock", with some exceptions. If shares of our common stock were delisted from the Nasdaq Capital Market and determined to be "penny stock", broker-dealers may find it more difficult to trade such securities and investors may find it more difficult to acquire or dispose of such securities on the secondary market.

There can be no assurance that we will ever provide liquidity to our investors through a sale of our company

While acquisitions of pharmaceutical companies like ours are not uncommon, potential investors are cautioned that no assurances can be given that any form of merger, combination, or sale of our company will take place, or that any merger, combination, or sale, even if consummated, would provide liquidity or a profit for our investors. You should not invest in our company with the expectation that we will be able to sell the business in order to provide liquidity or a profit for our investors.

We incur significant costs as a result of operating as a public company and our management is required to devote substantial time to complying with public company regulations.

As a public company, we incur significant legal, accounting and other expenses, including costs associated with our public company reporting requirements under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We must also follow the rules, regulations and requirements subsequently adopted by the SEC and the Nasdaq and any failure by us to comply with such rules and requirements could negatively affect investor confidence in us and cause the market price of our common stock to decline. Our executive officers and other personnel also need to devote substantial time and financial resources to comply with these rules, regulations and requirements.

The rules and regulations applicable to public companies have substantially increased our legal and financial compliance costs and made some activities more time-consuming and costly. If these requirements divert the attention of our management and personnel from other business concerns, they could have a material adverse effect on our business, financial condition and results of operations. The increased costs decrease our net income or increase our net loss, and may require us to reduce costs in other areas of our business. For example, we expect these rules and regulations to make it more difficult and more expensive for us to obtain director and officer liability insurance and we may be required to incur substantial costs to maintain the same or similar coverage. We cannot predict or estimate the amount or timing of additional costs we may incur to respond to these requirements. The impact of these requirements could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors, our board committees or as executive officers.

Reports published by analysts, including projections in those reports that exceed our actual results, could adversely affect the price and trading volume of our common stock.

The projections of securities research analysts may vary widely and may not accurately predict the results we actually achieve. The price of our common stock may decline if our actual results do not match the projections of these securities research analysts. Similarly, if one or more of the analysts who write reports on us downgrades our stock or publishes inaccurate or unfavorable research about our business, the price of our common stock could decline. If one or more of these analysts ceases coverage of us or fails to publish reports on us regularly, the price or trading volume of our common stock could decline.

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If securities or industry analysts do not publish research or reports about our business, the prices of our securities and trading volume could decline.

The trading market for our securities depends, in part, on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. If no securities or industry analysts commence coverage of our company, the trading prices for our securities may be negatively impacted.

We have broad discretion in the use of the net proceeds from our public offerings and private placement and may not use them effectively.

Our management has broad discretion in the application of the net proceeds from our public offerings and private placement and could spend the proceeds in ways that do not enhance the value of our common stock. Because of the number and variability of factors that will determine our use of the net proceeds from our completed offerings, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could delay the development of our product candidates or have a material adverse effect on our business. Pending their use, we may invest the net proceeds from the offerings in a manner that does not produce income or that loses value. If we do not apply or invest the net proceeds from the offerings in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause the price of our securities to decline.

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

On May 22, 2020, we entered into a securities purchase agreement (the “Securities Purchase Agreement”) with Pfizer Inc. (“Pfizer”), pursuant to which the Company, in a private placement transaction (the “Private Placement”), agreed to issue and sell to Pfizer 674,156 shares of common stock, par value \$0.0001 per share (the “Private Shares”), and a warrant to purchase 505,617 shares of common stock (the “Pfizer Warrant”). The closing of the Private Placement occurred on May 27, 2020. In connection with the closing, Pfizer paid consideration equating to \$4.45 for one share of common stock and an accompanying warrant to purchase 0.75 shares of common stock in the Private Placement, for net proceeds of \$3.0 million (assuming no exercise of the Private Warrant). The Pfizer Warrant is exercisable immediately upon issuance at an exercise price of \$4.90 for each whole share and will expire three years from the date of issuance. The Private Shares and Pfizer Warrant are immediately separable. The exercise price and number of shares of common stock issuable upon exercise of the Pfizer Warrant are subject to adjustment in the event of stock dividends, stock splits and certain other events affecting the common stock.

The Private Placement is exempt from registration pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended, and corresponding provisions of state securities or “blue sky” laws, as a transaction by an issuer not involving a public offering. Pfizer represented that it was acquiring the Private Shares, Pfizer Warrant and shares of common stock issuable upon exercise of the Pfizer Warrant for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof. Accordingly, none of the Private Shares, the Pfizer Warrant nor the shares of common stock issuable upon exercise of the Pfizer Warrant have been registered under the Securities Act and such securities may not be offered or sold in the United States absent registration or an exemption from registration under the Securities Act and any applicable state securities laws.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not Applicable.

ITEM 5. OTHER INFORMATION

None.

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ITEM 6. EXHIBITS

EXHIBIT INDEX

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation of ContraFect Corporation, dated August 1, 2014, and Certificate of Amendment, dated May 9, 2016, Certificate of Amendment dated May 2, 2017, and Certificate of Amendment dated February 3, 2020 (incorporated by reference to Exhibit 3.1 of the Company' Form 10-K (File No. 001-36577) filed with the SEC on March 18, 2020)
3.2	Amended and Restated Bylaws*
4.1	Warrant to Purchase Common Stock, dated May 27, 2020 (incorporated by reference to Exhibit 4.1 of the Company's Form 8-K (File No. 001-36577) filed with the SEC on May 27, 2020)
4.2	Warrant Agreement, dated May 27, 2020, by and between ContraFect Corporation and American Stock Transfer & Trust Company, LLC (incorporated by reference to Exhibit 4.2 of the Company's Form 8-K (File No. 001-36577) filed with the SEC on May 27, 2020)
4.3	Global Warrant Certificate, dated May 27, 2020 (incorporated by reference to Exhibit 4.3 of the Company's Form 8-K (File No. 001-36577) filed with the SEC on May 27, 2020)
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) and Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Principal Financial Officer pursuant to Rule 13a-14(a) and Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS*	XBRL Instance Document
101.SCH*	XBRL Taxonomy Extension Schema Document
101.CAL*	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	XBRL Taxonomy Extension Presentation Linkbase Document

* Filed herewith

** Furnished 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.

ContraFect Corporation

Date: November 13, 2020

By: /s/ Roger J. Pomerantz
Roger J. Pomerantz, M.D., F.A.C.P.
President and Chief Executive Officer (Principal Executive Officer)

Date: November 13, 2020

By: /s/ Michael Messinger
Michael Messinger
Chief Financial Officer (Principal Financial Officer)

**AMENDED AND RESTATED
BYLAWS
OF
CONTRAFECT CORPORATION
(a Delaware corporation)**

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**AMENDED AND RESTATED BYLAWS
OF
CONTRAFECT CORPORATION**

ARTICLE I - CORPORATE OFFICES

1.1 REGISTERED OFFICE.

The registered office of ContraFect Corporation (the "Corporation") shall be fixed in the Corporation's certificate of incorporation, as the same may be amended from time to time (the "certificate of incorporation").

1.2 OTHER OFFICES.

The Corporation may have other offices at any place or places, either within or outside the State of Delaware, as the board of directors (the "Board") shall from time to time determine or the business of the Corporation may from time to time require.

ARTICLE II - MEETINGS OF STOCKHOLDERS

2.1 PLACE OF MEETINGS.

Meetings of stockholders shall be held at any place, within or outside the State of Delaware, designated by the Board. The Board may, in its sole discretion, determine that a meeting of stockholders shall not be held at any place, but may instead be held solely by means of remote communication as authorized by Section 211(a) of the General Corporation Law of the State of Delaware (the "DGCL"). In the absence of any such designation or determination, stockholders' meetings shall be held at the Corporation's principal executive office.

2.2 ANNUAL MEETING.

The Board shall designate the date and time of the annual meeting. At the annual meeting, directors shall be elected and other proper business properly brought before the meeting in accordance with Section 2.4 of these bylaws may be transacted.

2.3 SPECIAL MEETING.

A special meeting of the stockholders may be called at any time by the Board, chairperson of the Board or the chief executive officer, but such special meetings may not be called by any other person or persons.

No business may be transacted at such special meeting other than matters relating to the purpose or purposes specified in such notice to stockholders. Nothing contained in this paragraph of this Section 2.3 shall be construed as limiting, fixing, or affecting the time when a meeting of stockholders called by action of the Board may be held.

2.4 ADVANCE NOTICE PROCEDURES FOR BUSINESS BROUGHT BEFORE A MEETING.

(a) At an annual meeting of the stockholders, only such business shall be conducted as shall have been properly brought before the meeting. To be properly brought before an annual meeting, business must be (i) brought before the meeting by the Corporation and specified in the notice of meeting given by or at the direction of the Board, (ii) brought before the meeting by or at the direction of the Board (or a committee thereof) or (iii) otherwise properly brought before the meeting by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such business is proposed, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.4 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.4 as to such business. Except for proposals properly made in accordance with Rule 14a-8 under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (as so amended and inclusive of such rules and regulations, the "Exchange Act"), and included in the notice of meeting given by or at the direction of the Board, the foregoing clause (iii) shall be the exclusive means for a stockholder to propose business to be brought before an annual meeting of the stockholders. Stockholders shall not be permitted to propose business to be brought before a special meeting of the stockholders, and the only matters that may be brought before a special meeting are matters relating to the purpose or purposes specified in the notice of meeting given by or at the direction of the person calling the meeting pursuant to Section 2.3 of these bylaws. Stockholders seeking to nominate persons for election to the Board must comply with Section 2.5 of these bylaws, and this Section 2.4 shall not be applicable to nominations except as expressly provided in Section 2.5 of these bylaws.

(b) Without qualification, for business to be properly brought before an annual meeting by a stockholder pursuant to clause (iii) of the second sentence of Section 2.4(a) of these bylaws, the stockholder must (i) provide Timely Notice (as defined below) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.4. To be timely, a stockholder's notice must be delivered to, or mailed and received by the secretary at, the principal executive offices of the Corporation not less than ninety (90) days nor more than one hundred twenty (120) days prior to the first anniversary of the preceding year's annual meeting; provided, however, that if the date of the annual meeting is more than thirty (30) days before or more than sixty (60) days after such anniversary date, notice by the stockholder to be timely must be so delivered, or mailed and received, not earlier than the close of business on the one hundred twentieth (120th) day prior

to such annual meeting and not later than the later of the close of business on the ninetieth (90th) day prior to such annual meeting and the close of business on the tenth (10th) day following the day on which public disclosure of the date of such annual meeting was first made (such notice within such time periods, "Timely Notice"). In no event shall any adjournment or postponement of an annual meeting or the announcement thereof commence a new time period (or extend any time period) for the giving of Timely Notice as described above.

(c) To be in proper form for purposes of this Section 2.4, a stockholder's notice to the secretary of the Corporation shall set forth (or specifically state that any such Disclosable Interest (as defined below) or any such disclosure required by clause (iii) of this subsection (c) does not apply to such Proposing Person):

(i) As to each Proposing Person (as defined below), (A) the name and address of such Proposing Person (including, without limitation, if applicable, the name and address that appear on the Corporation's books and records) and (B) the class or series and number of shares of the Corporation that are, directly or indirectly, owned of record or beneficially owned (within the meaning of Rule 13d-3 under the Exchange Act) by such Proposing Person, except that such Proposing Person shall in all events be deemed to beneficially own any shares of any class or series of the Corporation as to which such Proposing Person has a right to acquire beneficial ownership at any time in the future (the disclosures to be made pursuant to the foregoing clauses (A) and (B) are referred to as "Stockholder Information");

(ii) As to each Proposing Person, (A) any derivative, swap or other transaction or series of transactions engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to give such Proposing Person economic risk similar to ownership of shares of any class or series of the Corporation, including, without limitation, due to the fact that the value of such derivative, swap or other transactions are determined by reference to the price, value or volatility of any shares of any class or series of the Corporation, or which derivative, swap or other transactions provide, directly or indirectly, the opportunity to profit from any increase in the price or value of shares of any class or series of the Corporation ("Synthetic Equity Interests"), which Synthetic Equity Interests shall be disclosed without regard to whether (x) the derivative, swap or other transactions convey any voting rights in such shares to such Proposing Person, (y) the derivative, swap or other transactions are required to be, or are capable of being, settled through delivery of such shares or (z) such Proposing Person may have entered into other transactions that hedge or mitigate the economic effect of such derivative, swap or other transactions, (B) any proxy (other than a revocable proxy or consent given in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a solicitation statement filed on Schedule 14A), agreement, arrangement, understanding or

relationship pursuant to which such Proposing Person has or shares a right to vote any shares of any class or series of the Corporation, (C) any agreement, arrangement, understanding or relationship, including, without limitation, any repurchase or similar so-called “stock borrowing” agreement or arrangement, engaged in, directly or indirectly, by such Proposing Person, the purpose or effect of which is to mitigate loss to, reduce the economic risk (of ownership or otherwise) of shares of any class or series of the Corporation by, manage the risk of share price changes for, or increase or decrease the voting power of, such Proposing Person with respect to the shares of any class or series of the Corporation, or which provides, directly or indirectly, the opportunity to profit from any decrease in the price or value of the shares of any class or series of the Corporation (“Short Interests”), (D) any rights to dividends on the shares of any class or series of the Corporation owned beneficially by such Proposing Person that are separated or separable from the underlying shares of the Corporation, (E) any performance related fees (other than an asset based fee) that such Proposing Person is entitled to based on any increase or decrease in the price or value of shares of any class or series of the Corporation, or any Synthetic Equity Interests or Short Interests, if any, (F)(x) if such Proposing Person is not a natural person, the identity of the natural person or persons associated with such Proposing Person responsible for the formulation of and decision to propose the business to be brought before the meeting (such person or persons, the “Responsible Person”), the manner in which such Responsible Person was selected, any fiduciary duties owed by such Responsible Person to the equity holders or other beneficiaries of such Proposing Person, the qualifications and background of such Responsible Person and any material interests or relationships of such Responsible Person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, and (y) if such Proposing Person is a natural person, the qualifications and background of such natural person and any material interests or relationships of such natural person that are not shared generally by any other record or beneficial holder of the shares of any class or series of the Corporation and that reasonably could have influenced the decision of such Proposing Person to propose such business to be brought before the meeting, (G) any significant equity interests or any Synthetic Equity Interests or Short Interests in any principal competitor of the Corporation held by such Proposing Persons, (H) any direct or indirect interest of such Proposing Person in any contract with the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation (including, without limitation, in any such case, any employment agreement, collective bargaining agreement or consulting agreement), (I) any pending or threatened litigation in which such Proposing Person is a party or material participant involving the Corporation or any of its officers or directors, or any affiliate of the Corporation,

(J) any material transaction occurring during the prior twelve months between such Proposing Person, on the one hand, and the Corporation, any affiliate of the Corporation or any principal competitor of the Corporation, on the other hand, (K) a summary of any material discussions regarding the business proposed to be brought before the meeting (x) between or among any of the Proposing Persons or (y) between or among any Proposing Person and any other record or beneficial holder of the shares of any class or series of the Corporation (including, without limitation, their names) and (L) any other information relating to such Proposing Person that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies or consents by such Proposing Person in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act (the disclosures to be made pursuant to the foregoing clauses (A) through (L) are referred to as "Disclosable Interests"); provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and

(iii) As to each item of business that the stockholder proposes to bring before the annual meeting, (A) a reasonably brief description of the business desired to be brought before the annual meeting, the reasons for conducting such business at the annual meeting and any material interest in such business of each Proposing Person, (B) the text of the proposal or business (including, without limitation, the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the bylaws of the Corporation, the language of the proposed amendment), (C) a reasonably detailed description of all agreements, arrangements and understandings between or among any of the Proposing Persons or between or among any Proposing Person and any other person or entity (including, without limitation, their names) in connection with the proposal of such business by such stockholder, (D) a representation that the stockholder is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such business, (E) a representation whether the Proposing Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation's outstanding capital stock required to approve or adopt the proposal and/or (2) otherwise to solicit proxies or votes from stockholders in support of such proposal and (F) any other information relating to such item of business that would be required to be disclosed in a proxy statement or other filing required to be made in connection with solicitations of proxies in support of the business proposed to be brought before the meeting pursuant to Section 14(a) of the Exchange Act; provided, however, that the disclosures required

by this paragraph (c)(iii) shall not include any disclosures with respect to any broker, dealer, commercial bank, trust company or other nominee who is a Proposing Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner.

(d) For purposes of this Section 2.4, the term “Proposing Person” shall mean (i) the stockholder providing the notice of business proposed to be brought before an annual meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the business proposed to be brought before the annual meeting is made, (iii) any affiliate or associate (each within the meaning of Rule 12b-2 under the Exchange Act for the purposes of these bylaws) of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or beneficial owner (or any of their respective affiliates or associates) is Acting in Concert (as defined below).

(e) A person shall be deemed to be “Acting in Concert” with another person for purposes of these bylaws if such person knowingly acts (whether or not pursuant to an express agreement, arrangement or understanding) in concert with, or towards a common goal relating to the management, governance or control of the Corporation in parallel with, such other person where (i) each person is conscious of the other person’s conduct or intent and this awareness is an element in their decision-making processes and (ii) at least one additional factor suggests that such persons intend to act in concert or in parallel, which such additional factors may include, without limitation, exchanging information (whether publicly or privately), attending meetings, conducting discussions, or making or soliciting invitations to act in concert or in parallel; *provided*, that a person shall not be deemed to be Acting in Concert with any other person solely as a result of the solicitation or receipt of revocable proxies or consents from such other person in response to a solicitation made pursuant to, and in accordance with, Section 14(a) of the Exchange Act by way of a proxy or consent solicitation statement filed on Schedule 14A. A person Acting in Concert with another person shall be deemed to be Acting in Concert with any third party who is also Acting in Concert with such other person.

(f) A stockholder providing notice of business proposed to be brought before an annual meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.4 shall be true and correct as of the record date for determining stockholders entitled to notice of the annual meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the annual meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(g) Notwithstanding anything in these bylaws to the contrary and except as otherwise expressly provided in any applicable rule or regulation promulgated under the Exchange Act, no business shall be conducted at an annual meeting except in accordance with this Section 2.4. The presiding person of an annual meeting of stockholders shall have the power and duty (a) to determine that any business was not properly brought before the meeting in accordance with this Section 2.4 (including whether the stockholder or beneficial owner, if any, on whose behalf the business proposed to be brought before the annual meeting is made, solicited (or is part of a group that solicited) or did not so solicit, as the case may be, proxies or votes in support of such stockholder's business in compliance with such stockholder's representation as required by clause (c)(iii)(E) of this Section 2.4); and (b) if any proposed business was not proposed in compliance with this Section 2.4 to declare to the meeting that any such business not properly brought before the meeting shall not be transacted.

(h) The foregoing notice requirements of this Section 2.4 shall be deemed satisfied by a stockholder with respect to business other than a nomination if the stockholder has notified the Corporation of his, her or its intention to present a proposal at an annual meeting in compliance with applicable rules and regulations promulgated under the Exchange Act and such stockholder's proposal has been included in a proxy statement that has been prepared by the Corporation to solicit proxies for such annual meeting. Nothing in this Section 2.4 shall be deemed to affect the rights of stockholders to request inclusion of proposals in the Corporation's proxy statement pursuant to Rule 14a-8 under the Exchange Act.

(i) For purposes of these bylaws, "public disclosure" shall mean disclosure in a press release reported by a national news service or in a document publicly filed by the Corporation with the Securities and Exchange Commission pursuant to Sections 13, 14 or 15(d) of the Exchange Act.

(j) Notwithstanding the foregoing provisions of this Section 2.4, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the annual meeting to present proposed business, such proposed business shall not be transacted, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.4, except as provided under Rule 14a-8 under the Exchange Act for a stockholder's proposal included in the Corporation's proxy statement pursuant to such rule, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the annual meeting and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the annual meeting.

(k) Notwithstanding the foregoing provisions of this Section 2.4, a stockholder shall also comply with all applicable requirements of the Exchange Act with respect to the matters set forth in this Section 2.4; *provided, however*, that any references in these bylaws to the Exchange Act are not intended to and shall not limit any requirements applicable to proposals as to any business to be considered pursuant to this Section 2.4 (including paragraph (a)(iii) hereof), and compliance with paragraph (a)(iii) of this Section 2.4 shall be the exclusive means for a stockholder to submit business (other than, as provided in the first sentence of paragraph (h) of this Section 2.4, business brought properly under and in compliance with Rule 14a-8 of the Exchange Act, as may be amended from time to time).

2.5 ADVANCE NOTICE PROCEDURES FOR NOMINATIONS OF DIRECTORS.

(a) Nominations of any person for election to the Board at an annual meeting or at a special meeting (but, in the case of a special meeting, only if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting) may be made at such meeting only (i) by or at the direction of the Board or any committee thereof, or (ii) by a stockholder who (A) was a stockholder of record of the Corporation (and, with respect to any beneficial owner, if different, on whose behalf such nomination is proposed to be made, only if such beneficial owner was the beneficial owner of shares of the Corporation) both at the time of giving the notice provided for in this Section 2.5 and at the time of the meeting, (B) is entitled to vote at the meeting and (C) has complied with this Section 2.5 as to such nomination. The foregoing clause (ii) shall be the exclusive means for a stockholder to make any nomination of a person or persons for election to the Board to be considered by the stockholders at an annual meeting or special meeting.

(b) Without qualification, for a stockholder to make any nomination of a person or persons for election to the Board at an annual meeting, the stockholder must (i) provide Timely Notice (as defined in Section 2.4(b) of these bylaws) thereof in writing and in proper form to the secretary of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. Without qualification, if the election of directors is a matter specified in the notice of meeting given by or at the direction of the person calling such special meeting, then for a stockholder to make any nomination of a person or persons for election to such position(s) as specified in the notice of the special meeting, the stockholder must (i) provide timely notice thereof in writing and in proper form to the secretary of the Corporation at the principal executive offices of the Corporation and (ii) provide any updates or supplements to such notice at the times and in the forms required by this Section 2.5. To be timely, a stockholder's notice for nominations to be made at a special meeting must be delivered to, or mailed and received at, the principal executive offices of the Corporation not earlier than the close of business on the one hundred twentieth (120th) day prior to such special meeting and not later than the later of the close of business on the ninetieth (90th) day prior to such special meeting and the close of business on the tenth (10^h) day following the day on which public disclosure (as defined in Section 2.4(i) of these bylaws) of the date of such special meeting was first made. In no event shall any

adjournment or postponement of an annual meeting or special meeting or the announcement thereof commence a new time period (or extend any time period) for the giving of a stockholder's notice as described above.

(c) To be in proper form for purposes of this Section 2.5, a stockholder's notice to the secretary of the Corporation shall set forth (or specifically state that any such Disclosable Interest or Nominee Information (as defined below) does not apply to such Nominating Person (as defined below) or proposed nominee, as applicable):

(i) As to each Nominating Person, the Stockholder Information (as defined in Section 2.4(c)(i) of these bylaws) except that for purposes of this Section 2.5, the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(i);

(ii) As to each Nominating Person, any Disclosable Interests (as defined in Section 2.4(c)(ii), except that for purposes of this Section 2.5 the term "Nominating Person" shall be substituted for the term "Proposing Person" in all places it appears in Section 2.4(c)(ii) and the disclosure in clause (L) of Section 2.4(c)(ii) shall be made with respect to the election of directors at the meeting provided, however, that Disclosable Interests shall not include any such disclosures with respect to the ordinary course business activities of any broker, dealer, commercial bank, trust company or other nominee who is a Nominating Person solely as a result of being the stockholder directed to prepare and submit the notice required by these bylaws on behalf of a beneficial owner; and;

(iii) As to each person whom a Nominating Person proposes to nominate for election as a director, (A) all information with respect to such proposed nominee that would be required to be set forth in a stockholder's notice pursuant to this Section 2.5 if such proposed nominee were a Nominating Person, (B) all information relating to such proposed nominee that is required to be disclosed in a proxy statement or other filings required to be made in connection with solicitations of proxies for election of directors in a contested election pursuant to Section 14(a) under the Exchange Act (including, without limitation, such proposed nominee's written consent to being named in the proxy statement as a nominee and to serving as a director if elected), (C) a description of all direct and indirect compensation and other material monetary agreements, arrangements and understandings during the past three (3) years, and any other material relationships, between or among any Nominating Person, on the one hand, and each proposed nominee, his or her respective affiliates and associates and any other persons with whom such proposed nominee (or any of his or her respective affiliates and associates) is Acting in Concert (as defined in Section 2.4(e) of these bylaws), on the other hand, including, without limitation, all information that would be required to be disclosed pursuant

to Item 404 under Regulation S-K if such Nominating Person were the “registrant” for purposes of such rule and the proposed nominee were a director or executive officer of such registrant (the disclosures to be made pursuant to the foregoing clauses (A) through (C) are referred to as “Nominee Information”), (D) a representation that the Nominating Person is a holder of record of stock of the Corporation entitled to vote at such meeting and intends to appear in person or by proxy at the meeting to propose such nomination, (E) a representation whether the Nominating Person intends or is part of a group which intends (1) to deliver a proxy statement and/or form of proxy to holders of at least the percentage of the Corporation’s outstanding capital stock required to elect the nominee and/or (2) otherwise to solicit proxies or votes from stockholders in support of such nomination and (F) a completed and signed questionnaire, representation and agreement as provided in Section 2.5(g); and

(iv) The Corporation may require any proposed nominee to furnish such other information (A) as may reasonably be required by the Corporation to determine the eligibility of such proposed nominee to serve as an independent director of the Corporation in accordance with the Corporation’s Corporate Governance Guidelines or (B) that could be material to a reasonable stockholder’s understanding of the independence or lack of independence of such proposed nominee.

(d) For purposes of this Section 2.5, the term “Nominating Person” shall mean (i) the stockholder providing the notice of the nomination proposed to be made at the meeting, (ii) the beneficial owner or beneficial owners, if different, on whose behalf the notice of the nomination proposed to be made at the meeting is made, (iii) any affiliate or associate of such stockholder or beneficial owner and (iv) any other person with whom such stockholder or such beneficial owner (or any of their respective affiliates or associates) is Acting in Concert.

(e) A stockholder providing notice of any nomination proposed to be made at a meeting shall further update and supplement such notice, if necessary, so that the information provided or required to be provided in such notice pursuant to this Section 2.5 shall be true and correct as of the record date for determining stockholders entitled to notice of the meeting and as of the date that is ten (10) business days prior to the meeting or any adjournment or postponement thereof, and such update and supplement shall be delivered to, or mailed and received by, the secretary of the Corporation at the principal executive offices of the Corporation not later than five (5) business days after the record date for determining stockholders entitled to notice of the meeting (in the case of the update and supplement required to be made as of the record date), and not later than eight (8) business days prior to the date for the meeting or, if practicable, any adjournment or postponement thereof (and, if not practicable, on the first practicable date prior to the date to which the meeting has been adjourned or postponed) (in the case of the update and supplement required to be made as of ten (10) business days prior to the meeting or any adjournment or postponement thereof).

(f) Notwithstanding anything in these bylaws to the contrary, no person shall be eligible for election as a director of the Corporation unless nominated in accordance with this Section 2.5, except as otherwise expressly provided in any applicable rule or regulation promulgated under the Exchange Act. The presiding person at any meeting of stockholders shall have the power and duty to (a) determine that a nomination was not properly made in accordance with this Section 2.5 (including whether the stockholder or beneficial owner, if any, on whose behalf the nomination was made, solicited or is part of a group that solicited) or did not so solicit, as the case may be, proxies or votes in support of such stockholder's nomination in compliance with such stockholder's representation as required by clause (c)(iii)(E) of this Section 2.5); and (b) if any proposed nomination was not made in compliance with this Section 2.5 to declare such determination to the meeting that the defective nomination shall be disregarded.

(g) To be eligible to be a nominee for election as a director of the Corporation, the proposed nominee must deliver (in accordance with the time periods prescribed for delivery of notice under this Section 2.5) to the secretary of the Corporation at the principal executive offices of the Corporation a written questionnaire with respect to the background and qualification of such proposed nominee (which questionnaire shall be provided by the secretary upon written request) and a written representation and agreement (in form provided by the secretary upon written request) that such proposed nominee (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any person or entity as to how such proposed nominee, if elected as a director of the Corporation, will act or vote on any issue or question (a "Voting Commitment") that has not been disclosed to the Corporation or (B) any Voting Commitment that could limit or interfere with such proposed nominee's ability to comply, if elected as a director of the Corporation, with such proposed nominee's fiduciary duties under applicable law, (ii) is not, and will not become a party to, any agreement, arrangement or understanding with any person or entity other than the Corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with candidacy, service or action as a director that has not been disclosed to the Corporation and (iii) in such proposed nominee's individual capacity and on behalf of the stockholder (and the beneficial owner, if different, on whose behalf the nomination is made) would be in compliance, if elected as a director of the Corporation, and will comply with applicable publicly disclosed corporate governance, conflict of interest, confidentiality and stock ownership and trading policies and guidelines of the Corporation.

(h) In addition to the requirements of this Section 2.5 with respect to any nomination proposed to be made at a meeting, each Nominating Person shall comply with all applicable requirements of the Exchange Act with respect to any such nominations.

(i) Notwithstanding the foregoing provisions of this Section 2.5, unless otherwise required by law, if the stockholder (or a qualified representative of the stockholder) does not appear at the meeting to present the proposed nomination, such proposed nomination shall not be considered, notwithstanding that proxies in respect of such vote may have been received by the Corporation. For purposes of this Section 2.5, to be considered a qualified representative of the stockholder, a person must be a duly authorized officer, manager or partner of such stockholder or must be authorized by a writing executed by such stockholder or an electronic transmission delivered by such stockholder to act for such stockholder as proxy at the meeting of stockholders and such person must produce such writing or electronic transmission, or a reliable reproduction of the writing or electronic transmission, at the meeting.

2.6 NOTICE OF STOCKHOLDERS' MEETINGS.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the notice of any meeting of stockholders shall be given in accordance with either Section 2.7 or Section 8.1 of these bylaws not less than ten (10) nor more than sixty (60) days before the date of the meeting to each stockholder entitled to vote at such meeting as of the record date for determining the stockholders entitled to notice of the meeting. The notice shall specify the place, if any, date and hour of the meeting, the record date for determining the stockholders entitled to vote at the meeting (if such date is different from the record date for stockholders entitled to notice of the meeting), the means of remote communication, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such meeting, and, in the case of a special meeting, the purpose or purposes for which the meeting is called.

2.7 MANNER OF GIVING NOTICE; AFFIDAVIT OF NOTICE.

Notice of any meeting of stockholders shall be deemed given:

- (a) if mailed, when deposited in the United States mail, postage prepaid, directed to the stockholder at such stockholder's address as it appears on the Corporation's records; or
- (b) if electronically transmitted, as provided in Section 8.1 of these bylaws.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or any other agent of the Corporation that the notice has been given by mail or by a form of electronic transmission, as applicable, shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

2.8 QUORUM.

Unless otherwise provided by law, the certificate of incorporation or these bylaws, the holders of a majority in voting power of the capital stock issued and outstanding and entitled to

vote, present in person, or by remote communication, if applicable, or represented by proxy, shall constitute a quorum for the transaction of business at all meetings of the stockholders. A quorum, once established at a meeting, shall not be broken by the withdrawal of enough votes to leave less than a quorum. If, however, a quorum is not present or represented at any meeting of the stockholders, then either (a) the chairperson of the meeting or (b) a majority in voting power of the stockholders entitled to vote thereon, present in person, or by remote communication, if applicable, or represented by proxy, shall have power to adjourn the meeting from time to time in the manner provided in Section 2.9 of these bylaws until a quorum is present or represented. At such adjourned meeting at which a quorum is present or represented, any business may be transacted that might have been transacted at the meeting as originally noticed.

2.9 ADJOURNED MEETING; NOTICE.

When a meeting is adjourned to another time or place, unless these bylaws otherwise require, notice need not be given of the adjourned meeting if the time, place, if any, thereof, and the means of remote communications, if any, by which stockholders and proxy holders may be deemed to be present in person and vote at such adjourned meeting are announced at the meeting at which the adjournment is taken. At the adjourned meeting, the Corporation may transact any business which might have been transacted at the original meeting. If the adjournment is for more than thirty (30) days, or if after the adjournment a new record date for determining the stockholders entitled to vote is fixed for the adjourned meeting, a notice of the adjourned meeting shall be given to each stockholder of record entitled to vote at the adjourned meeting as of the record date for determining the stockholders entitled to notice of the adjourned meeting.

2.10 CONDUCT OF BUSINESS.

Meetings of stockholders shall be presided over by the chairperson of the Board or such other officer or director of the Corporation as designated by the Board or the chairperson of the Board. The date and time of the opening and the closing of the polls for each matter upon which the stockholders will vote at a meeting shall be announced at the meeting by the person presiding over the meeting. The Board may adopt by resolution such rules and regulations for the conduct of the meeting of stockholders as it shall deem appropriate. Except to the extent inconsistent with such rules and regulations as adopted by the Board, the person presiding over any meeting of stockholders shall have the right and authority to convene and (for any or no reason) to recess and/or adjourn the meeting, to prescribe such rules, regulations and procedures (which need not be in writing) and to do all such acts as, in the judgment of such presiding person, are appropriate for the proper conduct of the meeting. Such rules, regulations or procedures, whether adopted by the Board or prescribed by the presiding person of the meeting, may include, without limitation, the following: (a) the establishment of an agenda or order of business for the meeting; (b) rules and procedures for maintaining order at the meeting and the safety of those present (including, without limitation, rules and procedures for removal of disruptive persons from the meeting); (c) limitations on attendance at or participation in the meeting to stockholders entitled to vote at the

meeting, their duly authorized and constituted proxies or such other persons as the presiding person of the meeting shall determine; (d) restrictions on entry to the meeting after the time fixed for the commencement thereof; and (e) limitations on the time allotted to questions or comments by participants. The presiding person at any meeting of stockholders, in addition to making any other determinations that may be appropriate to the conduct of the meeting (including, without limitation, determinations with respect to the administration and/or interpretation of any of the rules, regulations or procedures of the meeting, whether adopted by the Board or prescribed by the person presiding over the meeting), shall, if the facts warrant, determine and declare to the meeting that a matter or business was not properly brought before the meeting and if such presiding person should so determine, such presiding person shall so declare to the meeting and any such matter or business not properly brought before the meeting shall not be transacted or considered. Unless and to the extent determined by the Board or the person presiding over the meeting, meetings of stockholders shall not be required to be held in accordance with the rules of parliamentary procedure.

2.11 VOTING.

The stockholders entitled to vote at any meeting of stockholders shall be determined in accordance with the provisions of Section 2.13 of these bylaws, subject to Section 217 (relating to voting rights of fiduciaries, pledgors and joint owners of stock) and Section 218 (relating to voting trusts and other voting agreements) of the DGCL.

Except as may be otherwise provided in the certificate of incorporation or these bylaws, each stockholder entitled to vote at any meeting of stockholders shall be entitled to one (1) vote for each share of capital stock held by such stockholder.

At all duly called or convened meetings of stockholders, at which a quorum is present, for the election of directors, a plurality of the votes cast shall be sufficient to elect a director. All other elections and questions presented to the stockholders at a duly called or convened meeting, at which a quorum is present, shall, unless a different or minimum vote is required by the certificate of incorporation, these bylaws, the rules or regulations of any stock exchange applicable to the Corporation, or any law or regulation applicable to the Corporation or its securities, in which case such different or minimum vote shall be the applicable vote on the matter, be decided by the affirmative vote of the holders of a majority in voting power of the votes cast affirmatively or negatively (excluding abstentions) at the meeting by the holders entitled to vote thereon.

2.12 STOCKHOLDER ACTION BY WRITTEN CONSENT WITHOUT A MEETING.

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders.

2.13 RECORD DATE FOR STOCKHOLDER NOTICE; VOTING.

In order that the Corporation may determine the stockholders entitled to notice of any meeting of stockholders or any adjournment thereof, the Board may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board, and which record date shall, unless otherwise required by law, not be more than sixty (60) nor less than ten (10) days before the date of such meeting. If the Board so fixes a date, such date shall also be the record date for determining the stockholders entitled to vote at such meeting unless the Board determines, at the time it fixes such record date, that a later date on or before the date of the meeting shall be the date for making such determination. If no record date is fixed by the Board, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; *provided, however*, that the Board may fix a new record date for determination of stockholders entitled to vote at the adjourned meeting, and in such case shall also fix as the record date for stockholders entitled to notice of such adjourned meeting the same or an earlier date as that fixed for determination of stockholders entitled to vote in accordance herewith at the adjourned meeting.

In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights, or entitled to exercise any rights in respect of any change, conversion or exchange of stock or for the purpose of any other lawful action, the Board may fix a record date, which shall not be more than sixty (60) days prior to such other action. If no such record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board adopts the resolution relating thereto.

2.14 PROXIES.

Each stockholder entitled to vote at a meeting of stockholders may authorize another person or persons to act for such stockholder by proxy, but no such proxy shall be voted or acted upon after three (3) years from its date, unless the proxy provides for a longer period. The revocability of a proxy that states on its face that it is irrevocable shall be governed by the applicable provisions of Section 212 of the DGCL. A proxy may be in the form of a telegram, cablegram or other means of electronic transmission which sets forth or is submitted with information from which it can be determined that the telegram, cablegram or other means of electronic transmission was authorized by the stockholder.

2.15 LIST OF STOCKHOLDERS ENTITLED TO VOTE.

The officer who has charge of the stock ledger of the Corporation shall prepare and make, at least ten (10) days before every meeting of stockholders, a complete list of the stockholders

entitled to vote at the meeting (*provided, however*, if the record date for determining the stockholders entitled to vote is less than ten (10) days before the date of the meeting, the list shall reflect the stockholders entitled to vote as of the tenth day before the date of the meeting), arranged in alphabetical order, and showing the address of each stockholder and the number of shares registered in the name of each stockholder. The Corporation shall not be required to include electronic mail addresses or other electronic contact information on such list. Such list shall be open to the examination of any stockholder, for any purpose germane to the meeting for a period of at least ten (10) days prior to the meeting: (a) on a reasonably accessible electronic network, *provided that* the information required to gain access to such list is provided with the notice of the meeting, or (b) during ordinary business hours, at the Corporation's principal executive office. In the event that the Corporation determines to make the list available on an electronic network, the Corporation may take reasonable steps to ensure that such information is available only to stockholders of the Corporation. If the meeting is to be held at a place, then the list shall be produced and kept at the time and place of the meeting during the whole time thereof, and may be inspected by any stockholder who is present. If the meeting is to be held solely by means of remote communication, then the list shall also be open to the examination of any stockholder during the whole time of the meeting on a reasonably accessible electronic network, and the information required to access such list shall be provided with the notice of the meeting. Except as otherwise provided by law, the stock ledger shall be the only evidence as to the identity of the stockholders entitled to vote in person or by proxy at any meeting of stockholders, and as to the stockholders entitled to examine the list of stockholders.

2.16 POSTPONEMENT, ADJOURNMENT AND CANCELLATION OF MEETING.

Any previously scheduled annual or special meeting of the stockholders may be postponed or adjourned, and any previously scheduled annual or special meeting of the stockholders may be canceled, by resolution of the Board.

2.17 INSPECTORS OF ELECTION.

Before any meeting of stockholders, the Board shall appoint an inspector or inspectors of election to act at the meeting or its adjournment or postponement and make a written report thereof. The number of inspectors shall be either one (1) or three (3). The Corporation may designate one or more persons as alternate inspectors to replace any inspector who fails to act. If any person appointed as inspector or alternate fails to appear or fails or refuses to act, then the chairperson of the meeting may, and upon the request of any stockholder or a stockholder's proxy shall, appoint a person to fill that vacancy. Unless otherwise required by law, inspectors may be officers, employees or agents of the Corporation. Such inspectors shall have the duties prescribed by law. Each inspector, before entering upon the discharge of his or her duties, shall take and sign an oath to execute faithfully the duties of inspector with strict impartiality and according to the best of his or her ability. If there are three (3) inspectors of election, the decision, act or certificate of a majority is effective in all respects as the decision, act or certificate of all. Any report or certificate made by the inspectors of election is prima facie evidence of the facts stated therein.

ARTICLE III - DIRECTORS

3.1 POWERS.

Subject to the provisions of the DGCL and any limitations in the certificate of incorporation, the business and affairs of the Corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board.

3.2 NUMBER OF DIRECTORS.

The authorized number of directors shall be determined from time to time by resolution of the Board, provided the Board shall consist of at least one (1) member. No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

3.3 ELECTION, QUALIFICATION AND TERM OF OFFICE OF DIRECTORS.

Except as provided in Section 3.4 of these bylaws, each director, including, without limitation, a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until such director's successor is elected and qualified or until such director's earlier death, resignation or removal. Directors need not be stockholders unless so required by the certificate of incorporation or these bylaws. The Corporation may also have, at the discretion of the Board, a chairperson of the Board and a vice chairperson of the Board. The certificate of incorporation or these bylaws may prescribe other qualifications for directors.

3.4 RESIGNATION AND VACANCIES.

Any director may resign at any time upon notice given in writing or by electronic transmission to the chairperson of the Board or the Corporation's chief executive officer, president or secretary. When one or more directors so resigns and the resignation is effective at a future date, a majority of the directors then in office, including those who have so resigned, shall have power to fill such vacancy or vacancies, the vote thereon to take effect when such resignation or resignations shall become effective, and each director so chosen shall hold office as provided in this section in the filling of other vacancies.

Unless otherwise provided in the certificate of incorporation or these bylaws, any vacancy or newly created directorship in the Board, however occurring, shall be filled only by vote of a majority of the directors then in office, although less than a quorum, or by a sole remaining director and shall not be filled by the stockholders. Any director elected in accordance with the preceding

sentence shall hold office until the next annual meeting of stockholders and until such director's successor is elected and qualified, or until such director's earlier death, resignation or removal. A vacancy in the Board shall be deemed to exist under these bylaws in the case of the death, removal or resignation of any director.

3.5 PLACE OF MEETINGS; MEETINGS BY TELEPHONE.

The Board may hold meetings, both regular and special, either within or outside the State of Delaware.

Unless otherwise restricted by the certificate of incorporation or these bylaws, members of the Board, or any committee designated by the Board, may participate in a meeting of the Board, or any committee, by means of conference telephone or other communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting pursuant to this bylaw shall constitute presence in person at the meeting.

3.6 REGULAR MEETINGS.

Regular meetings of the Board may be held without notice at such time and at such place as shall from time to time be determined by the Board; *provided* that any director who is absent when such determination is made shall be given notice of the determination. A regular meeting of the Board may be held without notice immediately after and at the same place as the annual meeting of stockholders.

3.7 SPECIAL MEETINGS; NOTICE.

Special meetings of the Board for any purpose or purposes may be called at any time by the chairperson of the Board, the chief executive officer, the president, the secretary or a majority of the authorized number of directors.

Notice of the time and place of special meetings shall be:

- (a) delivered personally by hand, by courier or by telephone;
- (b) sent by United States first-class mail, postage prepaid;
- (c) sent by facsimile; or
- (d) sent by electronic mail, electronic transmission or other similar means,

directed to each director at that director's address, telephone number, facsimile number or electronic mail or other electronic address, as the case may be, as shown on the Corporation's records.

If the notice is (a) delivered personally by hand, by courier or by telephone, (b) sent by facsimile or (c) sent by electronic mail or electronic transmission, it shall be delivered or sent at least twenty-four (24) hours before the time of the holding of the meeting. If the notice is sent by United States mail, it shall be deposited in the United States mail at least four (4) days before the time of the holding of the meeting. Any oral notice may be communicated to the director. The notice need not specify the place of the meeting (if the meeting is to be held at the Corporation's principal executive office) nor the purpose of the meeting.

3.8 QUORUM.

The greater of (a) a majority of the directors at any time in office and (b) one-third of the number of directors established by the Board pursuant to Section 3.2 of these bylaws shall constitute a quorum of the Board for the transaction of business. The vote of a majority of the directors present at any meeting at which a quorum is present shall be the act of the Board, except as may be otherwise specifically provided by statute, the certificate of incorporation or these bylaws. If a quorum is not present at any meeting of the Board, then the directors present thereat may adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum is present.

3.9 BOARD ACTION BY CONSENT WITHOUT A MEETING.

Unless otherwise restricted by the certificate of incorporation or these bylaws, any action required or permitted to be taken at any meeting of the Board, or of any committee thereof, may be taken without a meeting if all members of the Board or committee, as the case may be, consent thereto in writing or by electronic transmission and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board or committee. Such filing shall be in paper form if the minutes are maintained in paper form and shall be in electronic form if the minutes are maintained in electronic form.

3.10 FEES AND COMPENSATION OF DIRECTORS.

Unless otherwise restricted by the certificate of incorporation or these bylaws, the Board shall have the authority to fix the compensation of directors.

3.11 REMOVAL OF DIRECTORS.

Subject to the rights of holders of any series of Preferred Stock, any director of the Corporation, or the entire Board, may be removed, with or without cause, by the affirmative vote of the holders of at least seventy five percent (75%) in voting power of the outstanding shares of capital stock of the Corporation entitled to vote thereon.

ARTICLE IV - COMMITTEES

4.1 COMMITTEES OF DIRECTORS.

The Board may designate one (1) or more committees, each committee to consist of one (1) or more of the directors of the Corporation. The Board may designate one (1) or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. In the absence or disqualification of a member of a committee, the member or members thereof present at any meeting and not disqualified from voting, whether or not such member or members constitute a quorum, may unanimously appoint another member of the Board to act at the meeting in the place of any such absent or disqualified member. Any such committee, to the extent provided in the resolution of the Board or in these bylaws, shall have and may exercise all the powers and authority of the Board in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers that may require it; but no such committee shall have the power or authority to (a) approve or adopt, or recommend to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval, or (b) adopt, amend or repeal any bylaw of the Corporation.

4.2 COMMITTEE MINUTES.

Each committee shall keep regular minutes of its meetings and report the same to the Board when required.

4.3 MEETINGS AND ACTION OF COMMITTEES.

Meetings and actions of committees shall be governed by, and held and taken in accordance with, the provisions of:

- (a) Section 3.5 of these bylaws (place of meetings and meetings by telephone);
- (b) Section 3.6 of these bylaws (regular meetings);
- (c) Section 3.7 of these bylaws (special meetings and notice);
- (d) Section 3.8 of these bylaws (quorum);
- (e) Section 7.12 of these bylaws (waiver of notice); and
- (f) Section 3.9 of these bylaws (action without a meeting),

with such changes in the context of those bylaws as are necessary to substitute the committee and its members for the Board and its members. *However:*

- (i) the time of regular meetings of committees may be determined either by the Board or by the committee;
- (ii) special meetings of committees may also be called by resolution of the Board; and
- (iii) notice of special meetings of committees shall also be given to all alternate members, who shall have the right to attend all meetings of the committee. The Board may adopt rules for the governance of any committee not inconsistent with the provisions (or any part thereof) of these bylaws.

ARTICLE V - OFFICERS

5.1 OFFICERS.

The officers of the Corporation shall be a president and a secretary. The Corporation may also have a chief executive officer and/or a chief financial officer, and any such other officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws. Any number of offices may be held by the same person. Each officer shall hold office for such term as may be prescribed by the Board (or, for any officer appointed by the chief executive officer pursuant to Section 5.3 of these bylaws, the chief executive officer) and until such person's successor shall have been duly chosen and qualified, or until such person's earlier death, resignation or removal.

5.2 APPOINTMENT OF OFFICERS.

The Board shall appoint the officers of the Corporation, except such officers as may be appointed in accordance with the provisions of Section 5.3 of these bylaws, subject to the rights, if any, of an officer under any contract of employment.

5.3 SUBORDINATE OFFICERS.

The Board may appoint, or empower the chief executive officer or, in the absence of a chief executive officer, the president, to appoint, such other subordinate officers not specifically enumerated in Section 5.1 of these bylaws and agents as the business of the Corporation may require, including without limitation one (1) or more vice presidents, one (1) or more assistant vice presidents, a treasurer, one (1) or more assistant treasurers, or one (1) or more assistant secretaries.

5.4 REMOVAL AND RESIGNATION OF OFFICERS

Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by the Board at any regular or special meeting of the Board or, except in the case of an officer chosen by the Board, by any officer upon whom such power of removal may be conferred by the Board.

Any officer may resign at any time by giving written or electronic notice to the Corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice. Unless otherwise specified in the notice of resignation, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the Corporation under any contract to which the officer is a party.

5.5 VACANCIES IN OFFICES.

Any vacancy occurring in any office of the Corporation may be filled by the Board or as provided in Section 5.3 of these bylaws. The Board, in its discretion, from time to time may determine not to appoint one or more of the officers identified in the first sentence of Section 5.1 of these bylaws or to leave any officer position vacant. The chief executive officer, in his or her discretion, from time to time may determine to leave vacant any officer position that he or she, or a former chief executive officer of the Company, has created or previously appointed pursuant to Section 5.3 of these bylaws.

5.6 AUTHORITY AND DUTIES OF OFFICERS.

All officers of the Corporation shall respectively have such authority and perform such duties in the management of the business of the Corporation as may be designated from time to time by the Board (or, for any officer appointed by the chief executive officer pursuant to the provisions of Section 5.3 of these bylaws, the chief executive officer) and, to the extent not so provided, as generally pertain to their respective offices, subject to the control of the Board.

5.7 REPRESENTATION OF SHARES OF OTHER ENTITIES.

The chairperson of the Board, the president, any vice president, the treasurer, the secretary or assistant secretary of this Corporation, or any other person authorized by the Board or the president or a vice president, is authorized to vote, represent and exercise on behalf of this Corporation all rights incident to any and all securities of any other entity or entities standing in the name of this Corporation. The authority granted herein may be exercised either by such person directly or by any other person authorized to do so by proxy or power of attorney duly executed by such person having the authority.

ARTICLE VI - RECORDS AND REPORTS

6.1 MAINTENANCE OF RECORDS.

Subject to applicable law, the Corporation shall, either at its principal executive office or at such place or places as designated by the Board, keep a record of its stockholders listing their names and addresses and the number and class of shares held by each stockholder, a copy of these bylaws as amended to date, accounting books and other records.

ARTICLE VII - GENERAL MATTERS

7.1 EXECUTION OF CORPORATE CONTRACTS AND INSTRUMENTS.

The Board, except as otherwise provided in these bylaws, may authorize any officer or officers, or agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the Corporation; such authority may be general or confined to specific instances. Unless so authorized or ratified by the Board or within the agency power of an officer, no officer, agent or employee shall have any power or authority to bind the Corporation by any contract or engagement or to pledge its credit or to render it liable for any purpose or for any amount.

7.2 STOCK CERTIFICATES; PARTLY PAID SHARES.

The shares of the Corporation shall not be represented by certificates, *provided, that*, each stockholder shall, at his or her request, be entitled to a certificate or certificates certifying the number and class or series of shares owned by him in the Corporation. Certificates for the shares of stock, if any, shall be in such form as is consistent with the certificate of incorporation and applicable law. Every holder of stock represented by a certificate shall be entitled to have a certificate signed by, or in the name of the Corporation by the chairperson or vice-chairperson of the Board, or the president or vice-president, and by the treasurer or an assistant treasurer, or the secretary or an assistant secretary of the Corporation representing the number of shares registered in certificate form. Any or all of the signatures on the certificate may be a facsimile. In case any officer, transfer agent or registrar who has signed or whose facsimile signature has been placed upon a certificate has ceased to be such officer, transfer agent or registrar before such certificate is issued, it may be issued by the Corporation with the same effect as if he were such officer, transfer agent or registrar at the date of issue.

The Corporation may issue the whole or any part of its shares as partly paid and subject to call for the remainder of the consideration to be paid therefor. Upon the face or back of each stock certificate issued to represent any such partly paid shares, or upon the books and records of the Corporation in the case of uncertificated partly paid shares, the total amount of the consideration to be paid therefor and the amount paid thereon shall be stated. Upon the declaration of any dividend on fully paid shares, the Corporation shall declare a dividend upon partly paid shares of the same class, but only upon the basis of the percentage of the consideration actually paid thereon.

7.3 MULTIPLES CLASSES OR SERIES OF STOCK.

If the Corporation is authorized to issue more than one class of stock or more than one series of any class, then the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights shall be set forth in full or summarized on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock; provided, however, that, except as otherwise provided in Section 202 of the DGCL, in lieu of the foregoing requirements, there may be set forth on the face or back of the certificate that the Corporation shall issue to represent such class or series of stock a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, the designations, the preferences and the relative, participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights. Within a reasonable time after the issuance or transfer of uncertificated stock, the Corporation shall send to the registered owner thereof a written notice containing the information required to be set forth or stated on certificates pursuant to the DGCL or a statement that the Corporation will furnish without charge to each stockholder who so requests the powers, designations, preferences and relative participating, optional or other special rights of each class of stock or series thereof and the qualifications, limitations or restrictions of such preferences and/or rights.

7.4 LOST, STOLEN OR DESTROYED CERTIFICATES.

Except as provided in this Section 7.3, no new certificates for shares shall be issued to replace a previously issued certificate unless the latter is surrendered to the Corporation in accordance with applicable law. The Corporation may issue a new certificate of stock or uncertificated shares in the place of any certificate theretofore issued by it, alleged to have been lost, stolen or destroyed, and the Corporation may require the owner of the lost, stolen or destroyed certificate, or such owner's legal representative, to give the Corporation a bond sufficient to indemnify it against any claim that may be made against it on account of the alleged loss, theft or destruction of any such certificate or the issuance of such new certificate or uncertificated shares.

7.5 CONSTRUCTION; DEFINITIONS.

Unless the context requires otherwise, the general provisions, rules of construction and definitions in the DGCL shall govern the construction of these bylaws. Without limiting the generality of this provision, the singular number includes the plural, the plural number includes the singular, and the term "person" includes both a corporation and a natural person.

7.6 DIVIDENDS.

The Board, subject to any restrictions contained in either (a) the DGCL or (b) the certificate of incorporation, may declare and pay dividends upon the shares of its capital stock. Dividends may be paid in cash, in property or in shares of the Corporation's capital stock.

The Board may set apart out of any of the funds of the Corporation available for dividends a reserve or reserves for any proper purpose and may abolish any such reserve. Such purposes shall include but not be limited to equalizing dividends, repairing or maintaining any property of the Corporation, and meeting contingencies.

7.7 FISCAL YEAR.

The fiscal year of the Corporation shall be fixed by resolution of the Board and may be changed by the Board.

7.8 SEAL.

The Corporation may adopt a corporate seal, which shall be adopted and which may be altered by the Board. The Corporation may use the corporate seal by causing it or a facsimile thereof to be impressed or affixed or in any other manner reproduced.

7.9 TRANSFER OF STOCK.

Shares of the Corporation shall be transferable in the manner prescribed by law and in these bylaws. Shares of stock of the Corporation shall be transferred on the books of the Corporation only by the holder of record thereof or by such holder's attorney duly authorized in writing, upon surrender to the Corporation of the certificate or certificates representing such shares endorsed by the appropriate person or persons (or by delivery of duly executed instructions with respect to uncertificated shares), with such evidence of the authenticity of such endorsement or execution, transfer, authorization and other matters as the Corporation may reasonably require, and accompanied by all necessary stock transfer stamps. To the fullest extent permitted by law, no transfer of stock shall be valid as against the Corporation for any purpose until it shall have been entered in the stock records of the Corporation by an entry showing the names of the persons from and to whom it was transferred.

7.10 STOCK TRANSFER AGREEMENTS.

The Corporation shall have power to enter into and perform any agreement with any number of stockholders of any one or more classes of stock of the Corporation to restrict the transfer of shares of stock of the Corporation of any one or more classes owned by such stockholders in any manner not prohibited by the DGCL.

7.11 REGISTERED STOCKHOLDERS.

The Corporation, to the fullest extent permitted by law,;

(a) shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares to receive dividends and to vote as such owner;

(b) shall be entitled to hold liable for calls and assessments the person registered on its books as the owner of shares; and

(c) shall not be bound to recognize any equitable or other claim to or interest in such share or shares on the part of another person, whether or not it shall have express or other notice thereof, except as otherwise provided by the laws of Delaware.

7.12 WAIVER OF NOTICE.

Whenever notice is required to be given under any provision of the DGCL, the certificate of incorporation or these bylaws, a written waiver, signed by the person entitled to notice, or a waiver by electronic transmission by the person entitled to notice, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened. Neither the business to be transacted at, nor the purpose of, any regular or special meeting of the stockholders, the Board or any committee of the Board need be specified in any written waiver of notice or any waiver by electronic transmission unless so required by the certificate of incorporation or these bylaws.

ARTICLE VIII - NOTICE BY ELECTRONIC TRANSMISSION

8.1 NOTICE BY ELECTRONIC TRANSMISSION.

Without limiting the manner by which notice otherwise may be given effectively to stockholders pursuant to the DGCL, the certificate of incorporation or these bylaws, any notice to stockholders given by the Corporation under any provision of the DGCL, the certificate of incorporation or these bylaws shall be effective if given by a form of electronic transmission.

Any notice given pursuant to the preceding paragraph shall be deemed given:

- (a) if by facsimile telecommunication, when directed to a number at which the stockholder has consented to receive notice;
- (b) if by electronic mail, when directed to an electronic mail address at which the stockholder has consented to receive notice;
- (c) if by a posting on an electronic network together with separate notice to the stockholder of such specific posting, upon the later of (i) such posting and (ii) the giving of such separate notice; and
- (d) if by any other form of electronic transmission, when directed to the stockholder.

An affidavit of the secretary or an assistant secretary of the Corporation or of the transfer agent or other agent of the Corporation that the notice has been given by a form of electronic transmission shall, in the absence of fraud, be prima facie evidence of the facts stated therein.

8.2 DEFINITION OF ELECTRONIC TRANSMISSION.

For the purposes of these bylaws, an “electronic transmission” means any form of communication, not directly involving the physical transmission of paper, that creates a record that may be retained, retrieved and reviewed by a recipient thereof, and that may be directly reproduced in paper form by such a recipient through an automated process.

ARTICLE IX - EXCLUSIVE FORUM

Unless the Corporation consents in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall, to the fullest extent permitted by law, be the sole and exclusive forum for (a) any derivative action or proceeding brought on behalf of the Corporation, (b) any action asserting a claim of breach of fiduciary duty owed by, or other wrongdoing by, any director, officer, employee or agent of the Corporation to the Corporation or the Corporation’s stockholders, creditors or other constituents, (c) any action asserting a claim arising pursuant to any provision of the DGCL or the certificate of incorporation or these bylaws, (d) any action to interpret, apply, enforce or determine the validity of the certificate of incorporation or these bylaws or (e) any action asserting a claim governed by the internal affairs doctrine, in each case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein; provided that, if and only if the Court of Chancery of the State of Delaware dismisses any such action for lack of subject matter jurisdiction, such action may be brought in another state or federal court sitting in the State of Delaware. Unless the Corporation consents in writing to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act of 1933, as amended. To the fullest extent permitted by applicable law, any person or entity purchasing or otherwise acquiring any interest in shares of capital stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article IX. If any provision or provisions of this Article IX shall be held to be invalid, illegal or unenforceable as applied to any person or entity or circumstance for any reason whatsoever, then, to the fullest extent permitted by law, the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article IX (including, without limitation, each portion of any sentence of this Article IX containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) and the application of such provision to other persons or entities and circumstances shall not in any way be affected or impaired thereby.

ARTICLE X - AMENDMENTS.

Subject to the provisions of the certificate of incorporation, the Board is expressly empowered to adopt, amend or repeal the bylaws of the Corporation. The stockholders also shall have power to adopt, amend or repeal the bylaws of the Corporation; *provided, however*, that, in addition to any vote of the holders of any class or series of stock of the Corporation required by law or by the certificate of incorporation, such action by stockholders shall require the affirmative vote of the holders of at least seventy-five percent (75%) of the votes that all stockholders would be entitled to cast in any annual election of directors.

CERTIFICATIONS

I, Roger J. Pomerantz, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of ContraFect Corporation;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 13, 2020

/s/ Roger J. Pomerantz

Roger J. Pomerantz, M.D., F.A.C.P.
President and Chief Executive Officer
(Principal Executive Officer)

CERTIFICATIONS

I, Michael Messinger, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of ContraFect Corporation;

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

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

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

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

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

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

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

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

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

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

Date: November 13, 2020

/s/ Michael Messinger

Michael Messinger
Chief Financial Officer
(Principal Financial Officer)

CERTIFICATIONS

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

I, Roger J. Pomerantz, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of ContraFect Corporation for the quarterly period ended September 30, 2020, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of ContraFect Corporation.

Date: November 13, 2020

/s/ Roger J. Pomerantz

Roger J. Pomerantz, M.D., F.A.C.P.
President and Chief Executive Officer
(Principal Executive Officer)

I, Michael Messinger, certify pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Quarterly Report on Form 10-Q of ContraFect Corporation for the quarterly period ended November 30, 2020, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in such Quarterly Report on Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of ContraFect Corporation.

Date: November 13, 2020

/s/ Michael Messinger

Michael Messinger
Chief Financial Officer
(Principal Financial Officer)

The foregoing certification is not deemed filed with the Securities and Exchange Commission for purposes of section 18 of the Exchange Act and is not to be incorporated by reference into any filing of ContraFect Corporation under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, regardless of any general incorporation language in such filing.