UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended September 30, 2021

OR

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

For the transition period from _____ to _____

Commission File Number: 001-39247

IMARA INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware	**81-1523849**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
116 Huntington Avenue, 6th Floor Boston, Massachusetts	**02116**
(Address of principal executive offices)	**(Zip Code)**

Registrant's telephone number, including area code: (617) 206-2020

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, par value $0.001 per share	IMRA	The Nasdaq Stock Market LLC

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	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

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

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

As of October 29, 2021, the registrant had 26,275,722 shares of common stock, $0.001 par value per share, outstanding.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical fact, contained in this Quarterly Report on Form 10-Q, including statements regarding our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans and objectives of management, are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “might,” “plan,” “potential,” “predict,” “project,” “should,” “target,” “would,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this Quarterly Report on Form 10-Q include, among other things:

- the impact of the ongoing COVID-19 pandemic and our response to it;
- the initiation, timing, progress and results of our current and future preclinical studies and clinical trials, including our ongoing Ardent and Forte Phase 2b clinical trials of tovinontrine (IMR-687) in sickle cell disease, or SCD, and ß-thalassemia, our open label extension clinical trial of tovinontrine in SCD and our planned clinical development of tovinontrine in heart failure with preserved ejection fraction;
- our planned research and development activities for any additional product candidates we may develop, including IMR-261;
- our estimates regarding expenses, future revenue, timing of any future revenue, capital requirements and need for additional financing;
- our plans to develop and, if approved, subsequently commercialize tovinontrine and any other product candidates, including in combination with other drugs and therapies;
- the timing of and our ability to submit applications for, obtain and maintain regulatory approvals for tovinontrine and any other product candidates we may develop;
- our expectations regarding our ability to fund our operating expenses and capital expenditure requirements with our cash, cash equivalents and investments;
- the potential advantages or differentiating features of tovinontrine and any other product candidates we may develop;
- the rate and degree of market acceptance and clinical utility of tovinontrine and any other product candidates we may develop;
- our estimates regarding the potential market opportunity for tovinontrine and any other product candidates we may develop;
- our commercialization, marketing and manufacturing capabilities and strategy;
- our expectations regarding our ability to obtain and maintain intellectual property protection for tovinontrine and any other product candidates we may develop;
- our ability to identify additional products, product candidates or technologies with significant commercial potential that are consistent with our commercial objectives;
- the impact of government laws and regulations;
- our competitive position and expectations regarding developments and projections relating to our competitors and any competing therapies that are or become available;
- our ability to maintain and establish collaborations or obtain additional funding; and
- our expectations regarding the time during which we will be an emerging growth company under the JOBS Act.

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. In addition, statements that “we believe” and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this Quarterly Report on Form 10-Q, and while we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make.

We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the "Risk Factors" section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make.

You should read this Quarterly Report on Form 10-Q and the documents that we have filed as exhibits to Quarterly Report on Form 10-Q completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements contained in this Quarterly Report on Form 10-Q are made as of the date of this Quarterly Report on Form 10-Q, 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 applicable law.

RISK FACTOR SUMMARY

Our business is subject to a number of risks that if realized could materially affect our business, financial condition, results of operations, cash flows and access to liquidity. These risks are discussed more fully in Part I, Item 1A. “Risk Factors” of this Quarterly Report on Form 10-Q. Our principal risks include the following:

- We have incurred significant losses since our inception, and we expect to incur losses over the next several years.
- We are heavily dependent on the success of tovinontrine, our only product candidate currently in clinical development. If we are unable to successfully complete clinical development, obtain regulatory approval for, and commercialize tovinontrine, or experience delays in doing so, our business will be materially harmed.
- We will need 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.
- Our limited operating history may make it difficult for you to evaluate the success of our business to date and to assess our future viability.
- Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic as may the operations of our suppliers and manufacturers and other third-party service providers.
- Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates.
- Because we are developing tovinontrine using surrogate endpoints, the FDA or other regulatory authorities may not consider the endpoints of our clinical trials to predict or provide clinically meaningful results.
- We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.
- If we fail to comply with our obligations under our existing license agreement with H. Lundbeck A/S, or under any future intellectual property licenses, or otherwise experience disruptions to our business relationships with our current or any future licensors, we could lose intellectual property rights that are important to our business.
- If we are unable to obtain, maintain, enforce and protect patent protection for our technology and product candidates or if the scope of the patent protection obtained is not sufficiently broad, our competitors could develop and commercialize technology and products similar or identical to ours, and our ability to successfully develop and commercialize our technology and product candidates may be adversely affected.
- Our executive officers, directors and principal stockholders, if they choose to act together, have the ability to control all matters submitted to stockholders for approval.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

IMARA INC.

CONDENSED CONSOLIDATED BALANCE SHEETS

(in thousands, except share and per share data)
(Unaudited)

	September 30, 2021	December 31, 2020
ASSETS		
Current assets:		
Cash and cash equivalents	$ 75,295	$ 47,698
Short-term investments	27,544	40,524
Prepaid expenses and other current assets	3,158	2,183
Total current assets	105,997	90,405
Property and equipment, net	275	349
Right of use assets - operating leases	580	—
Other assets	175	88
Total assets	$ 107,027	$ 90,842
LIABILITIES & STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 2,476	$ 1,971
Accrued expenses and other current liabilities	4,462	4,276
Operating lease liability, current	250	—
Total current liabilities	7,188	6,247
Deferred rent	—	160
Operating lease liability, non-current	466	—
Total liabilities	7,654	6,407
Commitments and contingencies (Note 7)		
Preferred stock, $0.001 par value per share; 10,000,000 shares authorized; no shares issued or outstanding as of September 30, 2021; no shares authorized, issued or outstanding as of December 31, 2020	—	—
Common stock, $0.001 par value per share; 200,000,000 shares authorized as of September 30, 2021 and December 31, 2020, respectively; 26,275,722 and 17,548,263 shares issued and outstanding as of September 30, 2021 and December 31, 2020, respectively	27	18
Additional paid-in capital	232,526	180,526
Accumulated other comprehensive income	(2)	4
Accumulated deficit	(133,178)	(96,113)
Total stockholders' equity	99,373	84,435
Total liabilities and stockholders' equity	$ 107,027	$ 90,842

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

IMARA INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS

(in thousands, except share and per share data)
(Unaudited)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Operating expenses:				
Research and development	$ 10,397	$ 9,533	$ 27,586	$ 23,195
General and administrative	3,262	2,961	9,522	6,953
Total operating expenses	13,659	12,494	37,108	30,148
Loss from operations	(13,659)	(12,494)	(37,108)	(30,148)
Total other income, (net):				
Interest income	30	126	161	368
Other expense	(18)	(55)	(118)	(62)
Total other income, (net)	12	71	43	306
Net loss	$ (13,647)	$ (12,423)	$ (37,065)	$ (29,842)
Accretion of Series B convertible preferred stock	—	—	—	(7,858)
Net loss attributable to common stockholders—basic and diluted	$ (13,647)	$ (12,423)	$ (37,065)	$ (37,700)
Weighted-average common shares outstanding—basic and diluted	24,898,346	17,349,813	20,099,976	12,696,368
Net loss per share attributable to common stockholders—basic and diluted	$ (0.55)	$ (0.72)	$ (1.84)	$ (2.97)
Comprehensive loss:				
Net loss	$ (13,647)	$ (12,423)	$ (37,065)	$ (29,842)
Other comprehensive income:				
Unrealized loss on investments	(2)	(24)	(6)	(8)
Comprehensive loss	$ (13,649)	$ (12,447)	$ (37,071)	$ (29,850)

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

IMARA INC.

CONDENSED CONSOLIDATED STATEMENTS OF CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY (DEFICIT)

(in thousands, except share and per share data)
(Unaudited)

	CONVERTIBLE PREFERRED STOCK						COMMON STOCK $0.001 PAR VALUE					
	SERIES SEED $0.001 PAR VALUE		SERIES A $0.001 PAR VALUE		SERIES B $0.001 PAR VALUE				ADDITIONAL PAID-IN CAPITAL	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	ACCUMULATED DEFICIT	TOTAL STOCKHOLDERS' EQUITY (DEFICIT)
	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT	SHARES	AMOUNT				
Balance at December 31, 2019	2,712,960	$ 1,460	31,499,040	$ 30,729	26,321,313	$ 45,575	702,510	$ 1	$ 5,872	$ 32	$ (54,753)	$ (48,848)
Issuance of Series B convertible preferred stock, net of issuance costs of $20 and beneficial conversion charge	—	—	—	—	9,845,348	9,271	—	—	7,858	—	—	7,858
Accretion of Series B converted preferred stock	—	—	—	—	—	7,858	—	—	(7,858)	—	—	(7,858)
Conversion of convertible preferred stock into common stock	(2,712,960)	(1,460)	(31,499,040)	(30,729)	(36,166,661)	(62,704)	11,172,955	11	94,882	—	—	94,893
Initial public offering, net of underwriting discounts, commissions and offering costs of $3,885	—	—	—	—	—	—	4,700,000	5	66,047	—	—	66,052
Stock-based compensation expense	—	—	—	—	—	—	—	—	360	—	—	360
Unrealized loss on investments	—	—	—	—	—	—	—	—	—	(48)	—	(48)
Net loss	—	—	—	—	—	—	—	—	—	—	(7,215)	(7,215)
Balance at March 31, 2020	—	$ —	—	$ —	—	$ —	16,575,465	$ 17	$ 167,161	$ (16)	$ (61,968)	$ 105,194
Initial public offering, net of underwriting discounts, commissions and offering costs of $17	—	—	—	—	—	—	705,000	1	10,473	—	—	10,474
Exercise of stock options	—	—	—	—	—	—	44,271	—	218	—	—	218
Stock-based compensation expense	—	—	—	—	—	—	—	—	550	—	—	550
Unrealized gain on investments	—	—	—	—	—	—	—	—	—	64	—	64
Net loss	—	—	—	—	—	—	—	—	—	—	(10,204)	(10,204)
Balance at June 30, 2020	—	$ —	—	$ —	—	$ —	17,324,736	$ 18	$ 178,402	$ 48	$ (72,172)	$ 106,296
Exercise of stock options	—	—	—	—	—	—	52,331	—	207	—	—	207
Stock-based compensation expense	—	—	—	—	—	—	—	—	642	—	—	642
Unrealized loss on investments	—	—	—	—	—	—	—	—	—	(24)	—	(24)
Net loss	—	—	—	—	—	—	—	—	—	—	(12,423)	(12,423)
Balance at September 30, 2020	—	$ —	—	$ —	—	$ —	17,377,067	$ 18	$ 179,251	$ 24	$ (84,595)	$ 94,698

	COMMON STOCK $0.001 PAR VALUE		ADDITIONAL PAID-IN CAPITAL	ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)	ACCUMULATED DEFICIT	TOTAL STOCKHOLDERS' EQUITY
	SHARES	AMOUNT				
Balance at December 31, 2020	17,548,263	$ 18	$ 180,526	$ 4	$ (96,113)	$ 84,435
Stock-based compensation expense	—	—	947	—	—	947
Exercise of stock options	68,279	—	472	—	—	472
Unrealized loss on investments	—	—	—	(3)	—	(3)
Net loss	—	—	—	—	(10,257)	(10,257)
Balance at March 31, 2021	17,616,542	$ 18	$ 181,945	$ 1	$ (106,370)	$ 75,594
Stock-based compensation expense	—	—	917	—	—	917
Issuance of common stock under ATM offering, net of issuance costs of $357	231,291	1	1,344	—	—	1,345
Exercise of stock options and issuance of stock under the Employee Stock Purchase Plan	63,104	—	273	—	—	273
Unrealized loss on investments	—	—	—	(1)	—	(1)
Net loss	—	—	—	—	(13,161)	(13,161)
Balance at June 30, 2021	17,910,937	$ 19	$ 184,479	$ —	$ (119,531)	$ 64,967
Stock-based compensation expense	—	—	1,003	—	—	1,003
Issuance of common stock under ATM and July 2021 offering, net of issuance costs of $210	8,333,333	8	46,899	—	—	46,907
Exercise of stock options	31,452	—	145	—	—	145
Unrealized loss on investments	—	—	—	(2)	—	(2)
Net loss	—	—	—	—	(13,647)	(13,647)
Balance at September 30, 2021	26,275,722	$ 27	$ 232,526	$ (2)	$ (133,178)	$ 99,373

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

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)
(Unaudited)

	Nine Months Ended September 30,	
	2021	2020
Cash flows from operating activities:		
Net loss	$ (37,065)	$ (29,842)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	2,867	1,552
Depreciation expense	74	74
Amortization and accretion on investments	103	(57)
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(975)	(1,905)
Accounts payable	505	228
Accrued expenses and other current liabilities	229	898
Deferred rent	—	(17)
Other Assets	—	(60)
Operating lease assets and liabilities, net	(24)	—
Net cash used in operating activities	(34,286)	(29,129)
Cash flows from investing activities:		
Proceeds from maturities and sales of short-term investments	42,637	17,900
Purchases of short-term investments	(29,766)	(55,811)
Purchases of property and equipment	(12)	(22)
Net cash provided by investing activities	12,859	(37,933)
Cash flows from financing activities:		
Proceeds from issuance of Series B convertible preferred stock, net of issuance costs	—	17,150
Proceeds from initial public offering, net of underwriting discounts and commissions	—	80,427
Proceeds from July 2021 offering, net of underwriting discounts and commissions	47,000	—
Proceeds from ATM offering, net of underwriting discounts and commissions	1,818	—
Payment of issuance costs	(567)	(1,718)
Proceeds from exercise of options	860	425
Net cash provided by financing activities	49,111	96,284
Net increase in cash, cash equivalents and restricted cash	$ 27,684	$ 29,222
Cash, cash equivalents and restricted cash, beginning of period	$ 47,786	$ 5,024
Cash, cash equivalents and restricted cash, end of period	$ 75,470	$ 34,246
Supplemental disclosure of non-cash investing and financing activities:		
Conversion of convertible preferred stock into common stock	$ —	$ 94,893
Accretion of redeemable convertible preferred stock to redemption value	$ —	$ 7,858
Reclassification of deferred offering costs from other assets to additional paid-in capital	$ —	$ 2,144
Deferred offering costs included in accounts payable and accrued expenses	$ —	$ 369
Property and equipment purchases included in accrued expenses	$ —	$ 14
Unrealized loss on investments	$ (6)	$ (8)

The following table provides a reconciliation of the cash, cash equivalents, and restricted cash balances as of each of the periods shown above:

	Nine Months Ended September 30,	
	2021	2020
Cash and cash equivalents	$ 75,295	$ 34,158
Restricted cash (included in other assets)	175	88
Total cash, cash equivalents and restricted cash	$ 75,470	$ 34,246

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

1. Nature of the Business

IMARA Inc. ("IMARA" or the "Company") is a clinical-stage biopharmaceutical company dedicated to developing and commercializing novel therapeutics to treat rare inherited genetic disorders of hemoglobin, known as hemoglobinopathies, which have significant unmet medical need. The Company was incorporated in January 2016 under the laws of the State of Delaware, and its principal offices are in Boston, Massachusetts.

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including but not limited to, risks associated with completing preclinical studies and clinical trials, receiving regulatory approvals for product candidates, development by competitors of new biopharmaceutical products, dependence on key personnel, protection of proprietary technology, compliance with government regulations and the ability to secure additional capital to fund operations. The Company's lead product candidate currently under development, tovinontrine (IMR-687), as well as any other product candidates the Company may develop, will require significant additional research and development efforts, including preclinical and clinical testing and regulatory approval, prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities. Even if the Company's product development efforts are successful, it is uncertain when, if ever, the Company will realize revenue from product sales.

In February 2020, the Company effected a 1-for-6.299 reverse stock split of the Company's issued and outstanding shares of common stock and a proportional adjustment to the existing conversion ratios for each of the Company's outstanding series of preferred stock. All share and per share amounts in the unaudited condensed consolidated financial statements and notes thereto have been retroactively adjusted for all periods presented to give effect to the reverse stock split, including reclassifying an amount equal to the change in par value of common stock to additional paid-in capital.

On February 25, 2020, the Company issued and sold 1,562,994 shares of Series B convertible preferred stock ("Series B Preferred Stock"), at a price of $10.9722 per share, upon a waiver of specified milestone conditions from the holders of a majority of the shares then held by holders of Series B Preferred Stock, and raised approximately $17.1 million in net proceeds after deducting less than $0.1 million of issuance costs.

On March 16, 2020, the Company completed an initial public offering ("IPO") of its common stock and issued and sold 4,700,000 shares of common stock at a public offering price of $16.00 per share, resulting in gross proceeds of $75.2 million. On April 13, 2020, the Company issued and sold an additional 705,000 shares of common stock pursuant to the exercise of the underwriters' option to purchase additional shares for aggregate gross proceeds of $11.3 million. Inclusive of the exercise by the underwriters of their option to purchase additional shares, the Company received approximately $76.5 million in net proceeds from the IPO after deducting $10.0 million of underwriting discounts and commissions and offering expenses.

Upon the closing of the IPO, all 70,378,661 shares of outstanding preferred stock automatically converted into 11,172,955 shares of common stock. Upon conversion of the convertible preferred stock, the Company reclassified the carrying value of the convertible preferred stock to common stock and additional paid-in capital.

On April 1, 2021, the Company filed a Registration Statement on Form S-3 (the "Shelf") with the SEC in relation to the registration and potential future issuance of common stock, preferred stock, debt securities, warrants and/or units of any combination thereof in the aggregate amount of up to $200.0 million. The Shelf was declared effective on April 8, 2021. The Company also simultaneously entered into a sales agreement with Cantor Fitzgerald & Co, LLC, as sales agent, providing for the offering, issuance and sale by the Company of up to an aggregate $75.0 million of its common stock from time to time in "at-the-market" offerings under the Shelf. As of September 30, 2021, the Company had issued and sold 231,291 shares of common stock under the sales agreement, resulting in net proceeds of $1.5 million after deducting commissions and offering expenses.

On July 16, 2021, the Company completed a public offering of shares of its common stock. In connection with the offering, the Company issued and sold 8,333,333 shares of common stock at a public offering price of $6.00 per share, resulting in net proceeds of $46.8 million after deducting underwriting discounts and commissions and offering expenses.

Liquidity

The Company has incurred recurring negative cash flows since inception and has funded its operations primarily from the sale of convertible preferred stock and proceeds from the IPO and subsequent common stock offerings. As of September 30, 2021, the

Company had cash, cash equivalents and investments of $102.8 million and an accumulated deficit of approximately $133.2 million. The Company expects its operating losses and negative operating cash flows to continue into the foreseeable future as it continues to expand its research and development efforts.

The Company believes its cash, cash equivalents and investments as of September 30, 2021 will be sufficient to fund its operating expenses and capital expenditure requirements for at least twelve months from the date of filing this Quarterly Report on Form 10-Q. The Company will need additional funding to support its planned operating activities. There can be no assurances, however, that the current operating plan will be achieved or that additional funding will be available on terms acceptable to the Company, or at all. If the Company is unable to obtain sufficient funding, it could be required to delay its development efforts, limit activities and reduce research and development costs, which could adversely affect its business prospects.

2. Summary of Significant Accounting Policies

Basis of presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). Any reference in these notes to applicable guidance is meant to refer to the authoritative GAAP as found in the Accounting Standards Codification ("ASC") and as amended by Accounting Standards Updates of the Financial Accounting Standards Board ("FASB"). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted from this report, as is permitted by such rules and regulations. Accordingly, these financial statements should be read in conjunction with the audited financial statements as of and for the year ended December 31, 2020 and notes thereto, included in the Company's Annual Report on Form 10-K (the "Annual Report"), filed with the SEC on March 5, 2021. The unaudited condensed consolidated interim financial statements have been prepared on the same basis as the audited financial statements, with the exception of the modified retrospective adoption of ASC 842 Leases. In the opinion of the Company's management, the accompanying unaudited condensed consolidated interim financial statements contain all adjustments which are necessary to present fairly the Company's financial position as of September 30, 2021, the results of its operations for the three and nine months ended September 30, 2021 and 2020 and cash flows for the nine months ended September 30, 2021 and 2020. Such adjustments are of a normal and recurring nature. The results for the three and nine months ended September 30, 2021 are not necessarily indicative of the results for the year ending December 31, 2021, or for any future period.

Principles of Consolidation

The accompanying unaudited condensed consolidated financial statements of the Company include the accounts of its wholly owned subsidiaries, IMARA Security Corporation and IMARA E.U. Limited. All intercompany transactions and balances have been eliminated in consolidation. IMARA E.U. Limited was dissolved in July 2021 and the dissolution of the subsidiary did not have any material accounting implications on the Company's unaudited condensed consolidated financial statements as of and for the three and nine months ended September 30, 2021.

Summary of Significant Accounting Policies

The significant accounting policies and estimates used in the preparation of the accompanying unaudited condensed consolidated financial statements are described in the Company's audited consolidated financial statements for the year ended December 31, 2020 included in the Company's Annual Report. There have been no material changes in the Company's significant accounting policies during the three and nine months ended September 30, 2021, with the exception of the modified retrospective adoption of ASC 842 Leases.

Use of Estimates

The preparation of unaudited condensed consolidated financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the unaudited condensed consolidated financial statements and the reported amounts of expenses during the reporting periods. Significant estimates and assumptions reflected in these condensed consolidated financial statements include, but are not limited to, accrued research and development expenses, stock-based compensation expense, the fair value of the common stock and the intrinsic value of the beneficial conversation feature present in the second tranche of the Series B Preferred Stock issued in February of 2020. Actual results could differ materially from those estimates.

Leases

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842) ("ASU 2016-02"). This standard established a right-of-use model that requires all lessees to recognize right-of-use assets and lease liabilities on their balance sheet that arise from leases as well as provide disclosures with respect to certain qualitative and quantitative information related to a company's leasing arrangements to meet the objective of allowing users of financial statements to assess the amount, timing and uncertainty of cash flows arising from leases. The FASB subsequently issued the following amendments to ASU 2016-02 that have the same effective date and transition date: ASU No. 2018-01, Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842, ASU No. 2018-10, Codification Improvements to Topic 842, Leases, ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, ASU No. 2018-20, Narrow-Scope Improvement for Lessors, and ASU No. 2019-01, Leases (Topic 842): Codification Improvements. The Company early adopted these amendments with ASU 2016-02 (collectively, the "new leasing standards"), effective January 1, 2021.

The Company adopted the new leasing standards using the modified retrospective transition approach, with no restatement of prior periods and there was no cumulative adjustment to retained earnings. Upon adoption, the Company elected the package of transition practical expedients, which allowed the Company to not reassess the following: (i) whether any expired or existing contracts are or contain leases, (ii) the lease classification for any expired or existing leases and (iii) the treatment of initial direct costs for existing leases. The Company made an accounting policy election to not recognize short-term leases with an initial term of twelve months or less within its consolidated balance sheets and to recognize those lease payments on a straight-line basis in its consolidated statements of operations over the lease term. Upon adopting the new leasing standards, the Company recognized an operating lease right-of-use asset of $0.7 million and a corresponding current and non-current operating lease liability of $0.3 million and $0.6 million, respectively, which are included in its consolidated balance sheets. The adoption of the new leasing standards did not have a material impact on the Company's consolidated statements of operations.

The Company determines if an arrangement is a lease at contract inception. Operating lease right-of-use assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent its obligation to make lease payments arising from the lease. Operating right-of-use assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that the option will be exercised.

The Company uses the implicit rate when readily determinable and uses its incremental borrowing rate when the implicit rate is not readily determinable, based upon the information available at the commencement date in determining the present value of the lease payments. The incremental borrowing rate is determined using a secured borrowing rate for the same currency and term as the associated lease.

The lease payments used to determine operating lease right-of-use assets may include lease incentives and stated rent increases. The Company's lease agreements may include both lease and non-lease components, which the Company accounts for as a single lease component when the payments are fixed, for all classes of underlying assets. Variable payments included in the lease agreement are expensed as incurred.

The Company's operating leases are reflected in operating lease right-of-use assets and in current operating lease liabilities and long-term operating lease liabilities in its consolidated balance sheets. The Company's operating lease right-of-use asset as of September 30, 2021 did not include any material lease incentives. Lease expense for future lease payments is recognized on a straight-line basis over the lease term.

Prior to the adoption of the new leasing standards, the Company recognized lease costs on a straight-line basis once it gained control of the space, without regard to deferred payment terms, such as rent holidays, that would defer the commencement date of required payments or escalating payment amounts. Any lease incentives received were treated as a reduction of costs over the term of the lease agreement, as they were considered an inseparable part of the lease agreement. The difference between required lease payments and rent expense was recorded as deferred rent, which was reflected as deferred rent in the December 31, 2020 consolidated balance sheet.

Segments

Operating segments are defined as components of an enterprise for which separate and discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company has one operating segment. The Company's chief operating decision maker, its Chief Executive Officer, manages the Company's operations on a consolidated basis for the purpose of allocating resources. All of the Company's long-lived assets are held in the United States.

Deferred Offering Costs

The Company capitalizes certain legal, professional, accounting and other third-party fees that are directly associated with in-process equity issuances as deferred offering costs until such equity issuances are consummated. After consummation of the equity

issuance, these costs are recorded as a reduction in the capitalized amount associated with the equity issuance. Should the equity issuance be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the unaudited condensed consolidated statement of operations and comprehensive loss. There were no deferred offering costs as of September 30, 2021 and December 31, 2020.

Comprehensive Loss

Comprehensive loss includes net loss and certain changes in stockholders' equity that are excluded from net loss. The Company's comprehensive loss includes unrealized losses on available-for-sale debt securities for the three and nine months ended September 30, 2021 and 2020.

Recently Issued Accounting Pronouncements

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e., lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. ASU 2016-02 supersedes the previous leases standard, ASC 840, Leases. For additional information on the adoption of the new leasing standards, please read the Company's policy above entitled Leases, and Note 7, Commitments and Contingencies, to these condensed consolidated financial statements.

In July 2017, the FASB issued ASU 2017-11, Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815) I. Accounting for Certain Financial Instruments with Down Round Features II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception ("ASU 2017-11"). Part I applies to entities that issue financial instruments such as warrants, convertible debt or convertible preferred stock that contain down-round features. Part II replaces the indefinite deferral for certain mandatorily redeemable noncontrolling interests and mandatorily redeemable financial instruments of nonpublic entities contained within ASC Topic 480 with a scope exception and does not impact the accounting for these mandatorily redeemable instruments. For public entities, the amendments in Part I of this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. For all other entities, the amendments in Part I of this update are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. Early adoption is permitted for all entities, including adoption in an interim period. The adoption had no material impact on the Company's financial position, results of operations or cash flows. The amendments in Part II of this update do not require any transition guidance because those amendments do not have an accounting effect.

In March 2020, the FASB issued "ASU 2020-03", Codification Improvements to Financial Instruments, ("ASU 2020-03") which addressed, among other topics, Amendments related to ASU 2016-13 Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments ("ASU 2016-13"). The amendments align the contractual term under Topic 326 and Topic 842 (Leases) to be consistent, and also clarifies when an entity should record an allowance for credit losses in accordance with Topic 326. For public business entities that meet the definition of a SEC filer, excluding entities eligible to be smaller reporting companies as defined by the SEC, the standard is effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. For all other entities, the standard is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early adoption is permitted. The Company is currently evaluating the impact of this new guidance on the Company's consolidated financial statements and related disclosures, but does not expect the adoption of ASU 2020-03 or ASU 2016-13 to be material.

3. Fair Value of Financial Assets and Liabilities

The following table presents information about the Company's financial assets and liabilities measured at fair value on a recurring basis and indicates the level of the fair value hierarchy utilized to determine such fair values (in thousands):

	September 30, 2021			
Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Observable Inputs (Level 3)
Assets:				
Money market funds, included in cash and cash equivalents	$ 64,223	$ 64,223	$ —	$ —
Marketable securities:				
Corporate debt securities	4,501	—	4,501	—
Commercial paper	23,043	—	23,043	—
Total financial assets	$ 91,767	$ 64,223	$ 27,544	$ —

	December 31, 2020			
Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Observable Inputs (Level 3)
Assets:				
Money market funds, included in cash and cash equivalents	$ 41,208	$ 41,208	$ —	$ —
Marketable securities:				
Corporate debt securities	14,807	—	14,807	—
Commercial paper	25,717	—	25,717	—
Total financial assets	$ 81,732	$ 41,208	$ 40,524	$ —

As of September 30, 2021 and December 31, 2020, the Company's Level 1 financial assets consisted of cash equivalents held in money market funds, which are valued using quoted market prices in active markets without any valuation adjustment. The financial assets valued based on Level 2 inputs consist of corporate debt securities and commercial paper, which consist of investments in highly-rated investment-grade securities. The Company estimates the fair values of these marketable securities by taking into consideration valuations obtained from third-party pricing sources. These pricing sources utilize industry standard valuation models, including both income and market-based approaches, for which all significant inputs are observable, either directly or indirectly, to estimate fair value. These inputs include market pricing based on real-time trade data for the same or similar securities, issuer credit spreads, benchmark yields, and other observable inputs. The Company validates the prices provided by its third-party pricing sources by understanding the models used, obtaining market values from other pricing sources and analyzing pricing data in certain instances.

During the three and nine months ended September 30, 2021 and the year ended December 31, 2020, there were no transfers between fair value measurement levels.

The carrying values of other current assets, accounts payable and accrued expenses approximate their fair values due to the short-term nature of these assets and liabilities.

4. Investments

As of September 30, 2021 and December 31, 2020, the Company had short-term investments consisting of corporate debt securities and commercial paper, which are considered to be available-for-sale investments. These are included in short-term investments on the condensed consolidated balance sheets, even though the stated maturity date may be one year or more beyond the current balance sheet date, as the Company views those securities as available for use in current operations, if needed. The following table summarizes the Company's investments (in thousands):

	September 30, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Loss	Fair Value
Current:				
Commercial paper	$ 23,043	$ —	$ —	$ 23,043
Corporate debt securities	4,503	—	(2)	$ 4,501
Total	$ 27,546	$ —	$ (2)	$ 27,544

	December 31, 2020			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Loss	Fair Value
Current:				
Commercial paper	$ 25,716	$ 1	$ —	$ 25,717
Corporate debt securities	14,804	3	—	14,807
Total	$ 40,520	$ 4	$ —	$ 40,524

As of September 30, 2021, the Company held two available-for-sale securities with an aggregate value of approximately $4.5 million in an unrealized loss position for less than twelve months. As of December 31, 2020, the Company had no available-for-sale securities in unrealized loss positions. The Company has the intent and ability to hold such securities until recovery. The Company determined that there was no material change in the credit risk of these investments. As a result, the Company determined it did not hold any investments with an other-than-temporary impairment as of September 30, 2021 and December 31, 2020.

5. Accrued Expenses

Accrued expenses consisted of the following (in thousands):

	September 30, 2021	December 31, 2020
Accrued research and development expenses	$ 2,599	$ 2,732
Accrued compensation and benefits	1,564	1,090
Accrued professional services	272	355
Accrued other	27	99
Total accrued expenses	$ 4,462	$ 4,276

6. License Agreements

Agreement with Lundbeck

In April 2016, the Company entered into a license agreement with Lundbeck A/S ("Lundbeck" and the "Lundbeck Agreement") pursuant to which Lundbeck granted the Company the following licenses within the field of prevention, treatment or diagnosis of hemoglobinopathy disorders and/or other diseases or disorders, including those directly or indirectly related to hemoglobinopathies: (1) an exclusive, royalty-bearing license to certain patent rights and certain know-how owned or otherwise controlled by Lundbeck ("Licensed Technology") to research, develop, make, use, sell, and commercialize products ("Licensed Products") from PDE9 inhibitors, which included tovinontrine ("Licensed Compounds"); (2) a non-exclusive license to the Licensed Technology to make, research, develop, and use such Licensed Technology to enable research and development, with certain restrictions; and (3) a sublicensing right that allows the Company to grant sublicenses to third parties to use the Licensed Technology subject to the certain terms detailed in the Lundbeck Agreement. Under the Lundbeck Agreement, the Company is subject to certain achievement dates for development milestones as defined in the agreement. The regulatory milestones due under the Lundbeck Agreement depend on the products being developed. Development milestones due under the Lundbeck Agreement with respect to the Licensed Compounds total up to $23.5 million, and, for any products that contain PDE9 inhibitors other than Licensed Compounds, total up to $11.8 million. The Company also agreed to pay tiered royalties based on net sales of all products licensed under the agreement in the low single-digit percentages.

To date, pursuant to the Lundbeck Agreement, the Company has made cash payments to Lundbeck of $1.8 million consisting of an upfront payment and ongoing milestone payments, which were recorded as research and development expenses. No payments were made during the year ended December 31, 2020, or for the three and nine months ended September 30, 2021. As partial consideration for the license, the Company issued 167,523 shares of common stock to Lundbeck, which represented 8.0% of the Company's then outstanding equity pursuant to a restricted stock agreement. The shares were fully vested on the date of issuance. The Company also allowed Lundbeck to participate in the fourth tranche of its Series A preferred stock financing in November 2018 at $1.00 per share.

The Lundbeck Agreement can be terminated by the Company at any time with 180 days' written notice. The Company or Lundbeck may terminate the agreement by written notice within a specified period of time in the event of a material breach.

7. Commitments and Contingencies

Lease Agreements

In 2016, the Company entered into an agreement for office space located in Cambridge, Massachusetts, which was a month-to-month lease. The agreement for this space terminated on August 17, 2019.

In May 2019, the Company entered into a new operating lease agreement (the "May 2019 Lease Agreement") for office space totaling 4,210 square feet, located in Boston, Massachusetts with a 62-month term. The lease includes a rent escalation clause which results in cash rental payments of approximately $0.3 million annually. Rent expense is being recognized on a straight-line basis over the lease term. In addition to the base rent, the Company is also responsible for its share of operating expenses, electricity and real estate taxes, in accordance with the terms of the May 2019 Lease Agreement. The Company provided a security deposit of approximately $0.1 million in May 2019, which is included as a component of other assets on the Company's unaudited condensed consolidated balance sheets as of September 30, 2021 and December 31, 2020. The Company occupied the space in August 2019 and commenced recognition of rent expense. The Company recorded rent expense of less than $0.1 million during the three months ended September 30, 2021, and approximately $0.2 million during the nine months ended September 30, 2021.

In June 2021, the Company entered into an amendment to the May 2019 Lease Agreement (the "June 2021 Amended Lease Agreement"). Under the terms of the June 2021 Amended Lease Agreement, the Company will expand its current premises in Boston, Massachusetts by an additional 5,026 square feet, bringing the total office space to 9,236 square feet. The term of the June 2021 Amended Lease Agreement commences upon completion of the buildout of the additional space, which is expected to be on or about January 1, 2022 and expires on March 31, 2027. The Company has the option to extend the term for one additional five-year period upon the Company's written notice to the landlord at least 12 months and no more than 15 months in advance of the extension period. Upon commencement of the term of the June 2021 Amended Lease Agreement, the annual base rent obligation will be approximately $0.6 million, with a total cash obligation for base rent over the initial five-year term of the lease of approximately $3.8 million. In addition to the base rent, the Company is also responsible for its share of operating expenses, electricity and real estate taxes. Upon execution of the June 2021 Amended Lease Agreement, the Company provided an additional security deposit in the amount of $0.1 million, with security deposits under the May 2019 Lease Agreement and June 2021 Amended Lease Agreement totaling $0.2 million.

The following table summarizes the future lease payments due under the May 2019 Lease Agreement only, as the term of the June 2021 Amended Lease Agreement has not yet commenced (in thousands):

	September 30, 2021
2021	$ 69
2022	278
2023	284
2024	229
Total Lease Payments	$ 860
Less Imputed Interest	(144)
Present value of operating lease liabilities	$ 716
Operating cash flows used for operating leases	$ 203
Weighted-average remaining lease term (years)	3.08
Weighted-average discount rate	8%

Under the prior lease accounting guidance, minimum rental commitments under non-cancelable leases as of December 31, 2020 were as follows (in thousands):

	Minimum Lease Payments
2021	273
2022	278
2023	284
2024	229
	$ 1,064

Legal Proceedings

The Company may from time to time be party to litigation arising in the ordinary course of business. The Company was not subject to any material legal proceedings during the three and nine months ended September 30, 2021 and year ended December 31, 2020, and no material legal proceedings are currently pending or, to the best of its knowledge, threatened.

Indemnification Obligations

The Company agrees to standard indemnification obligations as part of entering into agreements in the ordinary course of business. Pursuant to the indemnification provisions, the Company agrees to indemnify, hold harmless, and to reimburse the indemnified party for losses suffered or incurred by the indemnified party, generally the Company's business partners, in connection with matters specified in the applicable provision, which may include any U.S. patent or any copyright or other intellectual property infringement claim by any third-party with respect to the Company's products or product liability claims by any third-party with respect to the Company's products. The term of these indemnification obligations is generally perpetual any time after execution of the agreement. The potential amount of future payments the Company could be required to make under these indemnification obligations is unlimited. The Company has never incurred costs to defend lawsuits or settle claims related to these indemnification obligations.

8. Convertible Preferred Stock

Prior to the sale of common stock in connection with its IPO, the Company had funded its operations primarily with proceeds from the sale of Preferred Stock.

On February 25, 2020, the Company raised $17.1 million in net proceeds from the sale of 1,562,994 shares of Series B Preferred Stock, at a price of $10.9722 per share, upon a waiver of specified milestone conditions from the holders of a majority of the shares then held by the holders of Series B Preferred Stock. Upon issuance, each share of Series B Preferred Stock included an embedded beneficial conversion feature as the estimated fair value of the Company's common stock on the date of issuance of the Series B Preferred Stock was higher than the effective conversion price of the Series B Preferred Stock of $10.9722 per share. Given the proximity of the issuance to the Company's public offering, the Company utilized the $16.00 public offering price of its common stock to determine the intrinsic value of the beneficial conversion feature. As a result, the Company recorded the intrinsic value of the beneficial conversion feature of $7.9 million as a discount on the Series B Preferred Stock at issuance. Because the Series B Preferred Stock was immediately convertible upon issuance and did not include mandatory redemption provisions, the discount on the Series B Preferred Stock was immediately accreted.

Upon the completion of the IPO on March 16, 2020, all 70,378,661 shares of outstanding preferred stock automatically converted into 11,172,955 shares of common stock. Prior to the conversion, the holders of the preferred stock were entitled to receive noncumulative dividends of 8% per annum of the Series B issuance price only when and if declared by the Company's board of directors. No dividends have been declared by the Company's board of directors since inception.

9. Stockholders' Equity

On August 13, 2019, the Company's board of directors, and on February 26, 2020, the Company's stockholders, approved the Company's restated certificate of incorporation, which became effective upon closing of the IPO on March 16, 2020, to authorize 10,000,000 shares of undesignated preferred stock, $0.001 per share par value, and to increase the number of authorized shares of common stock from 100,000,000 to 200,000,000 shares, $0.001 per share par value.

Common stockholders are entitled to receive dividends, as may be declared by the Board, if any, subject to the preferential dividend rights of any preferred stock then outstanding. Through September 30, 2021, no cash dividends have been declared or paid.

As of September 30, 2021, 10,000,000 shares of preferred stock were authorized and no shares of preferred stock were issued or outstanding.

As of September 30, 2021 and December 31, 2020, the Company has reserved for future issuance the following shares of common stock:

	September 30, 2021	December 31, 2020
Shares reserved for future issuance under the 2020 Equity Incentive Plan	1,276,472	1,110,675
Shares reserved for future issuance under the 2020 Employee Stock Purchase Plan	187,209	191,363
	1,463,681	1,302,038

10. Stock-Based Compensation

2016 Stock Incentive Plan

The Company's 2016 Stock Incentive Plan, (the "2016 Plan") provided for the grant of restricted stock, restricted stock units, stock appreciation rights, incentive stock options, non-statutory stock options and other stock-based awards to employees, officers, members of the Board, consultants and advisors of the Company.

As of the effective date of the 2020 Equity Incentive Plan (the "2020 Plan") on March 11, 2020, and as of September 30, 2021, no shares remained available for future issuance under the 2016 Plan. Any options or awards outstanding under the 2016 Plan remain outstanding and effective.

2020 Equity Incentive Plan

On October 1, 2019, the Company's board of directors adopted, and on February 26, 2020 the Company's stockholders approved, the 2020 Plan, which became effective on March 11, 2020. The 2020 Plan provides for the grant of incentive stock options, non-qualified stock options, stock appreciation rights, restricted stock awards, restricted stock units and other stock-based awards. The number of shares reserved for issuance under the 2020 Plan is the sum of: (1) 1,220,283 shares of the Company's common stock; plus (2) the number of shares (up to a maximum of 2,091,969 shares) equal to the sum of (x) 228,852 shares, which represents the Company's common stock reserved for issuance under the 2016 Plan that remained available for grant under the 2016 Plan as of March 11, 2020 and (y) the number of shares of the Company's common stock subject to outstanding awards granted under the 2016 Plan that expire, terminate or are otherwise surrendered, cancelled, forfeited or repurchased by the Company at their original issuance price pursuant to a contractual repurchase right. The number of shares reserved will be annually increased on the first day of each fiscal year, beginning with the fiscal year ending December 31, 2021 and continuing until, and including, the fiscal year ending December 31, 2030, equal to the lesser of (i) 4% of the number of shares of the Company's common stock outstanding on the first day of such fiscal year and (ii) an amount determined by the Company's board of directors. On January 1, 2021, 701,930 additional shares were reserved for issuance under the 2020 Plan pursuant to this provision. No more than 8,541,982 shares of common stock may be issued as incentive stock options under the 2020 Plan. The shares of common stock underlying any awards that expire, terminate, or are otherwise surrendered, cancelled, forfeited or repurchased by the Company under the 2016 Plan or the 2020 Plan will be added back to the shares of common stock available for issuance under the 2020 Plan.

As of September 30, 2021, there were 1,276,472 shares available for future issuance under the 2020 Plan.

For financial reporting purposes, the Company performed common stock valuations with the assistance of a third-party specialist through October 23, 2019 to determine stock-based compensation expense for stock options. Upon completion of the IPO, the fair value of the common stock on the grant date was based on the closing price of the stock on the Nasdaq Global Select Market on the date of grant.

The following table summarizes the Company's stock option activity:

	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding as of December 31, 2020	1,935,632	$ 9.85	8.14	$ 24,260
Granted	862,953	10.87		
Exercised	(158,681)	4.34		
Forfeited	(326,820)	14.75		
Outstanding as of September 30, 2021	2,313,084	$ 9.92	8.39	$ 254
Options vested and exercisable as of September 30, 2021	764,726	$ 6.10	7.44	$ 206

The aggregate intrinsic value of options is calculated as the difference between the exercise price of the stock options and the fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the common stock as of the end of the period.

The weighted-average grant date fair value of the Company's stock options granted during the three and nine months ended September 30, 2021 was $3.66 and $7.44, respectively. The weighted-average grant date fair value of the Company's stock options granted during each of the three and nine months ended September 30, 2020 was $12.99 and $11.30, respectively.

Performance-based awards

The Company granted stock options to purchase an aggregate of 220,928 shares of common stock to certain employees, officers and consultants and advisors of the Company on May 16, 2019, June 5, 2019 and September 21, 2019, which contained performance-based vesting criteria. Vesting of these options was contingent on the closing of the second tranche of Series B Preferred Stock financing. Stock-based compensation expense associated with performance-based stock options is recognized if the performance conditions are considered probable of being achieved, using management's best estimates. As a result of the performance condition being met on February 25, 2020, these options vested as to 25% of the shares underlying each option on February 25, 2021 and will vest as to the remainder of the shares in equal quarterly installments for three years thereafter. The Company recognized stock-based compensation expense of less than $0.1 million and $0.1 million for these options during the three and nine months ended September 30, 2021, respectively.

Stock-Based Compensation

Stock-based compensation expense included in the Company's unaudited condensed consolidated statements of operations and comprehensive loss is as follows (in thousands):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Research and development	$ 322	$ 161	$ 1,034	$ 501
General and administrative	681	481	1,833	1,051
Total stock-based compensation expense	$ 1,003	$ 642	$ 2,867	$ 1,552

As of September 30, 2021 and December 31, 2020, total unrecognized compensation cost related to the unvested stock-based awards was $10.3 million and $9.5 million, respectively, which is expected to be recognized over a weighted-average period of 2.79 and 3.22 years, respectively.

2020 Employee Stock Purchase Plan

On October 1, 2019, the Company's board of directors adopted, and on February 26, 2020, the Company's stockholders approved the 2020 Employee Stock Purchase Plan (the "2020 ESPP"), which became effective on March 11, 2020. The 2020 ESPP initially provides participating employees with the opportunity to purchase up to an aggregate of 193,216 shares of the Company's common stock. The number of shares of the Company's common stock reserved for issuance under the 2020 ESPP will automatically

increase on the first day of each fiscal year, beginning with the fiscal year commencing on January 1, 2021 and continuing until, and including, the fiscal year commencing on January 1, 2031, in an amount equal to the lowest of (i) 386,432 shares of the Company's common stock, (ii) 1% of the number of shares of the Company's common stock outstanding on the first day of such fiscal year and (iii) an amount determined by the Company's board of directors. The Company's board of directors decided not to increase the number of shares of the Company's common stock reserved for issuance under the 2020 ESPP for the 2021 fiscal year.

During the nine months ended September 30, 2021, $0.1 million was withheld from employees, on an after-tax basis, in order to purchase 4,154 shares of the Company's common stock. No shares were purchased during the three months ended September 30, 2021. The Company recorded stock-based compensation expense related to the 2020 ESPP of less than $0.1 million. As of September 30, 2021, 187,209 shares of the Company's common stock remained available for issuance under the 2020 ESPP.

As of September 30, 2021, there was less than $0.1 million of total unrecognized stock-based compensation expense related to the ESPP. The expense is expected to be recognized over a period of 2.5 months.

11. Income Taxes

Deferred tax assets and deferred tax liabilities are recognized based on temporary differences between the financial reporting and tax basis of assets and liabilities using statutory rates. A valuation allowance is recorded against deferred tax assets if it is more likely than not that some or all of the deferred tax assets will not be realized. Due to the uncertainty surrounding the realization of the favorable tax attributes in future tax returns, the Company has recorded a full valuation allowance against the Company's otherwise recognizable net deferred tax assets.

On March 27, 2020, the United States enacted the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"). The Cares Act includes provisions relating to refundable payroll tax credits, deferment of the employer portion of certain payroll taxes, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property. The CARES Act also established a Paycheck Protection Program whereby certain small businesses are eligible for a loan to fund payroll expenses, rent, and related costs.

The CARES Act provided for an Employee Retention Credit ("ERC"), which is a refundable payroll tax credit that encouraged businesses to keep employees on the payroll during the COVID-19 pandemic. Eligible employers could qualify for up to $5,000 of credit for each employee based on certain wages paid after March 12, 2020 and before January 1, 2021. The ERC was subsequently amended by the Consolidated Appropriation Act ("CAA") of 2021 and the American Rescue Plan Act ("ARPA") of 2021. Under CAA and ARPA amendments, employers can claim a refundable tax credit against the employer share of social security tax equal to 70% of the qualified wages (including certain health care expenses) paid to employees after December 31, 2020 through December 31, 2021. Qualified wages are limited to $10,000 per employee per calendar quarter in 2021 so the maximum ERTC available is $7,000 per employee per calendar quarter. Based on the Company's evaluation of this provision and pandemic-related impact on its operations in 2020 and 2021, it was determined that the Company qualified to claim ERC in the second, third and fourth calendar quarters of 2020, as well as in both the first, second, and third calendar quarters of 2021. The Company recognized an ERC of approximately $0.3 million and $1.0 million as an offset to payroll tax expenses for the three and nine months ended September 30, 2021, respectively, in its consolidated statements of operations. The Company will continue to assess its eligibility to claim ERC for the fourth quarter of 2021.

12. Net Loss Per Share

Basic and diluted net loss per share is determined by dividing net loss attributable to common stockholders by the weighted-average common shares outstanding during the period. In 2020, the net loss applicable to common stockholders did not equal net loss due to the accretion of the beneficial conversion feature of Series B Preferred Stock in the amount of $7.9 million. The beneficial conversion feature was initially recorded as a discount on the Series B Preferred Stock with a corresponding amount recorded to Additional Paid-in Capital. The discount on the Series B Preferred Stock was then immediately written off as a deemed dividend as the Series B Preferred Stock does not have a stated redemption date and is immediately convertible at the option of the holder. The Company has computed diluted net loss per common share after giving consideration to all potentially dilutive common shares, including convertible preferred stock and options to purchase common stock during the period determined using the if-converted method, except where the effect of including such securities would be antidilutive. Because the Company has reported net losses since inception, these potential common shares have been anti-dilutive and basic and diluted loss per share have been the same.

The Company excluded the following potential common shares from the computation of diluted net loss per share attributable to common stockholders for the periods indicated because including them would have had an anti-dilutive effect:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
Options to purchase common stock	2,313,084	1,938,005	2,313,084	1,938,005
Shares reserved for future issuance under the ESPP	187,209	—	187,209	—

13. Related Party Transactions

Lundbeck

Lundbeckfond Invest A/S is one of the Company's stockholders and participated in all tranches of the Series A preferred stock financing and both tranches of the Series B preferred stock financing. Prior to the conversion of the Company's preferred stock, Lundbeckfond Invest A/S owned 5,470,492 shares of Series A Preferred Stock as of December 31, 2019, and 478,749 shares of Series Seed Preferred Stock as of December 31, 2019. Lundbeckfond Invest A/S owned 1,326,111 shares of Series B Preferred Stock as of December 31, 2019. All shares of preferred stock converted into shares of common stock upon closing of the IPO. Lundbeckfond Invest A/S also purchased 187,500 shares of common stock in the IPO. This reflects a 5.0% and a 7.4% ownership interest on a fully diluted basis as of September 30, 2021 and December 31, 2020, respectively. Mette Kirstine Agger, who was a member of our board of directors until June 29, 2021, is a Managing Partner at Lundbeckfonden Ventures, which is an affiliate of Lundbeckfond Invest A/S.

Lundbeck, an affiliate of Lundbeckfond Invest A/S, is also one of the Company's stockholders and participated in the fourth tranche of the Company's Series A preferred stock financing. Prior to the conversion of the Company's preferred stock, Lundbeck owned 499,069 shares of Series A Preferred Stock as of December 31, 2019, as well as 443,271 shares of common stock issued in conjunction with the Lundbeck Agreement (See Note 6). All shares of preferred stock converted into shares of common stock upon closing of the IPO. This reflects a 1.8% and a 2.7% ownership interest on a fully diluted basis as of September 30, 2021 and December 31, 2020, respectively. Lundbeck did not participate in the Series B Preferred Stock financing.

To date, pursuant to the Lundbeck Agreement, the Company has made cash payments to Lundbeck of $1.8 million consisting of an upfront payment and ongoing milestone payments which are recorded as research and development expense.

14. Benefit Plans

The Company established a defined contribution savings plan under Section 401(k) of the Internal Revenue Code effective as of January 2019. This plan covers substantially all employees who meet minimum age and service requirements and allows participants to defer a portion of their annual compensation on a pre-tax basis. Matching contributions to the plan may be made at the discretion of the Board. The Company has made $0.1 million of contributions to the plan to date.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or SEC, on March 5, 2021. Some of the information contained in this discussion and analysis or set forth elsewhere in this Quarterly Report on Form 10-Q, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. As a result of many factors, including those factors set forth in "Risk Factor Summary" in the forepart of this Quarterly Report on Form 10-Q and "Risk Factors" in Part II, Item 1A. of this Quarterly Report on Form 10-Q, our actual results could differ materially from the results described in, or implied by, the forward-looking statements contained in the following discussion and analysis.

Business Overview

We are a clinical-stage biopharmaceutical company dedicated to developing and commercializing novel therapeutics to treat patients suffering from rare inherited genetic disorders of hemoglobin, known as hemoglobinopathies, and other serious diseases. Our lead product candidate, tovinontrine (IMR-687), is an oral, potentially disease-modifying treatment that is currently in clinical development for that treatment of patients with sickle cell disease, or SCD, and ß-thalassemia. A summary of our pipeline of product candidates is set forth below:

Tovinontrine (IMR-687)

Tovinontrine is a highly selective, potent small molecule inhibitor of phosphodiesterase-9, or PDE9.

Sickle Cell Disease

We are currently conducting the Ardent clinical trial of tovinontrine, a randomized, double-blind, placebo-controlled Phase 2b clinical trial in adult patients with SCD. We have completed enrollment in the Ardent clinical trial and expect to report interim data in the fourth quarter of 2021, data from the primary analysis in the first quarter of 2022 and data from the final analysis in the second half of 2022.

We are also conducting an open label extension, or OLE, clinical trial of tovinontrine in patients with SCD. The OLE clinical trial allows patients from our completed Phase 2a clinical trial of tovinontrine in SCD to continue into a long-term four-year trial to test safety and measure tolerability of tovinontrine. We expect to present 12-month data from the OLE clinical trial at the American Society of Hematology, or ASH, Annual Meeting in December 2021.

At the 2021 European Hematology Association, or EHA, Annual Congress in June 2021, we presented final data from our completed Phase 2a clinical trial in SCD as well as incremental data from the OLE clinical trial in SCD. The data from these trials showed a well-tolerated safety profile for tovinontrine and potential benefits from tovinontrine with respect to vaso-occlusive crises, or VOCs. Changes in SCD-related biomarkers were variable and included directional increases in fetal hemoglobin, or HbF.

ß-thalassemia

We are currently conducting the Forte clinical trial of tovinontrine, a randomized, double-blind, placebo-controlled Phase 2b clinical trial in transfusion dependent patients and non-transfusion dependent patients with ß-thalassemia. We have completed enrollment in the transfusion dependent arm of the Forte clinical trial and enrollment in the non-transfusion dependent arm is ongoing.

We expect to report interim data for transfusion dependent patients in the fourth quarter of 2021, data from a key efficacy analysis of the Forte clinical trial for transfusion dependent patients in the first quarter of 2022 and data from the final analysis of the Forte clinical trial in the second half of 2022. We expect to report preliminary data from the non-transfusion dependent arm of the Forte trial in the first half of 2022.

Heart Failure with Preserved Ejection Fraction

We are advancing development of tovinontrine to target additional indications, including heart failure with preserved ejection fraction, or HFpEF, for which we completed preclinical research in the first half of 2021. In three distinct mouse models of HFpEF, compared with control mice, tovinontrine was shown to reduce the median size of cardiomyocytes and lower plasma B-type and atrial natriuretic peptide levels. Moreover, markers of renal dysfunction, including blood urea nitrogen and urine albumin-to-creatinine ratio, were lower in mice treated with tovinontrine compared with vehicle treated mice in all models. Additionally, tovinontrine did not

significantly change heart rate or blood pressure. We expect to report preclinical data on tovinontrine in HFpEF at the American Heart Association's Scientific Sessions 2021 in November 2021.

We are engaging with the United States Food and Drug Administration with respect to our clinical development plan for tovinontrine in HFpEF and expect to begin a Phase 2 clinical trial of tovinontrine in HFpEF in 2022.

IMR-261

We have commenced research activities for IMR-261 (formerly CXA-10), an activator of nuclear factor erythroid 2–related factor 2, or Nrf2. In pre-clinical models of SCD, IMR-261 was observed to reactivate fetal hemoglobin and reduce VOCs. Furthermore, in a preclinical model of ß-thalassemia, IMR-261 was observed to increase hemoglobin and enhance red blood cell maturation. We expect to present results from our preliminary preclinical studies of IMR-261 in SCD and ß-thalassemia at the ASH Annual Meeting in December 2021. We have initiated work on drug product manufacturing for IMR-261 as we explore potential clinical development paths.

Prior to its acquisition by Imara, IMR-261 was evaluated by Complexa, Inc. in Phase 2 clinical trials in focal segmental glomerulosclerosis, or FSGS, and pulmonary arterial hypertension, or PAH, and independent medical literature suggests potential promise in a broad array of red blood cell diseases, including disorders of hemoglobin.

Financial Overview

Since our inception in 2016, our operations have focused on organizing and staffing our company, business planning, raising capital, establishing our intellectual property portfolio and performing research and development of tovinontrine. To date, we have funded our operations primarily through the sale of common stock and the sale of convertible preferred stock.

In February 2020 we effected a 1-for-6.299 reverse stock split of our common stock. All historical share and per share information shown herein and in our unaudited condensed consolidated financial statements and related notes have been retroactively adjusted to give effect to the reverse stock split.

On April 1, 2021, we filed a shelf registration statement on Form S-3, or the Shelf, with the SEC in relation to the registration and potential future issuance of common stock, preferred stock, debt securities, warrants and/or units of any combination thereof in the aggregate amount of up to $200.0 million. The Shelf was declared effective on April 8, 2021. We also simultaneously entered into a sales agreement, or Sales Agreement, with Cantor Fitzgerald & Co, LLC, or Cantor, as sales agent, providing for the offering, issuance and sale by us of up to an aggregate $75.0 million of our common stock from time to time in "at-the-market" offerings under the Shelf. As of September 30, 2021, we have issued and sold 231,291 shares of common stock under the Sales Agreement, resulting in net proceeds of $1.5 million after deducting commissions and offering expenses.

On July 16, 2021, we completed a public offering of shares of our common stock and issued and sold 8,333,333 shares of common stock at a public offering price of $6.00 per share, resulting in net proceeds of $46.8 million after deducting underwriting discounts and commissions and estimated offering expenses.

We have incurred significant operating losses since inception. Our losses from operations were $13.7 million and $37.1 million for the three and nine months ended September 30, 2021, respectively, and $12.5 million and $30.1 million for the three and nine months ended September 30, 2020, respectively. As of September 30, 2021, we had an accumulated deficit of approximately $133.2 million. We expect to continue to incur significant operating losses for the foreseeable future, as we advance tovinontrine and any product candidates we may develop in the future from discovery through preclinical development and clinical trials and seek regulatory approval of our product candidates. We expect to incur significant expenses related to maintaining and expanding our intellectual property portfolio, hiring additional research and development and business personnel and operating as a public company. In addition, our losses from operations may fluctuate significantly from quarter-to-quarter and year-to-year, depending on the timing of our clinical trials and our expenditures on other research and development activities.

We do not have any products approved for sale. We will not generate revenue from product sales unless and until we successfully complete clinical development and obtain regulatory approval for tovinontrine or any future product candidate. In addition, if we obtain regulatory approval for tovinontrine or any future product candidate and to the extent that we engage in commercialization activities on our own, we expect to incur significant expenses related to developing our commercialization capability to support product sales, marketing, manufacturing, and distribution activities.

As a result, we will need substantial additional funding to support our continuing operations and pursue our growth strategy. Until such time as we can generate significant revenue from product sales, if ever, we expect to finance our operations through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We may be unable to raise additional funds or enter into other arrangements when needed on acceptable terms, or at all. Our failure to raise capital or enter into such agreements as, and when, needed, could have a material adverse effect on our business, results of operations, and financial condition. We will need to generate significant revenue to achieve profitability, and we may never do so.

Because of the numerous risks and uncertainties associated with product development, 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 generate product sales, we may not become profitable. If we fail to become profitable or are unable to sustain profitability on a continuing basis, then we may be unable to continue our operations at planned levels and be forced to reduce or terminate our operations.

As of September 30, 2021 we had $102.8 million in cash, cash equivalents and investments. We believe that our cash, cash equivalents and investments as of September 30, 2021 will enable us to fund our operating expenses and capital expenditure requirements into the first quarter of 2023. We have based this estimate on assumptions that may prove to be wrong, and we could exhaust our available capital resources sooner than we expect. See "—Liquidity and Capital Resources."

Impact of COVID-19 Pandemic

On March 11, 2020, the World Health Organization declared the outbreak of COVID-19 a pandemic, and on March 13, 2020, the United States declared a national emergency with respect to COVID-19. The COVID-19 pandemic is ongoing and its impact continues to evolve as of the date of this Quarterly Report on Form 10-Q. We continue to actively monitor the impact of the COVID-19 pandemic on our financial condition, liquidity, operations, suppliers, industry and workforce.

Although we have not experienced any significant adverse impact from the COVID-19 pandemic on our financial condition, results of operations or liquidity as of the date of this Quarterly Report on Form 10-Q, the COVID-19 pandemic has resulted in disruptions to our clinical trial operations, including some missed and incomplete patient visits in our completed Phase 2a clinical trial of tovinontrine in SCD, delays to some patient visits in our OLE clinical trial in SCD, as well as site activation and enrollment delays and delays in review of our regulatory submissions with respect to our Ardent and Forte clinical trials of tovinontrine in SCD and ß-thalassemia. In addition, many of our employees are currently working remotely.

Our financial condition, results of operations and liquidity could be negatively impacted by the COVID-19 pandemic in future periods. The extent to which the COVID-19 pandemic impacts our business will depend on future developments, which remain uncertain and cannot be predicted, including new information that may emerge concerning the continued severity of COVID-19 and variants of COVID-19 and the actions to contain COVID-19 or treat its impact, among others. As the COVID-19 pandemic continues, it may have an adverse effect on our results of future operations, financial position and liquidity, and on our ability to access capital. Even after the COVID-19 pandemic has subsided, we may continue to experience adverse impacts to our business as a result of any economic recession or depression that has occurred or may occur in the future.

Lundbeck License Agreement

In April 2016, we entered into an agreement with H. Lundbeck A/S, or Lundbeck, for a worldwide license under certain patent rights and certain know-how owned or otherwise controlled by Lundbeck within the field of prevention, treatment or diagnosis of hemoglobinopathy disorders and/or other diseases or disorders, including those directly or indirectly related to hemoglobinopathies, which we refer to as the field. The agreement grants us an exclusive license under the licensed technology, including the right to grant sublicenses with certain restrictions, to research, develop, make, have made, use, sell, have sold, offer to sell, import, export and commercialize any product comprising or containing certain PDE9 inhibitors, in the field. The agreement also grants us a non-exclusive license under the licensed technology to research and develop, and make, have made, use, import and export for purposes of enabling such research and development, enhancements, improvements, modifications or derivatives to licensed products, until but not beyond a specified pre-commercialization developmental stage with respect to each such enhancement, improvement, modification or derivative. Under the agreement, we have made cash payments totaling $1.8 million to date, consisting of an upfront payment and ongoing milestone payments, and also issued shares of our common stock as described in Note 13, Related Party Transactions, to the unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q. We are obligated to make milestone payments to Lundbeck aggregating up to $23.5 million upon the achievement of specified clinical, regulatory and first commercial sale milestones by any licensed product, of which we have paid $1.8 million to date, and $11.8 million upon the achievement of specified clinical, regulatory and first commercial sale milestones by any IMARA product that is or comprises a PDE9 inhibitor but is not a licensed product, or a PDE9 product, if any, of which we have made no payments to date. We are obligated to pay tiered royalties of low-to-mid single-digit percentages to Lundbeck based on our, and any of our affiliates' and sublicensees', net sales of

licensed products, and tiered royalties of low single-digit percentages to Lundbeck based on our, and any of our affiliates' and sublicensees', net sales of PDE9 products, if any.

Financial Operations Overview

Revenue

We have not generated any revenue since our inception and do not expect to generate any revenue from the sale of products in the near future, if at all. If our development efforts for tovinontrine or additional product candidates that we may develop in the future are successful and result in marketing approval or if we enter into collaboration or license agreements with third parties, we may generate revenue in the future from a combination of product sales or payments from such collaboration or license agreements.

Operating Expenses

Research and Development. Research and development expenses consist primarily of costs incurred in connection with the preclinical and clinical development and manufacture of tovinontrine, and include:

- potential costs related to the impact of the COVID-19 pandemic;
- personnel-related expenses, including salaries, benefits and stock-based compensation expenses, for individuals involved in research and development activities;
- external research and development expenses incurred under agreements with contract research organizations, or CROs, investigative sites, and consultants that conduct our preclinical studies and clinical trials and other scientific development services;
- costs incurred under agreements with contract manufacturing organizations, or CMOs, for developing and manufacturing material for our preclinical studies and clinical trials;
- costs related to compliance with regulatory requirements;
- milestone fees incurred in connection with our current license agreement with Lundbeck; and
- facilities and other allocated expenses, which include direct and allocated expenses for rent, insurance and other operating costs.

We expense research and development costs as incurred. We recognize external development costs based on an evaluation of the progress to completion of specific tasks using information provided to us by our vendors and our clinical investigative sites. Payments for these activities are based on the terms of the individual agreements, which may differ from the pattern of costs incurred, and are reflected in our unaudited condensed consolidated financial statements as prepaid expenses or accrued research and development expenses. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized, even when there is no alternative future use for the research and development. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

A significant portion of our research and development costs have been external costs, which we track after a clinical product candidate has been identified. Our internal research and development costs are primarily personnel-related costs and other indirect costs. Our research and development expenses to-date have been incurred in connection with our development of tovinontrine in SCD and β-thalassemia. We do not intend to track our internal research and development expenses on a program-by-program basis as our personnel are deployed across multiple projects under development.

Research and development activities are central to our business model. Product candidates in later stages of clinical development generally have higher development costs than those in earlier stages of clinical development, primarily due to the increased size and duration of later-stage clinical trials. We expect research and development costs to increase significantly for the foreseeable future as we continue the development of tovinontrine and any product candidates we may develop in the future. However, we do not believe that it is possible at this time to accurately project total program-specific expenses through commercialization. There are numerous factors associated with the successful commercialization of tovinontrine and any product candidates we may develop in the future, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at this time based on our stage of development. Additionally, future commercial and regulatory factors beyond our control will impact our clinical development program and plans.

The following table summarizes our research and development expenses for the three and nine months ended September 30, 2021 and 2020:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2021	2020	2021	2020
	(in thousands)			
Tovinontrine (IMR-687)	$ 8,291	$ 7,947	$ 21,407	$ 18,474
Personnel expenses (including stock-based compensation)	1,780	1,422	5,400	4,215
Other expenses	326	164	779	506
Total research and development expenses	$ 10,397	$ 9,533	$ 27,586	$ 23,195

The successful development of tovinontrine and any product candidates we may develop in the future is highly uncertain. Therefore, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the development and commercialization of tovinontrine or any future product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of tovinontrine or potential future product candidates, if approved. This is due to the numerous risks and uncertainties associated with developing product candidates, including the uncertainty of:

- the impact of the ongoing COVID-19 pandemic and our response to it;
- the timing and progress of preclinical and clinical development activities;
- the number and scope of preclinical and clinical programs we decide to pursue;
- our ability to maintain our current research and development programs and to establish new ones;
- establishing an appropriate safety profile with investigational new drug application, or IND, enabling studies;
- successful patient enrollment in, and the initiation of, clinical trials;
- the successful completion of clinical trials with safety, tolerability and efficacy profiles that are satisfactory to the U.S. Food and Drug Administration, or FDA, or any comparable foreign regulatory authority;
- the timing, receipt and terms of any regulatory approvals from applicable regulatory authorities;
- our ability to establish new licensing or collaboration arrangements;
- the performance of our future collaborators, if any;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining, maintaining, defending and enforcing patent claims and other intellectual property rights;
- launching commercial sales of our product candidates, if approved, whether alone or in collaboration with others; and
- maintaining a continued acceptable safety profile of the product candidates following approval.

Any changes in the outcome of any of these variables with respect to the development of tovinontrine or any future product candidates could mean a significant change in the costs and timing associated with the development of these product candidates. For example, if the FDA or another regulatory authority were to delay our planned start of clinical trials or require us to conduct clinical trials or other testing beyond those that we currently expect, or if we experience significant delays in enrollment in any of our planned clinical trials, we could be required to expend significant additional financial resources and time to complete clinical development of

that product candidate. We may never obtain regulatory approval for any of our product candidates. Drug commercialization will take several years and millions of dollars in development costs.

General and Administrative. General and administrative expenses consist primarily of personnel-related expenses, including salaries, benefits, and stock-based compensation expenses for personnel in executive, finance, accounting, human resources, legal and other administrative functions. Other significant general and administrative expenses include the cost of director and officer insurance premiums, legal fees relating to patent, intellectual property and corporate matters, and fees paid for accounting, consulting and other professional services.

We anticipate that our general and administrative expenses will increase in the future as our business expands to support our continued research and development activities, including our future clinical programs. These increases will likely include increased costs related to the hiring of additional personnel and fees to outside consultants, among other expenses. In addition, if we obtain regulatory approval for tovinontrine or any future product candidate and to the extent that we engage in commercialization activities on our own, we expect to incur significant expenses related to building a sales and marketing team to support product sales, marketing and distribution activities.

Total Other Income, Net

Total other income, net primarily consists of interest earned on our cash, cash equivalents and investments.

Results of Operations

Comparison of the Three Months Ended September 30, 2021 and 2020

The following table summarizes our results of operations for the three months ended September 30, 2021 and 2020:

	Three Months Ended September 30,		Change
	2021	2020	$
	(in thousands)		
Operating expenses:			
Research and development	$ 10,397	$ 9,533	$ 864
General and administrative	3,262	2,961	301
Total operating expenses	13,659	12,494	1,165
Loss from operations	(13,659)	(12,494)	(1,165)
Total other income, net	12	71	(59)
Net loss	$ (13,647)	$ (12,423)	$ (1,224)

Research and Development Expenses

Research and development expenses increased by approximately $0.9 million from $9.5 million for the three months ended September 30, 2020, to $10.4 million for the three months ended September 30, 2021. The increase in research and development expenses was primarily attributable to the following:

- a $0.4 million increase in personnel-related costs, including a $0.2 million increase in stock-based compensation expense, primarily due to an increase headcount;
- a $0.3 million increase in costs related to the development and manufacturing of clinical materials, clinical research and oversight of our clinical trials and investigative fees for tovinontrine; and

- a $0.2 million increase in other research and development operational costs, including professional services, supplies, and travel.

General and Administrative Expenses

General and administrative expenses increased by approximately $0.3 million from $3.0 million for the three months ended September 30, 2020, to $3.3 million for the three months ended September 30, 2021. The increase in general and administrative expenses was primarily attributable to the following:

- a $0.4 million increase in personnel-related costs, including a $0.2 million increase in stock-based compensation expense, primarily due to an increase headcount;
- a $0.2 million increase in costs associated with directors and officers insurance premiums;
- a $0.1 million increase in other general and administrative operational costs, including travel, corporate taxes, and supplies; and
- a $0.4 million decrease in legal and professional services.

Total Other Income, Net

Total other income, net was less than $0.1 million for the three months ended September 30, 2021 and $0.1 million for the three months ended September 30, 2020, in each case consisting primarily of interest earned on our cash, cash equivalents and investments.

Comparison of the Nine Months Ended September 30, 2021 and 2020

The following table summarizes our results of operations for the nine months ended September 30, 2021 and 2020:

	Nine Months Ended September 30,		Change
	2021	2020	$
	(in thousands)		
Operating expenses:			
Research and development	$ 27,586	$ 23,195	$ 4,391
General and administrative	9,522	6,953	2,569
Total operating expenses	37,108	30,148	6,960
Loss from operations	(37,108)	(30,148)	(6,960)
Total other income, net	43	306	(263)
Net loss	$ (37,065)	$ (29,842)	$ (7,223)

Research and Development Expenses

Research and development expenses increased by approximately $4.4 million from $23.2 million for the nine months ended September 30, 2020 to $27.6 million for the nine months ended September 30, 2021. The increase in research and development expenses was primarily attributable to the following:

- a $2.9 million increase in costs related to the development and manufacturing of clinical materials, clinical research and oversight of our clinical trials and investigative fees for tovinontrine;
- a $1.2 million increase in personnel-related costs, including a $0.5 million increase in stock-based compensation expense, primarily due to an increase in headcount to support the growth of our research and development efforts; and
- a $0.3 million increase in other research and development operational costs, including professional services, supplies, and travel.

General and Administrative Expenses

General and administrative expenses increased by approximately $2.6 million from $7.0 million for the nine months ended September 30, 2020 to $9.5 million for the nine months ended September 30, 2021. The increase in general and administrative expenses was primarily attributable the following:

- a $1.5 million increase in personnel-related costs, including a $0.8 million increase in stock-based compensation expense, primarily due to an increase headcount;
- a $1.0 million increase in cost associated with directors and officers insurance premiums;
- a $0.4 million increase in other general and administrative operational costs, including public relations and corporate taxes; and
- a $0.3 million decrease in consulting and professional fees, including legal, business development, and accounting fees.

Total Other Income, Net

Total other income, net was less than $0.1 million for the nine months ended September 30, 2021 and $0.3 million for the nine months ended September 30, 2020, in each case consisting primarily of interest earned on our cash, cash equivalents and investments.

Liquidity and Capital Resources

Sources of Liquidity

Since our inception, we have incurred significant losses in each period and on an aggregate basis. We have not yet commercialized tovinontrine, which is in clinical development, and we do not expect to generate revenue from sales of tovinontrine or any product candidates we may develop in the future for several years, if at all. Through September 30, 2021, we have funded our operations primarily through the issuance of common stock and convertible preferred stock.

In February 2020, we raised $17.1 million in gross proceeds from the sale of 1,562,994 shares of Series B preferred stock upon a waiver of specified milestone conditions from the holders of a majority of the shares then held by the holders of Series B preferred stock. In March 2020, we completed an IPO of our common stock and issued and sold 4,700,000 shares of common stock at a public offering price of $16.00 per share, resulting in gross proceeds of $75.2 million. In April 2020, the underwriters exercised their option in full to purchase 705,000 additional shares of common stock for aggregate gross proceeds of $11.3 million. Inclusive of the underwriters' option to purchase additional shares, we received approximately $76.5 million in net proceeds from the IPO after deducting $10.0 million of underwriting discounts and commissions and offering expenses.

On April 1, 2021, we filed the Shelf with the SEC in relation to the registration and potential future issuance of common stock, preferred stock, debt securities, warrants and/or units of any combination thereof in the aggregate amount of up to $200.0 million. The Shelf was declared effective on April 8, 2021.We also simultaneously entered into the Sales Agreement with Cantor, as sales agent, providing for the offering, issuance and sale by us of up to an aggregate $75.0 million of our common stock from time to time in "at-the-market" offerings under the Shelf. As of September 30, 2021, we have issued and sold 231,291 shares of common stock under the Sales Agreement, resulting in net proceeds of $1.5 million after deducting commissions and offering expenses.

On July 16, 2021, we completed a public offering of shares of our common stock and issued and sold 8,333,333 shares of common stock at a public offering price of $6.00 per share, resulting in net proceeds of $46.8 million after deducting underwriting discounts and commissions and estimated offering expenses.

As of September 30, 2021, we had $102.8 million in cash, cash equivalents and investments.

While we do not currently expect that the COVID-19 pandemic will have a material adverse impact on our short-term or long-term liquidity, the impact of the COVID-19 pandemic on the global financial markets may reduce our ability to access capital, which could negatively impact our short-term and long-term liquidity. See "Impact of COVID-19 Pandemic."

Cash Flows

The following table provides information regarding our cash flows for the nine months ended September 30, 2021 and 2020:

	Nine Months Ended September 30,	
	2021	2020
	(in thousands)	
Net cash used in operating activities	$ (34,286)	$ (29,129)
Net cash provided by (used in) investing activities	12,859	(37,933)
Net cash provided by financing activities	49,111	96,284
Net increase in cash, cash equivalents, and restricted cash	$ 27,684	$ 29,222

Net Cash Used in Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2021 was $34.3 million primarily due to our net loss of $37.1 million and net cash outflow from a change in working capital of $0.2 million, partially offset by stock-based compensation expense of $2.9 million and depreciation expense of $0.1 million.

Net cash used in operating activities for the nine months ended September 30, 2020 was $29.1 million primarily due to our net loss of $29.8 million and net cash outflow from a change in working capital of $0.9 million, partially offset by stock-based compensation expense of $1.6 million.

Net Cash Provided by Investing Activities

Net cash provided by investing activities for the nine months ended September 30, 2021 was $12.9 million due to proceeds from maturities of short-term investments of $42.6 million, partially offset by purchases of short-term investments of $29.8 million.

Net cash used in investing activities for the nine months ended September 30, 2020 was $37.9 million due to purchases of marketable securities of $55.8 million and purchases of property and equipment of less than $0.1 million, partially offset by proceeds from sales and maturities of short-term investments of $17.9 million.

Net Cash Provided by Financing Activities

Net cash provided by financing activities for the nine months ended September 30, 2021 was $49.1 million, primarily due to $47.0 million of net proceeds after deducting underwriting discounts and commissions from our July 2021 offering, $1.8 million of net proceeds after deducting underwriting discounts and commissions from the sale of common stock under our Sales Agreement with Cantor, and $0.9 million of proceeds received from the exercise of stock options. The financing cash inflows were partially offset by payment of $0.6 million of issuance costs.

Net cash provided by financing activities for the nine months ended September 30, 2020 was $96.3 million, primarily due to $80.4 million of net proceeds received from our IPO, after deducting underwriting discounts and commissions, $17.1 million of cash inflow resulting from sale of Series B Preferred Stock in February 2020, and $0.4 million of proceeds from stock option exercises. The proceeds from our IPO were partially offset by payments of $1.7 million of issuance costs.

Funding Requirements

We expect our expenses to increase substantially in connection with our ongoing research and development activities, particularly as we continue research and development, initiate clinical trials, and seek marketing approval for tovinontrine and any of our future product candidates. In addition, we expect to incur additional costs associated with operating as a public company. Our expenses will also increase if, and as, we:

- navigate the impacts of COVID-19 pandemic and our response to it;
- continue to advance clinical development of tovinontrine, including our ongoing Ardent and Forte Phase 2b clinical trials of tovinontrine in patients with SCD and β-thalassemia and our OLE clinical trial in patients with SCD;
- expand our planned research and development efforts for tovinontrine and pursue clinical activities for tovinontrine in HFpEF;

- continue to incur third-party manufacturing costs to support our clinical trials of tovinontrine and any other product candidates we may develop and, if approved, commercialization of such product candidates;
- seek regulatory and marketing approvals for tovinontrine and any other product candidates we may develop;
- establish a sales, marketing and distribution infrastructure to commercialize tovinontrine and any other product candidates we may develop, in each case if approved;
- commence development activities for any additional product candidates we may develop, including IMR-261;
- acquire or in-license products, product candidates, technologies and/or data referencing rights;
- maintain, expand, enforce, defend and protect our intellectual property;
- hire additional clinical, quality control, manufacturing and other scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts and our operations as a public company; and
- make any milestone payments to Lundbeck under our exclusive license agreement with Lundbeck, upon the achievement of specified clinical or regulatory milestones.

Based on our current operating plan, we expect our existing cash, cash equivalents and investments will enable us to fund our operating expenses and capital expenditure requirements into the first quarter of 2023. However, we have based this estimate on assumptions that may prove to be wrong and we could exhaust our capital resources sooner than we expect.

Because of the numerous risks and uncertainties associated with research, development and commercialization of product candidates, we are unable to estimate the exact amount of our working capital requirements. Our future funding requirements will depend on, and could increase significantly as a result of, many factors, including:

- the impact of the COVID-19 pandemic and our response to it;
- the time and cost necessary to complete our ongoing Ardent and OLE clinical trials of tovinontrine in patients with SCD, to initiate and complete one or more pivotal clinical trials of tovinontrine in SCD, and to pursue regulatory approvals for tovinontrine in SCD, and the costs of post-marketing studies that could be required by regulatory authorities;
- the time and cost necessary to complete our Forte clinical trial of tovinontrine in patients with β-thalassemia, to initiate and complete one or more pivotal clinical trials of tovinontrine in β-thalassemia, and to pursue regulatory approvals for tovinontrine in β-thalassemia, and the costs of post-marketing studies that could be required by regulatory authorities;
- our ability to advance tovinontrine in HFpEF into and through clinical development, and the timing and scope of these development activities;
- the costs of obtaining clinical and commercial supplies of tovinontrine and any other product candidates we may develop;
- our ability to successfully commercialize tovinontrine and any other product candidates we may develop;
- the manufacturing, selling and marketing costs associated with tovinontrine and any other product candidates we may develop, including the cost and timing of establishing our sales and marketing capabilities;
- the amount and timing of sales and other revenues from tovinontrine and any other product candidates we may develop, including the sales price and the availability of adequate third-party reimbursement;
- the time and cost necessary to respond to technological and market developments;
- the extent to which we may acquire or in-license other product candidates and technologies;
- our ability to attract, hire and retain qualified personnel; and
- the costs of maintaining, expanding and protecting our intellectual property portfolio.

A change in the outcome of any of these or other variables with respect to the development of tovinontrine or any product candidate we may develop in the future could significantly change the costs and timing associated with the development of that product candidate. Further, our operating plans may change in the future, and we may need additional funds to meet operational needs and capital requirements associated with such operating plans. Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We currently have no credit facility or committed sources of capital. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our existing stockholders may be diluted, and the terms of these securities may include liquidation or other preferences that could adversely affect the rights of such

stockholders. Additional debt financing, if available, may involve agreements that include restrictive covenants that limit our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, that could adversely impact our ability to conduct our business.

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 program 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.

Off-balance Sheet Arrangements

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

Critical Accounting Policies and Estimates

This management's discussion and analysis is based on our unaudited condensed consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these unaudited condensed consolidated financial statements requires us to make judgments and estimates that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the unaudited condensed consolidated financial statements and the reported amounts of expenses during the reported periods. We base our estimates on historical experience, known trends and events, and various other factors that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, we evaluate our judgments and estimates in light of changes in circumstances, facts, and experience. The effects of material revisions in estimates, if any, will be reflected in the unaudited condensed consolidated financial statements prospectively from the date of change in estimates. During the three and nine months ended September 30, 2021, there were no material changes to our critical accounting policies from those described in our audited consolidated financial statements for the year ended December 31, 2020 included in our Annual Report on Form 10-K filed with the SEC on March 5, 2021, with the exception of the modified retrospective adoption of ASC 842 Leases. For more information on the adoption of ASC 842 Leases, see Note 2, Summary of Significant Accounting Policies – Leases, to the unaudited condensed consolidated financial statements in this Quarterly Report on Form 10-Q.

Recent Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2 to our unaudited condensed consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Emerging Growth Company Status

We are an "emerging growth company," or EGC, under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. Section 107 of the JOBS Act provides that an EGC can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act of 1933, as amended, for complying with new or revised accounting standards. Thus, an EGC can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have elected to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt new or revised accounting standards as private entities.

As an EGC, we may take advantage of certain exemptions and reduced reporting requirements under the JOBS Act. Subject to certain conditions, as an EGC:

- we may present only two years of audited financial statements and only two years of related Management's Discussion and Analysis of Financial Condition and Results of Operations within registration statements;
- we may avail ourselves of the exemption from providing an auditor's attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act;
- we may avail ourselves of the exemption from complying with any requirement that may be adopted by the Public Company Accounting Oversight Board, or PCAOB, regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements, known as the auditor discussion and analysis;

- we may provide reduced disclosure about our executive compensation arrangements; and
- we may not require nonbinding advisory votes on executive compensation or stockholder approval of any golden parachute payments.

We will remain an EGC until the earliest of (i) December 31, 2025, (ii) the last day of the fiscal year in which we have total annual gross revenues of $1.07 billion or more, (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the previous rolling three-year period, or (iv) the date on which we are deemed to be a large accelerated filer under the Securities Exchange Act of 1934, as amended.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our cash equivalents are in the form of money market funds that are invested in U.S. Treasury securities. We also hold investments in corporate debt securities and commercial paper. As of September 30, 2021, we had cash, cash equivalents and investments of $102.8 million. Interest income is sensitive to changes in the general level of interest rates; however, due to the short-term maturities of our cash equivalents and the low risk profile of our investments, an immediate 10% change in interest rates would not have a material effect on the fair market value of our investment portfolio.

We are not currently exposed to significant market risk related to changes in foreign currency exchange rates; however, we have contracted with and may continue to contract with foreign vendors that are located in Europe and Asia, who we may pay in local currency. Our operations may be subject to fluctuations in foreign currency exchange rates in the future.

Item 4. Controls and Procedures.

Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer and Chief Operating Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2021. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, or the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2021, our Chief Executive Officer and Chief Financial Officer and Chief Operating Officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

During the nine months ended September 30, 2021, we implemented certain internal controls in connection with our adoption of ASC 842. There was no other change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15(d)-15(f) under the Exchange Act) that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this Quarterly Report on Form 10-Q, including our consolidated financial statements and the related notes appearing elsewhere in this Quarterly Report on Form 10-Q and in our other filings with the Securities and Exchange Commission, before deciding to invest in our common stock. Such risks and uncertainties may be amplified by the COVID-19 pandemic and its potential impact on our business and the global economy. The risks described below are not the only risks facing our company. The occurrence of any of the following risks, or of additional risks and uncertainties not presently known to us, could cause our business, prospects, operating results and financial condition to suffer materially. In such event, the trading price of our common stock could decline, and you might lose all or part of your investment.

Risks Related to Our Financial Position and Need for Additional Capital

We have incurred significant losses since our inception, and we expect to incur losses over the next several years.

Since inception, we have incurred significant operating losses. Our net loss was $41.4 million for the year ended December 31, 2020 and $37.1 million for the nine months ended September 30, 2021. As of September 30, 2021, we had an accumulated deficit of $133.2 million. To date, we have financed our operations primarily through the sale of common stock and the sale of convertible preferred stock. We have devoted substantially all of our financial resources and efforts to research and development, including clinical trials and preclinical studies of tovinontrine (IMR-687). We expect to continue to incur significant expenses and operating losses over the next several years as we continue to develop tovinontrine and any other product candidates we may develop. Our operating expenses and net losses may fluctuate significantly from quarter to quarter and year to year. We anticipate that our expenses will increase substantially as we:

- navigate the impacts of COVID-19 and our response to it;
- continue to advance clinical development of tovinontrine, including our ongoing Ardent Phase 2b clinical trial in patients with sickle cell disease, or SCD, and our Forte Phase 2b clinical trial in patients with β-thalassemia, as well as our open label extension, or OLE, clinical trial in patients with SCD;
- expand our planned research and development efforts for tovinontrine and pursue clinical activities for tovinontrine in heart failure with preserved ejection fraction, or HFpEF;
- continue to incur third-party manufacturing costs to support our clinical trials of tovinontrine and any other product candidates we may develop and, if approved, commercialization of such product candidates;
- seek regulatory and marketing approvals for tovinontrine and any other product candidates we may develop;
- establish a sales, marketing and distribution infrastructure to commercialize tovinontrine and any other product candidates we may develop, in each case if approved;
- commence development activities for any additional product candidates we may develop, including IMR-261;
- acquire or in-license products, product candidates, technologies and/or data referencing rights;
- maintain, expand, enforce, defend and protect our intellectual property;
- hire additional clinical, quality control, manufacturing and other scientific personnel;
- add operational, financial and management information systems and personnel, including personnel to support our product development and planned future commercialization efforts and our operations as a public company; and
- make any milestone payments to H. Lundbeck A/S, or Lundbeck, under our exclusive license agreement with Lundbeck, or the Lundbeck Agreement, upon the achievement of specified clinical or regulatory milestones.

We have never generated revenue from product sales and may never achieve or maintain profitability.

To become and remain profitable, we must succeed in developing, and eventually commercializing, a product or products that generate significant revenue. The ability to achieve this success will require us to be effective in a range of challenging activities, including completing preclinical testing and clinical trials of tovinontrine and any other product candidates we may develop, obtaining regulatory approval for these product candidates and manufacturing, marketing and selling any products for which we may obtain regulatory approval. We are only in the preliminary stages of many of these activities. We may never succeed in these activities and, even if we do, may never generate revenues that are significant enough to achieve profitability. Because of the numerous risks and

uncertainties associated with pharmaceutical product development, we are unable to accurately predict the timing or amount of increased expenses or when, or if, we will be able to achieve profitability.

Even 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 depress the value of our company and could impair our ability to raise capital, expand our business, maintain our research and development efforts, diversify our pipeline of product candidates or even continue our operations. A decline in the value of our company could also cause our stockholders to lose all or part of their investment.

We are heavily dependent on the success of tovinontrine.

We currently have no products that are approved for commercial sale and may never be able to develop marketable products. We expect that a substantial portion of our efforts and expenditures over the next several years will be devoted to tovinontrine, which is currently our only product candidate in clinical development. Accordingly, our business currently depends heavily on the successful development, regulatory approval and commercialization of tovinontrine. We cannot be certain that tovinontrine will receive regulatory approval or be successfully commercialized even if we receive regulatory approval. If we were required to discontinue development of tovinontrine or if tovinontrine does not receive regulatory approval or fails to achieve significant market acceptance, we likely would be delayed by many years in our ability to achieve profitability, if ever, and may not be able to generate sufficient revenue to continue our business.

We will need 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 to devote substantial financial resources to our ongoing and planned activities, including our Ardent Phase 2b and OLE clinical trials of tovinontrine in patients with SCD and our Forte Phase 2b clinical trial in patients with β-thalassemia. We expect our expenses to increase substantially in connection with our ongoing and planned activities, particularly as we advance our preclinical activities and clinical trials of and seek regulatory approval for tovinontrine and other product candidates we may develop. In addition, if we obtain regulatory approval for tovinontrine and any other product candidates we may develop, we expect to incur significant commercialization expenses related to product manufacturing, sales, marketing and distribution.

Identifying potential product candidates and conducting preclinical testing and 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 required to obtain regulatory approval and achieve product sales. In addition, any product candidates, if approved, may not achieve commercial success. Commercial revenues, if any, will not be derived unless and until we can achieve sales of products, which we do not anticipate for several years, if at all. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations.

As of September 30, 2021, we had cash, cash equivalents and investments of $102.8 million. We believe that our cash, cash equivalents and investments as of September 30, 2021 will enable us to fund our operating expenses and capital expenditure requirements into the first quarter of 2023. However, we have based this estimate on assumptions that may prove to be wrong, and our operating plan may change as a result of many factors currently unknown to us. As a result, we could deplete our capital resources sooner than we currently expect.

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

- the impact of the COVID-19 pandemic and our response to it;
- the time and cost necessary to complete our ongoing Ardent Phase 2b and OLE clinical trials of tovinontrine in patients with SCD, to initiate and complete one or more pivotal clinical trials of tovinontrine in SCD, and to pursue regulatory approvals for tovinontrine in SCD, and the costs of post-marketing studies that could be required by regulatory authorities;
- the time and cost necessary to complete our Forte Phase 2b clinical trial of tovinontrine in patients with β-thalassemia, to initiate and complete one or more pivotal clinical trials of tovinontrine in β-thalassemia, and to pursue regulatory approvals for tovinontrine in β-thalassemia, and the costs of post-marketing studies that could be required by regulatory authorities;
- our ability to advance tovinontrine in HFpEF into and through clinical development, and the timing and scope of these development activities;
- the costs of obtaining clinical and commercial supplies of tovinontrine and any other product candidates we may develop;
- our ability to successfully commercialize tovinontrine and any other product candidates we may develop;

- the manufacturing, selling and marketing costs associated with tovinontrine and any other product candidates we may develop, including the cost and timing of establishing our sales and marketing capabilities;
- the amount and timing of sales and other revenues from tovinontrine and any other product candidates we may develop, including the sales price and the availability of coverage and adequate third-party reimbursement;
- the time and cost necessary to respond to technological and market developments;
- the extent to which we may acquire or in-license other product candidates and technologies;
- our ability to attract, hire and retain qualified personnel; and
- the costs of maintaining, expanding and protecting our intellectual property portfolio.

We will continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all. In addition, we may seek additional capital when market conditions are favorable, or for strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. If adequate funds are not available to us on a timely basis or on terms acceptable to us, we may be required to delay, limit, reduce or terminate preclinical studies, clinical trials or other development activities for one or more product candidates or discovery stage programs or delay, limit, reduce or terminate our establishment of sales and marketing capabilities or other activities that may be necessary to commercialize any product candidates.

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 expect to finance our cash needs through a combination of equity offerings, debt financings, 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, our stockholders' ownership interests will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights as common stockholders. Debt financing and preferred equity financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, selling or licensing our assets, 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, 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 or on terms acceptable to us, 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 limited operating history may make it difficult to evaluate the success of our business to date and to assess our future viability.

We commenced activities in 2016 and are a clinical-stage company. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, developing our technology, and undertaking preclinical studies and clinical trials of tovinontrine. We have not yet demonstrated our ability to successfully develop any product candidate, obtain regulatory approvals, 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 about our future success or viability may not be as accurate as they could be if we had a longer operating history or a history of successfully developing and commercializing products.

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

We expect our financial condition and operating results to fluctuate significantly from quarter-to-quarter and year-to-year due to a variety of factors, many of which are beyond our control. Accordingly, our stockholders should not rely upon the results of any quarterly or annual periods as indications of future operating performance.

Our ability to use our net operating losses, or NOLs, and research and development tax credit carryforwards to offset future taxable income may be subject to certain limitations.

We have a history of cumulative losses and anticipate that we will continue to incur significant losses in the foreseeable future; thus, we do not know whether or when we will generate taxable income necessary to utilize our NOLs or research and development tax credit carryforwards. As of December 31, 2020, we had federal NOLs of $91.7 million and state NOLs of $85.5 million.

In general, under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, or the Code, and corresponding provisions of state law, a corporation that undergoes an "ownership change," generally defined as a greater than 50 percentage point change (by value) in its equity ownership by certain stockholders over a three year period, is subject to limitations on its ability to utilize its pre-change NOLs and research and development tax credit carryforwards to offset future taxable income. We have not conducted a study to assess whether any such ownership changes have occurred. We may have experienced such ownership changes in the past, including as a result of our public offering of shares of common stock in July 2021, and may experience such ownership changes in the future as a result of subsequent changes in our stock ownership (which may be outside our control). As a result, if, and to the extent that, we earn net taxable income, our ability to use our pre-change NOLs and research and development tax credit carryforwards to offset such taxable income may be subject to limitations.

There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing NOLs could expire or otherwise become unavailable to offset future income tax liabilities. As described below in "Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition," the Tax Cuts and Jobs Act, or the TCJA, as amended by the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, includes changes to U.S. federal tax rates and the rules governing NOL carryforwards that may significantly impact our ability to utilize our NOLs to offset taxable income in the future. Additionally, state NOLs generated in one state cannot be used to offset income generated in another state. For these reasons, even if we attain profitability, we may be unable to use a material portion of our NOLs and other tax attributes.

Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic, as may the operations of our suppliers and manufacturers and other third-party service providers.

In December 2019, a novel strain of coronavirus, called COVID-19, emerged and has now spread globally. The pandemic and government measures taken in response have had a significant impact, both direct and indirect, on businesses and commerce, as worker shortages have occurred; supply chains have been disrupted; facilities and production have been suspended; and demand for certain goods and services, such as medical services and supplies, has spiked, while demand for other goods and services, such as travel, has fallen. The future progression of the pandemic and its effects on our business and operations are uncertain.

The spread of COVID-19 has affected our operations to date, including by causing delays in the conduct of our clinical trials. While we have not experienced any significant disruptions with the third parties on which we rely, the spread of COVID-19, or another infectious disease, could also negatively affect the operations of our third-party manufacturers, which could result in disruptions in the supply of tovinontrine or any other product candidates we may develop. In addition, many of our employees are currently working remotely. The COVID-19 pandemic continues to rapidly evolve and could more significantly impact our operations in the future.

We have enrolled and seek to enroll patients in our ongoing clinical trials at sites located both in the United States and internationally. The COVID-19 pandemic has delayed and may continue to delay or otherwise adversely affect these clinical development activities, including our ability to recruit and retain patients in our ongoing clinical trials, as a result of many factors, including:

- diversion of healthcare resources away from the conduct of our clinical trials in order to focus on pandemic concerns, including the availability of necessary materials, the attention of physicians serving as our clinical trial investigators, access to hospitals serving as our clinical trial sites, availability of hospital staff supporting the conduct of our clinical trials and the reluctance of patients enrolled in our clinical trials to visit clinical trial sites;
- potential interruptions in global shipping affecting the transport of clinical trial materials, such as investigational drug product, patient samples and other supplies used in our clinical trials;

- the impact of further limitations on travel that could interrupt key clinical trial activities, such as clinical trial site initiations and monitoring activities, travel by our employees, contractors or patients to clinical trial sites, or the ability of employees at any of our contract manufacturers or contract research organizations, or CROs, to report to work, any of which could delay or adversely impact the conduct or progress of our clinical trials, and limit the amount of clinical data we will be able to report;
- any future interruption of, or delays in receiving, supplies of clinical trial material from our contract manufacturing organizations, or CMOs, due to staffing shortages, production slowdowns or stoppages or disruptions in delivery systems; and
- availability of future capacity at contract manufacturers to produce sufficient drug substance and drug product to meet forecasted clinical trial demand if any of these manufacturers elect or are required to divert attention or resources to the manufacture of other pharmaceutical products.

For example, the COVID-19 pandemic has resulted in disruptions to our clinical trial operations, including some missed and incomplete patient visits in our completed Phase 2a clinical trial of tovinontrine in SCD, delays to some patient visits in our OLE clinical trial in SCD, as well as site activation and enrollment delays and delays in review of our regulatory submissions with respect to our Ardent and Forte Phase 2b clinical trials of tovinontrine in SCD and β-thalassemia. In addition, the COVID-19 pandemic may affect the operations of the U.S. Food and Drug Administration, or FDA, and other health authorities, which could result in delays of regulatory actions related to our programs, including with respect to tovinontrine. Any negative impact that the COVID-19 pandemic has on recruiting or retaining patients in our clinical trials, the ability of our suppliers to provide materials for our product candidates, or the regulatory review process could cause additional delays which could materially and adversely affect our ability to obtain regulatory approval for and to commercialize our product candidates, increase our operating expenses, affect our ability to raise additional capital and have a material adverse effect on our financial results. In addition, if any of our clinical trial patients contract COVID-19, they may have adverse health outcomes that could impact the results of our clinical trials.

Additionally, while the potential economic impact and the duration of the COVID-19 pandemic is difficult to assess or predict, any impact of the COVID-19 pandemic on the global financial markets may reduce our ability to access capital, which could negatively impact our short-term and long-term liquidity.

While we expect the impacts of COVID-19 will continue to have some adverse effect on our business, the extent to which COVID-19 impacts our clinical trials, research and development activities and operations will depend on future developments, which remain uncertain and cannot be predicted with confidence, including the duration of the pandemic, new information which may emerge concerning the severity of COVID-19 and variants of COVID-19, the actions to contain COVID-19 or treat its impact and changes in government spending or priorities, among others. The COVID-19 pandemic is a widespread health crisis that continues to adversely affect the global economy and financial markets of many countries, and any economic downturn could also affect our operations, our ability to conduct our clinical trials, our ability to raise additional funds through public offerings and the volatility of our stock price and trading in our stock. Even after the COVID-19 pandemic has subsided, we may continue to experience adverse impacts to our business as a result of any economic recession or depression that has occurred or may occur in the future.

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

We are heavily dependent on the success of tovinontrine. If we are unable to successfully complete clinical development, obtain regulatory approval for, or commercialize tovinontrine, or experience delays in doing so, our business will be materially harmed.

To date, we have invested a majority of our efforts and financial resources in the preclinical and clinical development of tovinontrine. Our future success is heavily dependent on our ability to successfully develop, obtain regulatory approval for and commercialize tovinontrine. Tovinontrine is currently our only product candidate in clinical development and we are currently testing it as part of our Ardent and Forte Phase 2b clinical trials in SCD and β-thalassemia and our OLE clinical trial in SCD. We cannot be certain that tovinontrine will be successful in clinical trials or receive regulatory approval.

The success of tovinontrine will depend on several factors, including the following:

- our ability to effectively manage any adverse impact of COVID-19;
- successfully completing clinical trials;
- acceptance by the FDA or other regulatory agencies of regulatory filings for tovinontrine;
- expanding and maintaining a workforce of experienced clinical-stage drug development professionals and others to continue to develop tovinontrine;
- obtaining and maintaining intellectual property protection and regulatory exclusivity for tovinontrine;
- making arrangements with third-party manufacturers for, or establishing, commercial manufacturing capabilities;

- establishing sales, marketing and distribution capabilities and successfully launching commercial sales, if and when approved, whether alone or in collaboration with others;
- acceptance of tovinontrine, if and when approved, by patients, the medical community and third-party payors;
- effectively competing with other therapies, including Oxbryta (voxelotor) and Adakveo (crizanlizumab) in SCD and ZYNTEGLO (INN autologous CD34+ cells encoding βA-T87Q-globin gene) (currently only approved in Europe and for which FDA approval is currently being sought), as well as REBLOZYL (luspatercept-aamt) for the treatment of ß-thalassemia;
- obtaining and maintaining coverage, adequate pricing and adequate reimbursement from third-party payors, including government payors;
- patients' willingness to pay out-of-pocket for tovinontrine in the absence of coverage and/or adequate reimbursement from third-party payors; and
- maintaining a continued acceptable safety profile following receipt of any regulatory approvals.

Many of these factors are beyond our control, including clinical outcomes, the regulatory review process, potential threats to our intellectual property rights and the manufacturing, marketing and sales efforts of any future collaborator. If we are unable to develop, receive marketing approval for and successfully commercialize tovinontrine, or if we experience delays as a result of any of these factors or otherwise, we may need to spend significant additional time and resources to identify additional product candidates, advance them through preclinical and clinical development and apply for regulatory approvals, which would adversely affect our business, prospects, financial condition and results of operations.

Clinical drug development involves a lengthy and expensive process, with an uncertain outcome. We may incur additional costs or experience delays in completing, or ultimately be unable to complete, the development and commercialization of any product candidates.

The risk of failure for tovinontrine and any other product candidates we may develop is high. It is impossible to predict when or if tovinontrine and any other product candidates we may develop will prove effective or safe in humans or will receive regulatory approval. Before obtaining marketing approval from regulatory authorities for the sale of any product candidate, we must complete preclinical development and then conduct extensive clinical trials to demonstrate the safety and efficacy of such product candidate in humans. We have not yet begun or completed a pivotal clinical trial of tovinontrine or any other product candidate. Clinical trials may fail to demonstrate that tovinontrine and any other product candidates we may develop are safe for humans and effective for indicated uses. Even if the clinical trials are successful, changes in marketing approval policies during the development period, changes in or the enactment or promulgation of additional statutes, regulations or guidance or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application.

Before we can commence clinical trials for a product candidate, we must complete extensive preclinical testing and studies that support our planned investigational new drug applications, or INDs, and other regulatory filings in the United States and abroad. We cannot be certain of the timely completion or outcome of our preclinical testing and studies, and cannot predict if the FDA or other regulatory agencies will accept our proposed clinical programs or if the outcome of our preclinical testing and studies will ultimately support the further development of any product candidates. As a result, we cannot be sure that we will be able to submit INDs or similar applications for our preclinical programs on the timelines we expect, if at all, and we cannot be sure that submission of INDs or similar applications will result in the FDA or other regulatory authorities allowing clinical trials to begin. Furthermore, product candidates are subject to continued preclinical safety studies, which may be conducted concurrent with our clinical testing. The outcomes of these safety studies may delay the launch of or enrollment in future clinical trials and could impact our ability to continue to conduct our clinical trials.

Clinical trials are expensive, difficult to design and implement, can take many years to complete and are uncertain as to outcome. We cannot guarantee that any clinical trials will be conducted as planned or completed on schedule, or at all. A failure of one or more clinical trials can occur at any stage of testing, which may result from a multitude of factors, including, but not limited to, flaws in study design, dose selection issues, placebo effects, patient enrollment criteria and failure to demonstrate favorable safety or efficacy traits.

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 tovinontrine and any other product candidates we may develop, including:

- regulators or institutional review boards, 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 experience delays in reaching, or fail to reach, agreement on acceptable clinical trial contracts or clinical trial protocols with prospective trial sites;
- regulators may decide the design of our clinical trials is flawed, for example if our trial protocol does not evaluate treatment effects in trial subjects for a sufficient length of time;
- clinical trials of tovinontrine and any other product candidates we may develop may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs;
- we may be unable to establish clinical endpoints that applicable regulatory authorities would consider clinically meaningful, or, if we seek accelerated approval, biomarker efficacy endpoints that applicable regulatory authorities would consider likely to predict clinical benefit;
- the number of patients required for clinical trials of tovinontrine and any other product candidates we may develop 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;
- we may decide, or regulators or IRBs may require us, to suspend or terminate clinical trials of tovinontrine and any other product candidates we may develop for various reasons, including non-compliance with regulatory requirements or a finding that the participants are being exposed to unacceptable health risks;
- regulators or IRBs may require us to perform additional or unanticipated clinical trials to obtain approval or we may be subject to additional post-marketing testing requirements to maintain regulatory approval;
- regulators may revise the requirements for approving tovinontrine and any other product candidates we may develop, or such requirements may not be as we anticipate;
- the cost of clinical trials of tovinontrine and any other product candidates we may develop may be greater than we anticipate;
- the supply or quality of tovinontrine and any other product candidates we may develop or other materials necessary to conduct clinical trials of such product candidates may be insufficient or inadequate;
- Tovinontrine and any other product candidates we may develop may have undesirable side effects or other unexpected characteristics, causing us or our investigators, regulators or IRBs to suspend or terminate the trials; and
- regulators may withdraw their approval of a product or impose restrictions on its distribution, such as in the form of a risk evaluation and mitigation strategy, or REMS.

We face additional important risks related to the enrollment and completion of our clinical trials of tovinontrine as a result of the COVID-19 pandemic, which are further described in "—Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic as may the operations of our suppliers and manufacturers and other third-party service providers."

If we are required to conduct additional clinical trials or other testing of tovinontrine beyond those that we currently contemplate, if we are unable to successfully complete clinical trials or other testing of tovinontrine or any other product candidates we may develop, 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 for any 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 or a REMS that includes significant use or distribution restrictions or safety 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 in obtaining marketing approvals. We do not know whether any of our preclinical studies or clinical trials will begin as planned, will need to be restructured or will be completed on schedule, or at all. We may also change the design or protocol of one or more of our clinical trials, including to add additional patients or arms, which could result in increased costs and expenses and/or delays. Significant preclinical study or clinical

trial delays also could shorten any periods during which we may have the exclusive right to commercialize any product candidates or allow our competitors to bring products to market before we do and impair our ability to successfully commercialize any product candidates and may harm our business and results of operations.

Because we are developing tovinontrine using surrogate endpoints, the FDA or other regulatory authorities may not consider the endpoints of our clinical trials to predict or provide clinically meaningful results.

There are currently limited therapies approved to treat SCD. The clinical trial requirements of the FDA and other comparable regulatory agencies and the criteria these regulators use to determine the safety and efficacy of any product candidate vary substantially according to the type, complexity, novelty and intended use and market of the potential product. To date, there are only four FDA-approved drugs for SCD: voxelotor (marketed as Oxbryta), crizanlizumab (marketed as Adakveo), hydroxyurea and L-glutamine (marketed as Endari), and there are no approved therapies that target phosphodiesterase 9, or PDE9. As a result, the design and conduct of clinical trials for a therapeutic product candidate such as tovinontrine that targets PDE9 in SCD patients is subject to unknown risks, and we may experience setbacks with our ongoing or planned clinical trials of tovinontrine in SCD because of the limited clinical experience with its mechanism of action in these patients.

In particular, regulatory authorities in the United States and the European Union have not issued definitive guidance as to how to measure and achieve efficacy in treatments for SCD. As a result, the design and conduct of clinical trials of tovinontrine may take longer, be more costly or be less effective as part of the novelty of development in SCD. We may use new or novel endpoints or methodologies, such as both red and white blood cell biomarkers in our tovinontrine clinical trials, and the FDA or other regulatory authorities may not consider the endpoints of our clinical trials to provide clinically meaningful results. Even if applicable regulatory authorities do not object to our proposed endpoints in an earlier stage clinical trial, such regulatory authorities may require evaluation of additional or different clinical endpoints in later-stage clinical trials. Additionally, if we pursue accelerated approval or other expedited regulatory approval mechanisms for tovinontrine, the FDA or another regulatory authority may determine that the biomarker efficacy endpoint we select for evaluation is not sufficiently predictive of clinical benefit to support accelerated approval. For example, while the FDA commented at our face-to-face Type B meeting that our revised Phase 2b trial design and approach to data collection to support HbF as a potential surrogate endpoint was acceptable, the FDA stressed the importance of defining clear and strong assumptions and having robust results, which would be evaluated by the FDA to test if an increase of at least 3% in HbF would provide meaningful clinical benefit and therefore constitute an acceptable surrogate endpoint for a future pivotal trial of tovinontrine in SCD. If we are not able to demonstrate clinical benefit related to this endpoint to the FDA's satisfaction, we will have to consider other endpoints for the pivotal program, which may include greater levels of HbF increases.

Even if the FDA does find our clinical trial success criteria to be sufficiently validated and clinically meaningful, we may not achieve the pre-specified endpoint to a degree of statistical significance deemed approvable in any pivotal or other clinical trials we may conduct for tovinontrine. Further, even if we do achieve the pre-specified criteria, our trials may produce results that are unpredictable or inconsistent with the results of the more traditional efficacy endpoints in the trial. The FDA also could give overriding weight to other efficacy endpoints over a primary endpoint, even if we achieve statistically significant results on that primary endpoint, if we do not do so on our secondary or other efficacy endpoints. The FDA also weighs the benefits of a product against its risks and the FDA may view the efficacy results in the context of safety as not being supportive of approval. Other regulatory authorities in the European Union and other countries may make similar findings with respect to these endpoints.

The outcome of preclinical studies and earlier-stage clinical trials may not be predictive of the success of later-stage clinical trials.

The outcome of preclinical testing and earlier-stage clinical trials may not be predictive of the success of later-stage clinical trials. Tovinontrine and any other product candidates we may develop may fail to show the desired safety and efficacy in clinical development despite positive results in preclinical studies or having successfully advanced through initial clinical trials. For example, in our SCD clinical trials, tovinontrine may not be effective at increasing red blood cell biomarkers that include HbF, F-cells, hemoglobin, and reducing reticulocytes, indirect bilirubin, and LDH. Furthermore, in our SCD clinical trials, tovinontrine may not impact adhesion/white blood cell markers such as P-selectin, E-selectin, or VCAM. Even if tovinontrine successfully increases or decreases, as applicable, these biomarkers in clinical trials, such increase or decrease may not result in overall clinical benefit. A lack of clinical benefit may be due to insufficient dosing or for other reasons. Additionally, any positive results generated in our Phase 2a, OLE or Ardent Phase 2b clinical trial of tovinontrine in adults with SCD would not ensure that we will achieve similar results in larger, pivotal clinical trials or in clinical trials of tovinontrine in adolescent and pediatric populations with SCD. We face similar risks in our development of tovinontrine in areas outside of SCD, including ß-thalassemia and HFpEF, as well as in development of other product candidates we may develop. Several companies in the pharmaceutical and biotechnology industries have suffered significant setbacks in late-stage clinical trials even after achieving promising results in preclinical testing and earlier-stage clinical trials, and we cannot be certain that we will not face similar setbacks. 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. Furthermore, the failure of any product candidate to demonstrate safety and efficacy in any clinical trial could negatively impact the perception of any other product candidates then under development and/or cause the FDA or other regulatory authorities to require additional testing before approving any other such product candidates.

Interim top-line and preliminary results 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, which could result in material changes in the final data.

From time to time, we may publish interim top-line or preliminary results from our clinical trials. Interim results 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. Preliminary or top-line results also remain subject to audit and verification procedures that may result in the final data being materially different from the preliminary data we previously published. As a result, interim and preliminary data should be viewed with caution until the final data are available. Differences between preliminary or interim data and final data could significantly harm our business prospects and may cause the trading price of our common stock to fluctuate significantly.

As an organization, we have never conducted pivotal clinical trials, and we may be unable to do so for tovinontrine or any other product candidates we may develop.

We will need to successfully complete pivotal clinical trials in order to obtain the approval of the FDA, the European Medicines Agency, or EMA, or other regulatory agencies to market tovinontrine or any other product candidate. Carrying out later-stage clinical trials is a complicated process. As an organization, we have not previously conducted any pivotal clinical trials. In order to do so, we will need to expand our clinical development and regulatory capabilities, and we may be unable to recruit qualified personnel. Consequently, we may be unable to successfully and efficiently execute and complete necessary clinical trials in a way that leads to approval of tovinontrine or other product candidates. We may require more time and incur greater costs than our competitors and may not succeed in obtaining regulatory approvals of product candidates that we develop. Failure to commence or complete, or delays in, our planned clinical trials, could prevent us from or delay us in commercializing our product candidates.

If we experience delays or difficulties in the enrollment of patients in clinical trials, our receipt of necessary regulatory approvals could be delayed or prevented.

Identifying and qualifying patients to participate in clinical trials for tovinontrine and any other product candidates we may develop is critical to our success. Successful and timely completion of clinical trials will require that we enroll a sufficient number of patients who remain in the trial until its conclusion. We may not be able to initiate or continue clinical trials for tovinontrine and any other product candidates we may develop if we are unable to locate and enroll a sufficient number of eligible patients to participate in these trials as required by the FDA or similar regulatory authorities outside of the United States. For example, the prevalence of patients with SCD and β-thalassemia in the United States and Europe is estimated to be low. Accordingly, there are limited patient pools from which to draw for clinical trials of tovinontrine. We may not be able to identify, recruit, and enroll a sufficient number of patients to complete our clinical trials of tovinontrine because of the perceived risks and benefits of tovinontrine, the availability of competing therapies and clinical trials, the proximity and availability of clinical trial sites for prospective subjects and the subject referral practices of physicians, among other factors.

Patient enrollment is affected by a variety of other factors, including:

- the prevalence and severity of the disease under investigation;
- the eligibility criteria for the trial in question;
- the perceived risks and benefits of the product candidate under trial;
- the requirements of the trial protocols;
- the availability of existing commercially-available treatments for the indications for which we are conducting clinical trials;
- the ability to recruit clinical trial investigators with the appropriate competencies and experience;
- efforts to facilitate timely enrollment in clinical trials;
- the patient referral practices of physicians;
- the ability to monitor patients adequately during and after treatment;

- the proximity and availability of clinical trial sites for prospective patients;
- the conduct of clinical trials by competitors for product candidates that treat the same indications as tovinontrine and any other product candidates we may develop;
- the ability to identify specific patient populations for biomarker-defined trial cohort(s); and
- the cost to, or lack of adequate compensation for, prospective patients.

In addition, the COVID-19 pandemic has impacted, and is likely to continue to directly or indirectly impact the pace of enrollment in our clinical trials as patients may avoid, may not be allowed to, or may not be able to travel to healthcare facilities and physicians' offices unless due to a health emergency.

Our inability to locate and enroll a sufficient number of patients for our clinical trials would result in significant delays, could require us to abandon one or more clinical trials altogether and could delay or prevent our receipt of necessary regulatory approvals. Enrollment delays in our clinical trials may result in increased development costs for tovinontrine and any other product candidates we may develop, which would cause the value of our company to decline and limit our ability to obtain additional financing.

Changes in methods of product candidate manufacturing or formulation may result in additional costs or delay.

As product candidates proceed through preclinical studies to late-stage clinical trials towards potential approval and commercialization, it is common that various aspects of the development program, such as manufacturing methods and formulation, are altered along the way in an effort to optimize processes and results. Such changes carry the risk that they will not achieve these intended objectives. Any of these changes could cause tovinontrine or any other product candidates we may develop to perform differently and affect the results of planned clinical trials or other future clinical trials conducted with the materials manufactured using altered processes. Such changes may also require additional testing, FDA notification or FDA approval. This could delay completion of clinical trials, require the conduct of bridging clinical trials or the repetition of one or more clinical trials, increase clinical trial costs, delay approval of the affected product candidate and jeopardize our ability to commence sales and generate revenue.

If serious adverse events or unacceptable side effects are identified during the development of tovinontrine and any other product candidates we may develop, we may need to abandon or limit our development of those product candidates.

Clinical trials by their nature utilize a sample of the potential patient population. We have only evaluated tovinontrine in a limited number of subjects and our ongoing clinical trials of tovinontrine are being conducted at higher doses than previous clinical trials of tovinontrine. Accordingly, any rare and severe side effects of tovinontrine may be uncovered only in later stages of our current and future clinical development. Many product candidates that initially showed promise in early stage testing have later been found to cause side effects that prevented their further development. If tovinontrine and any other product candidates we may develop are associated with undesirable side effects in clinical trials or have characteristics that are unexpected in clinical trials or preclinical testing, we may need to abandon their development or limit development to more narrow uses or subpopulations in which the side effects or other characteristics are less prevalent, less severe or more acceptable from a risk-benefit perspective. In pharmaceutical development, many compounds that initially show promise in early-stage or clinical testing are later found to cause side effects that delay or prevent further development of the compound.

Additionally, if results of our clinical trials reveal unacceptable side effects, we, the FDA or similar regulatory authorities outside of the United States, or the IRBs or Ethics Committees at the institutions in which our studies are conducted could suspend or terminate our clinical trials or the FDA or similar foreign regulatory authorities could order us to cease clinical trials or deny approval of tovinontrine and any other product candidates we may develop for any or all targeted indications. Treatment-related side effects could also affect patient recruitment or the ability of enrolled patients to complete any of our clinical trials. If we elect or are forced to suspend or terminate any clinical trial of tovinontrine and any other product candidates we may develop, the commercial prospects of such product candidate will be harmed, and our ability to generate product revenue from such product candidate will be delayed or eliminated. Any of these occurrences could materially harm our business.

We are also developing tovinontrine in combination with other therapies, which exposes us to additional risks.

We are developing tovinontrine both as a monotherapy and in combination with hydroxyurea, a currently approved therapy for SCD, and may develop future product candidates in combination with one or more currently approved therapies. Even if any product candidate we develop were to receive marketing approval or be commercialized for use in combination with other existing therapies, we would continue to be subject to the risks that the FDA or similar regulatory authorities outside of the United States could revoke approval of the therapy used in combination with our product candidate or that safety, efficacy, manufacturing or supply issues could

arise with these existing therapies. This could result in our own products being removed from the market or being less successful commercially.

If any product candidate receives marketing approval and we, or others, later discover that the drug is less effective than previously believed or causes undesirable side effects that were not previously identified, our ability to market the drug could be compromised.

We conduct, and intend to conduct in the future, clinical trials of product candidates in carefully defined subsets of patients who have agreed to enter into clinical trials. Consequently, it is possible that our clinical trials may indicate an apparent positive effect of a product candidate that is greater than the actual positive effect, if any, or alternatively fail to identify undesirable side effects. If any product candidate receives regulatory approval, and we, or others, later discover that it is less effective than previously believed, or causes undesirable side effects, a number of potentially significant negative consequences could result, including:

- withdrawal or limitation by regulatory authorities of approvals of such product;
- seizure of the product by regulatory authorities;
- recall of the product;
- restrictions on the marketing of the product or the manufacturing process for any component thereof;
- requirement by regulatory authorities of additional warnings on the label, such as a “black box” warning or contraindication;
- decrease or elimination of third-party reimbursement;
- requirement that we implement a REMS or create a medication guide outlining the risks of such side effects for distribution to patients;
- commitment to expensive post-marketing studies as a prerequisite of approval by regulatory authorities of such product;
- the product may become less competitive;
- initiation of regulatory investigations and government enforcement actions;
- initiation of legal action against us to hold us liable for harm caused to patients; and
- harm to our reputation and resulting harm to physician or patient acceptance of our products.

Any of these events could prevent us from achieving or maintaining market acceptance of a particular product candidate, if approved, and could significantly harm our business, financial condition, and results of operations.

We may not be successful in our efforts to identify or discover additional product candidates and may fail to capitalize on programs or product candidates that may present a greater commercial opportunity or for which there is a greater likelihood of success.

If we do not successfully develop and eventually commercialize products, we will not obtain product revenue in future periods, resulting in significant harm to our financial position and adversely affecting our share price. We are currently conducting our Ardent Phase 2b clinical trial of tovinontrine in patients with SCD, our Forte Phase 2b clinical trial of tovinontrine in patients with β-thalassemia and our OLE clinical trial of tovinontrine in patients with SCD. In addition, we expect to commence clinical development of tovinontrine in HFpEF in 2022. A failure to establish tovinontrine as a viable treatment for SCD, β-thalassemia and/or HFpEF could harm our business prospects. In addition, we may explore tovinontrine in other indications or acquire additional product candidates for development. For example, in 2020 we acquired IMR-261, however we have not yet commenced clinical development of this product candidate and any future development efforts for IMR-261 may not be successful. There can be no assurance that we will be successful in our efforts to identify or acquire additional potential product candidates. Even if we identify or acquire additional product candidates, there can be no assurance that our development efforts will be successful.

Additionally, because we have limited resources, we may forego or delay pursuit of opportunities with certain programs or product candidates or for indications that later prove to have greater commercial potential. For example, we currently intend to focus our capital resources primarily on the development of tovinontrine. However, the development of tovinontrine may ultimately prove to be unsuccessful or less successful than another potential product candidate in our pipeline that we might have chosen to pursue on a more aggressive basis with our capital resources. If we do not accurately evaluate the commercial potential for a particular product candidate, we may relinquish valuable rights to that product candidate through strategic collaboration, licensing or other arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate. Alternatively, we may allocate internal resources to a product candidate in a therapeutic area in which it would have been more advantageous to enter into a partnering arrangement.

We are conducting clinical trials of tovinontrine at clinical trial sites outside the United States, and the FDA may not accept data from trials conducted in such international locations.

In addition to our clinical sites in the United States, we are currently conducting clinical trials of tovinontrine at clinical sites outside of the United States. For example, our Ardent and Forte Phase 2b clinical trials of tovinontrine in SCD and β-thalassemia are currently being conducted at clinical sites in Europe, Asia and Africa. Although the FDA may accept data from clinical trials conducted outside the United States, acceptance of these data is subject to conditions imposed by the FDA. For example, the clinical trial must be well designed and conducted and be performed by qualified investigators in accordance with ethical and Good Clinical Practice, or GCP, principles. The trial population must also adequately represent the U.S. population, and the data must be applicable to the U.S. population and U.S. medical practice in ways that the FDA deems clinically meaningful. In addition, while these clinical trials are subject to the applicable local laws, FDA acceptance of the data will depend on its determination that the trials also complied with all applicable U.S. laws and regulations. If the FDA does not accept the data from any trial conducted or from particular clinical trial sites located outside the United States, it would likely result in the need for additional trials, which would be costly and time-consuming and could delay or permanently halt our development of the applicable product candidates.

Even if any product candidate receives marketing approval, it may fail to achieve the degree of market acceptance by physicians, patients, third-party payors and others in the medical community necessary for commercial success.

If any product candidate receives marketing approval, it may nonetheless fail to gain sufficient market acceptance by physicians, patients, third-party payors and others in the medical community. Sales of medical products depend in part on the willingness of physicians to prescribe the treatment, which is likely to be based on a determination by these physicians that the products are safe, therapeutically effective and cost effective. In addition, the inclusion or exclusion of products from treatment guidelines established by various physician groups and the viewpoints of influential physicians can affect the willingness of other physicians to prescribe the treatment. We cannot predict whether physicians, physicians' organizations, hospitals, other healthcare providers, government agencies or private insurers will determine that our product is safe, therapeutically effective and cost effective as compared with competing treatments. Efforts to educate the medical community and third-party payors on the benefits of tovinontrine and any other product candidates we may develop may require significant resources and may not be successful. If tovinontrine and any other product candidates we may develop do not achieve an adequate level of acceptance, we may not generate significant product revenues and we may not become profitable. The degree of market acceptance of tovinontrine and any other product candidates we may develop, if approved for commercial sale, will depend on a number of factors, including:

- the efficacy and potential advantages compared to alternative treatments, such as, in the case of tovinontrine, Oxbryta, Adakveo, hydroxyurea, ZYNTEGLO, REBLOZYL and Endari;
- the effectiveness of sales and marketing efforts;
- the cost of treatment in relation to alternative treatments, including any similar generic treatments;
- the clinical indications for which the product is approved;
- the convenience and ease of administration compared to alternative treatments;
- the willingness of the target patient population to try new therapies and to continue treatment over time and of physicians to prescribe these therapies;
- the strength of marketing and distribution support;
- the timing of market introduction of competitive products;
- the availability of third-party coverage and adequate reimbursement, and patients' willingness to pay out of pocket for required co-payments or in the absence of third-party coverage or adequate reimbursement;
- the prevalence and severity of any side effects; and
- any restrictions on the use of our products, if approved, together with other medications.

If we are unable to establish sales, marketing and distribution capabilities or enter into sales, marketing and distribution agreements with third parties, we may not be successful in commercializing any product candidates if and when they are approved.

We do not have a sales or marketing infrastructure and have no experience in the sale, marketing or distribution of pharmaceutical products. To achieve commercial success for any product for which we have obtained marketing approval, we will need to establish a sales, marketing and distribution organization, either ourselves or through collaborations or other arrangements with third parties.

In the future, we expect that we would begin to build a sales and marketing infrastructure to market tovinontrine and any other product candidates we may develop, if and when approved by the applicable regulatory authority. There are risks involved with

establishing our own sales, marketing and distribution capabilities. For example, recruiting and training a sales force is expensive and time-consuming and could delay any product launch. If the commercial launch of a product candidate for which we recruit a sales force and establish marketing capabilities is delayed or does not occur for any reason, we would have prematurely or unnecessarily incurred these commercialization expenses. These efforts may be costly, and our investment would be lost if we cannot retain or reposition our sales and marketing personnel.

Factors that may inhibit our efforts to commercialize our products on our own include:

- our inability to recruit, train and retain adequate numbers of effective sales, marketing, coverage or reimbursement, customer service, medical affairs and other support personnel;
- the inability of sales personnel to educate adequate numbers of physicians on the benefits of any future products;
- the inability of reimbursement professionals to negotiate arrangements for formulary access, reimbursement and other acceptance by payors;
- the inability to price our products at a sufficient price point to ensure an adequate and attractive level of profitability;
- restricted or closed distribution channels that make it difficult to distribute our products to segments of the patient population;
- the lack of complementary products to be offered by sales personnel, which may put us at a competitive disadvantage relative to companies with more extensive product lines; and
- unforeseen costs and expenses associated with creating an independent sales and marketing organization.

If we are unable to establish our own sales, marketing and distribution capabilities and we enter into arrangements with third parties to perform these services, our product revenues and our profitability, if any, are likely to be lower than if we were to market, sell and distribute any products that we develop ourselves. In addition, we may not be successful in entering into arrangements with third parties to sell, market and distribute any product candidates or may be unable to do so on terms that are acceptable to us. We likely will have little control over such third parties, and any of them may fail to devote the necessary resources and attention to sell and market our products effectively. If we do not establish sales, marketing and distribution capabilities successfully, either on our own or in collaboration with third parties, we will not be successful in commercializing any product candidates.

We face substantial competition, which may result in others discovering, developing or commercializing products before or more successfully than we do.

The development and commercialization of new drug products is highly competitive. We face competition with respect to tovinontrine and will face competition with respect to any product candidates that we may seek to develop or commercialize in the future, from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. There are a number of large pharmaceutical and biotechnology companies that currently market and sell products or are pursuing the development of products for the treatment of the same disease indications we are pursuing. Some of these competitive products and therapies are based on scientific approaches that are the same as or similar to our approach, and others are based on entirely different approaches. Potential competitors also include academic institutions, government agencies and other public and private research organizations that conduct research, seek patent protection and establish collaborative arrangements for research, development, manufacturing and commercialization.

In the area of SCD, we expect to face competition from voxelotor (marketed as Oxbryta by Global Blood Therapeutics, Inc., or GBT), crizanlizumab (marketed as Adakveo by Novartis AG, or Novartis), HU (marketed under trade names including DROXIA by Bristol-Myers Squibb Company and SIKLOS by Addmedica, as well as in generic form) and L-glutamine (marketed as Endari), which are currently the only FDA-approved therapies for the treatment of SCD. In addition, with respect to SCD, we are aware of several product candidates in clinical development, including several product candidates for which FDA approval is currently being sought, which could be competitive with product candidates that we may successfully develop and commercialize. Novo Nordisk A/S (in collaboration with EpiDestiny, Inc.), Aruvant Sciences, Inc., Sangamo Therapeutics Inc., or Sangamo (in collaboration with Sanofi), Fulcrum Therapeutics, Inc., Agios Pharmaceuticals, Inc., Forma Therapeutics, Inc., bluebird bio, Inc., Intellia Therapeutics, Inc. (in collaboration with Novartis), Editas Medicine, Inc., CRISPR Therapeutics AG, or CRISPR (in collaboration with Vertex Pharmaceuticals Incorporated, or Vertex) and Syros Pharmaceuticals, Inc. (in collaboration with GBT), Pfizer Inc., CSL Behring, Vifor Pharma Ltd. and Graphite Bio Inc., among potentially other companies, are developing therapeutic approaches for patients with SCD.

In the area of b-thalassemia, we expect to face competition from ZYNTEGLO (marketed by bluebird bio, Inc.), which is currently only approved in Europe for the treatment of b-thalassemia and for which FDA approval is currently being sought, as well as

REBLOZYL (marketed by Bristol-Myers Squibb Co. and Acceleron Pharma Inc.), which is approved in the United States for the treatment of anemia in adult patients with ß-thalassemia who require regular RBC transfusions. In addition, with respect to b-thalassemia, we are aware of several product candidates in clinical development, including several product candidates for which FDA approval is currently being sought, which could be competitive with product candidates that we may successfully develop and commercialize. Novo Nordisk A/S (in collaboration with EpiDestiny, Inc.), Sangamo (in collaboration with Sanofi), CRISPR (in collaboration with Vertex), Agios Pharmaceuticals, Inc. and Syros Pharmaceuticals, Inc. (in collaboration with GBT), Forma Therapeutics, Incl, Silence Therapeutics, PLC and Vifor Pharma Ltd., among potentially other companies, are developing therapeutic approaches for patients with transfusion-dependent or non-transfusion-dependent b-thalassemia.

In the area of HFpEF, we expect to face competition from ENTRESTO (marketed by Novartis) which is currently the only FDA-approved therapy for HFpEF. We are also aware of several drugs approved for other indications that are likely to seek near-term marketing approval for HFpEF including Jardiance (Eli Lilly & Co.), Farxiga (Astra Zeneca, PLC), Invokana (Johnson & Johnson) and Zynquista (Lexicon Pharmaceuticals, Inc). In addition, Eli Lilly & Co., Bristol-Myers Squibb Co., Cytokinetics, Inc., Astra Zeneca, PLC, Acceleron Pharma, Inc., Palatin Technologies, Inc., Cardurion Pharmaceuticals, LLC and TransThera Biosciences Co., Ltd., among potentially other companies, are also developing therapeutic approaches for patient with HFpEF.

Our commercial opportunity could be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer or less severe side effects, are more convenient or are less expensive than any products that we may develop. Our competitors also may obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours, which could result in our competitors establishing a strong market position before we are able to enter the market. In addition, our ability to compete may be affected in many cases by insurers or other third-party payors seeking to encourage the use of generic products. If any product candidates achieve marketing approval, we expect that they would be priced at a significant premium over competitive generic products.

Many of the companies against which we are competing or against which we may compete in the future have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do.

Mergers and acquisitions in the pharmaceutical and biotechnology industries may result in even more resources being concentrated among a smaller number of our competitors. Smaller and other early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies complementary to, or necessary for, our programs.

If the market opportunities for tovinontrine and any other product candidates we may develop are smaller than we believe they are, our revenue may be adversely affected and our business may suffer. Moreover, because the target patient populations we are seeking to treat in SCD and β-thalassemia are relatively small, and the addressable patient population even smaller, we must be able to successfully identify patients and capture a significant market share to achieve profitability and growth.

To date, we have primarily focused our research and product development on treatments for rare inherited genetic disorders of hemoglobin. The prevalence of SCD is approximately 100,000 individuals in the United States and 134,000 individuals in the European Union. Similarly, the prevalence of β-thalassemia globally is estimated to be 288,000 individuals and the aggregate prevalence of β-thalassemia in the European Union and United States is estimated to be 19,000 individuals. Given the small number of patients who have SCD and β-thalassemia, it is critical to our ability to grow and become profitable that we continue to successfully identify patients with these rare diseases. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with tovinontrine and any other product candidates we may develop, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, surveys of clinics, patient foundations or market research that we conducted, and may prove to be incorrect or contain errors. New studies may change the estimated incidence or prevalence of these diseases. The number of patients may turn out to be lower than expected. The effort to identify patients with diseases we seek to treat is in early stages, and we cannot accurately predict the number of patients for whom treatment might be possible. Additionally, the potentially addressable patient population for tovinontrine and any other product candidates we may develop may be limited or may not be amenable to treatment with tovinontrine and any other product candidates we may develop, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our results of operations and our business. Further, even if we obtain significant market share for tovinontrine and any other product candidates we may develop for SCD and β-thalassemia, because the potential target populations are very small, we may never achieve profitability despite obtaining such significant market share.

The target patient populations for SCD and β-thalassemia are relatively small, and there are currently limited standard of care treatments directed at SCD and β-thalassemia. As a result, the pricing and reimbursement of tovinontrine and any other product

candidates we may develop, if approved, is uncertain, but must be adequate to support commercial infrastructure. If we are unable to obtain adequate levels of reimbursement, our ability to successfully market and sell tovinontrine and any other product candidates we may develop will be adversely affected.

We rely on CMOs to manufacture tovinontrine and expect to rely on CMOs to manufacture any other product candidates we may develop. If we are unable to enter into such arrangements as expected or if such organizations do not meet our supply requirements, development and/or commercialization of tovinontrine and any other product candidates we may develop may be delayed.

We do not have any manufacturing facilities. We currently rely on a single manufacturer of active pharmaceutical ingredient, or API, for tovinontrine and a different single manufacturer for finished drug product, and we expect to continue to rely on third parties to manufacture clinical supplies of tovinontrine and any other product candidates we may develop and commercial supplies of our products, if and when approved for marketing by applicable regulatory authorities, as well as for packaging, sterilization, storage, distribution and other production logistics. If we are unable to enter into such arrangements on the terms or timeline we expect, development and/or commercialization of tovinontrine and any other product candidates we may develop may be delayed. Reliance on third-party manufacturers may expose us to different risks than if we were to manufacture product candidates ourselves. If these third parties do not successfully carry out their contractual duties, meet expected deadlines or manufacture any product candidates in accordance with regulatory requirements, if there are disagreements between us and such parties or if such parties are unable to expand capacities to support commercialization of any product candidates for which we obtain marketing approval, we may not be able to fulfill, or may be delayed in producing sufficient product candidates to meet, our supply requirements. These facilities may also be affected by natural disasters, such as floods or fire, or geopolitical developments, or such facilities could face manufacturing issues, such as contamination or regulatory concerns following a regulatory inspection of such facility. In such instances, we may need to locate an appropriate replacement third-party facility and establish a contractual relationship, which may not be readily available or on acceptable terms, which would cause additional delay and increased expense, and may have a material adverse effect on our business.

Our third-party manufacturers are subject to regulatory inspection from time to time, including inspection and approval by the FDA and similar foreign regulators before we can commence the manufacture and sale of any product candidates, and thereafter. Failure by our third-party manufacturers to pass such inspections and otherwise satisfactorily complete the approval regimen with respect to tovinontrine and any other product candidates we may develop may result in regulatory actions such as the issuance of FDA Form 483 notices of observations, warning letters or injunctions or the loss of operating licenses.

We or our third-party manufacturers may also encounter shortages in the raw materials or API necessary to produce tovinontrine and any other product candidates we may develop in the quantities needed for our clinical trials or, if tovinontrine and any other product candidates we may develop are approved, in sufficient quantities for commercialization or to meet an increase in demand, as a result of capacity constraints or delays or disruptions in the market for the raw materials or API, including shortages caused by the purchase of such raw materials or API by our competitors or others. Even if raw materials or API are available, we may be unable to obtain sufficient quantities at an acceptable cost or quality. The failure of us or our third-party manufacturers to obtain the raw materials or API necessary to manufacture sufficient quantities of tovinontrine and any other product candidates we may develop could delay, prevent or impair our development efforts and may have a material adverse effect on our business.

We face additional important risks related to our reliance on CMOs to meet our current and future supply needs of tovinontrine as a result of the COVID-19 pandemic, which are further described in "—Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic as may the operations of our suppliers and manufacturers and other third-party service providers."

Even if we are able to commercialize any product candidates, the products may become subject to unfavorable pricing regulations, third-party coverage or reimbursement practices or healthcare reform initiatives, which could harm our business.

The regulations that govern marketing approvals, pricing, coverage and reimbursement for new drug products vary widely from country to country. Current and future legislation may significantly change the approval requirements in ways that could involve additional costs and cause delays in obtaining approvals. Some countries require approval of the sale price of a drug before it can be marketed. In many countries, the pricing review period begins after marketing or product licensing approval is granted. In some foreign markets, prescription pharmaceutical pricing remains subject to continuing governmental control even after initial approval is granted. As a result, we might obtain marketing approval for a product in a particular country, but then be subject to price regulations that delay our commercial launch of the product, possibly for lengthy time periods, and negatively impact the revenues we are able to generate from the sale of the product in that country. Adverse pricing limitations may hinder our ability to recoup our investment in one or more product candidates, even if any product candidates obtain marketing approval.

Our ability to commercialize any product candidates successfully will depend in part on the extent to which coverage and adequate reimbursement for these products and related treatments will be available from government health administration authorities, private health insurers and other organizations. Government authorities and other third-party payors, such as private health insurers and health maintenance organizations, decide which medications they will pay for and establish reimbursement levels. A primary trend in the U.S. healthcare industry and elsewhere is cost containment. Government authorities and other third-party payors have attempted to control costs by limiting coverage and the amount of reimbursement for particular medications. Increasingly, third-party payors are requiring that drug companies provide them with predetermined discounts from list prices and are challenging the prices charged for medical products. Coverage and reimbursement may not be available for any product that we commercialize and, even if these are available, the level of reimbursement may not be satisfactory. Reimbursement may affect the demand for, or the price of, any product candidate for which we obtain marketing approval. Obtaining and maintaining adequate reimbursement for our products may be difficult. There can be no assurance that any product candidates, even if they are approved for sale in the United States or in other countries, will be considered medically reasonable and necessary for a specific indication or cost-effective by third-party payors. We may be required to conduct expensive pharmacoeconomic studies to justify coverage and reimbursement or the level of reimbursement relative to other therapies. If coverage and adequate reimbursement are not available, we may not be able to successfully commercialize any product candidate for which we obtain marketing approval.

There may be significant delays in obtaining coverage and reimbursement for newly approved drugs, and coverage may be more limited than the purposes for which the drug is approved by the FDA or similar regulatory authorities outside of the United States. Moreover, eligibility for coverage and reimbursement does not imply that a drug will be paid for in all cases or at a rate that covers our costs, including research, development, manufacture, sale and distribution expenses. Interim reimbursement levels for new drugs, if applicable, may also not be sufficient to cover our costs and may not be made permanent. Reimbursement rates may vary according to the use of the drug and the clinical setting in which it is used, may be based on reimbursement levels already set for lower cost drugs and may be incorporated into existing payments for other services. Net prices for drugs may be reduced by mandatory discounts or rebates required by government healthcare programs or private payors and by any future relaxation of laws that presently restrict imports of drugs from countries where they may be sold at lower prices than in the United States. Further, no uniform policy for coverage and reimbursement exists in the United States. Third-party payors often rely upon Medicare coverage policy and payment limitations in setting their own reimbursement policies, but also have their own methods and process apart from Medicare determinations. As a result, obtaining and maintaining coverage and adequate reimbursement is often time-consuming and costly. Our inability to promptly obtain coverage and adequate reimbursement rates from both government-funded and private payors for any approved products that we develop could have a material adverse effect on our operating results, our ability to raise capital needed to commercialize products and our overall financial condition.

Our future growth depends, in part, on our ability to penetrate foreign markets, where we would be subject to additional regulatory burdens and other risks and uncertainties that, if they materialize, could harm our business.

Our future profitability will depend, in part, on our ability to commercialize tovinontrine and any other product candidates we may develop in markets outside of the United States and the European Union. If we commercialize tovinontrine and any other product candidates we may develop in foreign markets, we will be subject to additional risks and uncertainties, including:

- economic weakness, including inflation, or political instability in particular economies and markets;
- the burden of complying with complex and changing foreign regulatory, tax, accounting and legal requirements, many of which vary between countries;
- different medical practices and customs in foreign countries affecting acceptance in the marketplace;
- tariffs and trade barriers, as well as other governmental controls and trade restrictions;
- other trade protection measures, import or export licensing requirements or other restrictive actions by U.S. or foreign governments;
- longer accounts receivable collection times;
- longer lead times for shipping;
- compliance with tax, employment, immigration and labor laws for employees living or traveling abroad;
- workforce uncertainty in countries where labor unrest is common;
- language barriers for technical training;
- reduced protection of intellectual property rights in some foreign countries, and related prevalence of generic alternatives to therapeutics;
- foreign currency exchange rate fluctuations and currency controls;

- differing foreign reimbursement landscapes;
- uncertain and potentially inadequate reimbursement of our products; and
- the interpretation of contractual provisions governed by foreign laws in the event of a contract dispute.

If risks related to any of these uncertainties materializes, it could have a material adverse effect on our business.

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

We face an inherent risk of clinical trial and product liability exposure related to the testing of tovinontrine and any other product candidates we may develop in clinical trials, and we will face an even greater risk if we commercially sell any products that we may develop. While we currently have no products that have been approved for commercial sale, the current and future use of product candidates by us in clinical trials, and the sale of any approved products in the future, may expose us to liability claims. These claims might be made by patients that use the product, healthcare providers, pharmaceutical companies or others selling such products. If we cannot successfully defend ourselves against claims that tovinontrine and any other product candidates or products we may develop caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for tovinontrine and any other 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 any related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue;
- reduced resources of our management to pursue our business strategy; and
- the inability to commercialize any products that we may develop.

Although we currently hold clinical trial liability insurance coverage in amounts we believe to be adequate, we may need to increase our insurance coverage as we expand our clinical trials or if we commence commercialization of any product candidates. 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 a successful clinical trial or product liability claim or series of claims is brought against us for uninsured liabilities or in excess of insured liabilities, our assets may not be sufficient to cover such claims and our business operations could be impaired.

Risks Related to Our Dependence on Third Parties

We rely, and expect to continue to rely, on third parties to conduct our clinical trials, and those third parties may not perform satisfactorily, including failing to meet deadlines for the completion of such trials, which may harm our business.

We currently rely on third-party clinical research organizations to conduct our ongoing Ardent and Forte Phase 2b clinical trials in SCD and in β-thalassemia. We do not plan to independently conduct clinical trials of any other product candidates. We expect to continue to rely on third parties, such as clinical research organizations, clinical data management organizations, medical institutions and clinical investigators, to conduct our clinical trials. These agreements might terminate for a variety of reasons, including a failure to perform by the third parties. If we need to enter into alternative arrangements, our product development activities might be delayed.

Our reliance on these third parties for research and development activities will reduce our control over these activities but will not relieve us of our responsibilities. For example, we will remain responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA requires us to comply with standards, commonly referred to as good clinical practices, or GCPs, for conducting, recording and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity and confidentiality of trial participants are protected. We also are required to register clinical trials and post the results of completed clinical trials on a government-sponsored database, ClinicalTrials.gov, within specified timeframes. Failure to do so can result in fines, adverse publicity and civil and criminal sanctions.

If these third parties do not successfully carry out their contractual duties, meet expected deadlines or conduct our clinical trials in accordance with regulatory requirements or our stated protocols, we will not be able to obtain, or may be delayed in obtaining, marketing approvals for any product candidates and will not be able to, or may be delayed in our efforts to, successfully develop and commercialize any product candidates. Furthermore, these third parties may also have relationships with other entities, some of which may be our competitors.

We also expect to rely on other third parties to store and distribute drug supplies for our clinical trials. Any performance failure on the part of our distributors could delay clinical development or marketing approval of any product candidates we may successfully develop and commercialization of our products, producing additional losses and depriving us of potential product revenue.

We face additional important risks related to our dependence on third parties as a result of the COVID-19 pandemic, which are further described in "—Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic as may the operations of our suppliers and manufacturers and other third-party service providers."

We contract with a third-party for the manufacture of tovinontrine, plan to contract with third parties for any other product candidates we may develop for preclinical and clinical testing and expect to continue to do so for commercialization. This reliance on third parties entails risks, including that such third parties may not be able to comply with applicable regulatory requirements. Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval.

We rely on a third-party for the manufacture of tovinontrine, and we expect to rely on third parties for the future manufacture of any other product candidates for preclinical and clinical testing. Reliance on third-party manufacturers entails additional risks, including:

- reliance on the third-party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third-party;
- the possible misappropriation of our proprietary information, including our trade secrets and know-how; and
- the possible termination or nonrenewal of the agreement by the third-party at a time that is costly or inconvenient for us.

Third-party manufacturers may not be able to comply with current good manufacturing practices, or cGMP, regulations or similar regulatory requirements outside of the United States. Our failure, or the failure of our third-party manufacturers, to comply with applicable regulations could result in sanctions being imposed on us, including clinical holds, fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our products.

Tovinontrine and any other product candidates or products that we may develop may compete with other product candidates and products for access to manufacturing facilities. There are a limited number of manufacturers that operate under cGMP regulations and that might be capable of manufacturing for us.

Any performance failure on the part of our existing or future manufacturers could delay clinical development or marketing approval. We do not currently have arrangements in place for redundant supply or a source for bulk drug substance. If any of our future contract manufacturers cannot perform as agreed, we may be required to replace such manufacturers. Although we believe that there are several potential alternative manufacturers who could manufacture tovinontrine and any other product candidates we may develop, we may incur added costs and delays in identifying and qualifying any such replacement.

Our current and anticipated future dependence upon others for the manufacture of tovinontrine and any other product candidates or products we may develop may adversely affect our future profit margins and our ability to commercialize any products that receive marketing approval on a timely and competitive basis.

We face additional important risks related to our reliance on third parties for the manufacture of tovinontrine and other services as a result of the COVID-19 pandemic, which are further described in "—Our business and operations have been and may continue to be adversely affected by the ongoing COVID-19 pandemic as may the operations of our suppliers and manufacturers and other third-party service providers."

We may enter into collaborations with third parties for the development or commercialization of product candidates. If our collaborations are not successful, we may not be able to capitalize on the market potential of these product candidates and our business could be adversely affected.

While we have retained all rights to and are developing tovinontrine on our own, we may in the future enter into development, distribution or marketing arrangements with third parties with respect to tovinontrine or future product candidates. Our likely collaborators for any sales, marketing, distribution, development, licensing or broader collaboration arrangements include large and mid-size pharmaceutical companies, regional and national pharmaceutical companies and biotechnology companies. We are not currently party to any such arrangement. However, if we do enter into any such arrangements with any third parties in the future, we will likely have limited control over the amount and timing of resources that our collaborators dedicate to the development or commercialization of tovinontrine and any other product candidates we may develop. Our ability to generate revenues from these arrangements will depend on our collaborators' abilities and efforts to successfully perform the functions assigned to them in these arrangements.

Collaborations that we enter into may not be successful, and any success will depend heavily on the efforts and activities of such collaborators. Collaborations pose a number of risks, including the following:

- collaborators have significant discretion in determining the amount and timing of efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue commercialization of tovinontrine and any other product candidates we may develop that achieve regulatory approval or may elect not to continue or renew commercialization programs based on results of clinical trials or other studies, changes in the collaborators' strategic focus or available funding, or external factors, such as an acquisition, that may divert resources or create competing priorities;
- collaborators could independently develop, or develop with third parties, products that compete directly or indirectly with any product candidates and products if the collaborators believe that the competitive products are more likely to be successfully developed or can be commercialized under terms that are more economically attractive than ours;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of any product candidates;
- a collaborator may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- disagreements with collaborators, including disagreements over intellectual property or proprietary rights, contract interpretation or the preferred course of development, might cause delays or terminations of the research, development or commercialization of product candidates, might lead to additional responsibilities for us with respect to product candidates, or might result in litigation or arbitration, any of which would be time-consuming and expensive;
- collaborators may not properly obtain, maintain, enforce, defend or protect our intellectual property or proprietary rights or may use our proprietary information in such a way as to potentially lead to disputes or legal proceedings that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation;
- collaborators may infringe, misappropriate or otherwise violate the intellectual property or proprietary rights of third parties, which may expose us to litigation and potential liability; and
- collaborations may be terminated for the convenience of the collaborator, and, if terminated, we could be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

Collaboration agreements may not lead to development or commercialization of product candidates in the most efficient manner, or at all. If any collaborations that we enter into do not result in the successful development and commercialization of products or if one of our collaborators terminates its agreement with us, we may not receive any future research funding or milestone or royalty payments under the collaboration. If we do not receive the funding we expect under these agreements, our development of any product candidates could be delayed and we may need additional resources to develop any product candidates. All of the risks relating to product development, regulatory approval and commercialization described in this Quarterly Report on Form 10-Q also apply to the activities of our collaborators.

Additionally, subject to its contractual obligations to us, if a collaborator of ours is involved in a business combination, the collaborator might deemphasize or terminate the development or commercialization of any product candidate licensed to it by us. If one of our collaborators terminates its agreement with us, we may find it more difficult to attract new collaborators and our perception in the business and financial communities could be adversely affected.

If we are not able to establish or maintain collaborations, we may have to alter our development and commercialization plans and our business could be adversely affected.

For some product candidates we may develop, we may decide to collaborate with pharmaceutical or biotechnology companies for the development and potential commercialization of those product candidates. We face significant competition in seeking appropriate collaborators, and a number of more established companies may also be pursuing strategies to license or acquire third-party intellectual property rights that we consider attractive. These established companies may have a competitive advantage over us due to their size, financial resources and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. Whether we reach a definitive agreement for a collaboration will depend, among other things, upon our assessment of the collaborator's resources and expertise, the terms and conditions of the proposed collaboration and the proposed collaborator's evaluation of a number of factors. Those factors may include the design or results of clinical trials, the likelihood of approval by the FDA or similar regulatory authorities outside the United States, the potential market for the subject product candidate, the costs and complexities of manufacturing and delivering such product candidate to patients, the potential of competing products, the existence of uncertainty with respect to our ownership of technology, which can exist if there is a challenge to such ownership without regard to the merits of the challenge, and industry and market conditions generally. The collaborator may also consider alternative product candidates or technologies for similar indications that may be available to collaborate on and whether such a collaboration could be more attractive than the one with us for our product candidate. Collaborations are complex and time-consuming to negotiate and document. In addition, there have been a significant number of recent business combinations among large pharmaceutical and biotechnology companies that have resulted in a reduced number of potential future collaborators.

If we are unable to reach agreements with suitable collaborators on a timely basis, on acceptable terms or at all, we may have to curtail the development of a product candidate, reduce or delay its development program or one or more of our other development programs, delay its potential commercialization or reduce the scope of any sales or marketing activities, or increase our expenditures and undertake development or commercialization activities at our own expense. If we elect to fund and undertake development or commercialization activities on our own, we may need to obtain additional expertise and additional capital, which may not be available to us on acceptable terms or at all. If we fail to enter into collaborations and do not have sufficient funds or expertise to undertake the necessary development and commercialization activities, we may not be able to further develop any product candidates or bring them to market.

Risks Related to our Intellectual Property

If we fail to comply with our obligations under our existing license agreement with Lundbeck, or under any future intellectual property licenses, or otherwise experience disruptions to our business relationships with our current or any future licensors, we could lose intellectual property rights that are important to our business.

We are party to a license agreement with Lundbeck pursuant to which we have been granted an exclusive worldwide license within the field of prevention, treatment or diagnosis of hemoglobinopathy disorders and/or other diseases or disorders, including those directly or indirectly related to hemoglobinopathies. The agreement grants us an exclusive license under the licensed technology to, among other things, develop and commercialize any product comprising or containing certain PDE9 inhibitors, including tovinontrine. We may enter into additional license agreements in the future. Our license agreement with Lundbeck imposes, and we expect that future licenses will impose, specified diligence, milestone payment, royalty and other obligations on us. Furthermore, Lundbeck has the right to terminate the agreement if we materially breach the agreement and fail to cure such breach within a specified period or in the event we undergo certain bankruptcy events. Lundbeck may also terminate the agreement if we or any of our affiliates, sublicensees or subcontractors bring specified patent challenges against Lundbeck or assist others in bringing such a patent challenge against Lundbeck and fail to cease such challenge within a specified period of time. In spite of our best efforts, our current or any future licensors might conclude that we have materially breached our license agreements and might therefore terminate the license agreements, thereby removing our ability to develop and commercialize product candidates and technology covered by these license agreements. If these in-licenses are terminated, or if the underlying intellectual property fails to provide the intended exclusivity, competitors would have the freedom to seek regulatory approval of, and to market, products and technologies identical to ours. This could have a material adverse effect on our competitive position, business, financial condition, results of operations and prospects.

Disputes may arise regarding intellectual property subject to a licensing agreement, including:

- the scope of rights granted under the license agreement and other interpretation related issues;
- the extent to which our technology and processes infringe on intellectual property of the licensor that is not subject to the licensing agreement;
- the sublicensing of patent and other rights under our collaborative development relationships;
- our diligence obligations under the license agreement and what activities satisfy those diligence obligations;
- the inventorship and ownership of inventions and know-how resulting from the joint creation or use of intellectual property by our current or future licensors and us and our partners; and
- the priority of invention of patented technology.

In addition, license agreements are complex, and certain provisions in such agreements may be susceptible to multiple interpretations. The resolution of any contract interpretation disagreement that may arise could narrow what we believe to be the scope of our rights to the relevant intellectual property or technology, or increase what we believe to be our financial or other obligations under the relevant agreement, either of which could have a material adverse effect on our business, financial condition, results of operations and prospects. Moreover, if disputes over intellectual property that we have licensed prevent or impair our ability to maintain our current licensing arrangements on commercially acceptable terms, we may be unable to successfully develop and commercialize the affected technology and product candidates, which could have a material adverse effect on our business, financial conditions, results of operations and prospects.

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

Our success depends in large part on our ability to obtain and maintain protection of the intellectual property we may own solely and jointly with others or may license from others, particularly patents, in the United States and other countries with respect to any proprietary technology and product candidates we develop. We seek to protect our proprietary position by filing patent applications in the United States and abroad related to tovinontrine and any other product candidates we may develop that are important to our business and by in-licensing intellectual property related to our technologies and product candidates. If we are unable to obtain or maintain patent protection with respect to any proprietary technology or product candidate, our business, financial condition, results of operations and prospects could be materially harmed.

The patent prosecution process is expensive, time-consuming and complex, and we may not be able to file, prosecute, maintain, defend or license all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection. Moreover, in some circumstances, we may not have the right to control the preparation, filing and prosecution of patent applications, or to maintain, enforce and defend the patents, covering technology that we license from third parties. Therefore, these in-licensed patents and applications may not be prepared, filed, prosecuted, maintained, defended and enforced in a manner consistent with the best interests of our business.

The patent position of pharmaceutical and biotechnology companies generally is highly uncertain, involves complex legal and factual questions and has in recent years been the subject of much litigation. In addition, the scope of patent protection outside of the United States is uncertain and laws of non-U.S. countries may not protect our rights to the same extent as the laws of the United States or vice versa. For example, European patent law restricts the patentability of methods of treatment of the human body more than United States law does. With respect to both owned and in-licensed patent rights, we cannot predict whether the patent applications we and our licensor are currently pursuing will issue as patents in any particular jurisdiction or whether the claims of any issued patents will provide sufficient protection from competitors. Further, we may not be aware of all third-party intellectual property rights potentially relating to tovinontrine and any other product candidates we may develop. In addition, 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 of the priority application, or in some cases not published at all. Therefore, neither we nor our licensor can know with certainty whether either we or our licensor were the first to make the inventions claimed in the patents and patent applications we own or in-license now or in the future, or that either we or our licensor were the first to file for patent protection of such inventions. As a result, the issuance, scope, validity, enforceability and commercial value of our owned and in-licensed patent rights are highly uncertain. Moreover, our owned and in-licensed pending and future patent applications may not result in patents being issued that protect our technology and product candidates, in whole or in part, or that 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 patents and our ability to obtain, protect, maintain, defend and enforce our patent rights, narrow the scope of our patent protection and, more generally, could affect the value of, or narrow the scope of, our patent rights.

Currently, we have one issued U.S. patent directed to methods of treating SCD. In addition, we have pending Patent Cooperation Treaty and U.S. non-provisional applications directed to methods of treating β-thalassemia and HFpEF. In order to continue to pursue protection based on provisional patent applications, we will need to file Patent Cooperation Treaty applications, non-U.S. applications and/or U.S. non-provisional patent applications prior to applicable deadlines. Even then, as highlighted above, patents may never issue from our patent applications, or the scope of any patent may not be sufficient to provide a competitive advantage. With respect to tovinontrine, the patents covering tovinontrine licensed from Lundbeck are expected to expire in 2036.

Moreover, we or our licensor may be subject to a third-party preissuance submission of prior art to the United States Patent and Trademark Office, or USPTO, or become involved in opposition, derivation, revocation, reexamination, *inter partes* review, post-grant review or interference proceedings 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 product candidates and compete directly with us, without payment to us, or result in our inability to manufacture or commercialize drugs without infringing third-party patent rights. If the breadth or strength of protection provided by our patents and patent applications is threatened, regardless of the outcome, it could dissuade companies from collaborating with us to license, develop or commercialize current or future product candidates.

Additionally, the coverage claimed in a patent application can be significantly reduced before the patent is issued, and its scope can be reinterpreted after issuance. Even if our owned and in-licensed 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. The issuance of a patent is not conclusive as to its inventorship, scope, validity or enforceability, and our owned and in-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 stop others from using or commercializing similar or identical technology and products, or limit the duration of the patent protection of our technology and product candidates. Such proceedings also may result in substantial cost and require significant time from our management and employees, even if the eventual outcome is favorable to us. 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. Furthermore, our competitors may be able to circumvent our owned or in-licensed patents by developing similar or alternative technologies or products in a non-infringing manner. As a result, our owned and in-licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing technology and products similar or identical to any of our technology and product candidates.

Patent terms may be inadequate to protect our competitive position on any product candidates for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering any product candidates are obtained, once the patent life has expired, we may be open to competition from competitive products, including generics or biosimilars. 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. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours. For example, the composition of matter patents covering tovinontrine, licensed from Lundbeck, are expected to expire in 2036. Given the expected expiration date of these patents, and the fact that safe harbor protections in many jurisdictions permit third parties to engage in development, including clinical trials, these patents may not provide us with a meaningful competitive advantage.

If we are unable to obtain licenses from third parties on commercially reasonable terms or fail to comply with our obligations under such agreements, our business could be harmed.

It may be necessary for us to use the patented or proprietary technology of third parties to commercialize our products, in which case we would be required to obtain a license from these third parties. If we are unable to license such technology, or if we are forced to license such technology on unfavorable terms, our business could be materially harmed. If we are unable to obtain a necessary license, we may be unable to develop or commercialize the affected product candidates, which could materially harm our business and the third parties owning such intellectual property rights could seek either an injunction prohibiting our sales or an obligation on our part to pay royalties and/or other forms of compensation. Even if we are able to obtain a license, it may be non-exclusive, thereby giving our competitors access to the same technologies licensed to us.

If we are unable to obtain rights to required third-party intellectual property rights or maintain the existing intellectual property rights we have, we may be required to expend significant time and resources to redesign our technology, product candidates, or the methods for manufacturing them or to develop or license replacement technology, all of which may not be feasible on a technical or commercial basis. If we are unable to do so, we may be unable to develop or commercialize the affected technology and product candidates, which could harm our business, financial condition, results of operations and prospects significantly.

Additionally, if we fail to comply with our obligations under license agreements, our counterparties may have the right to terminate these agreements, in which event we might not be able to develop, manufacture or market, or may be forced to cease developing, manufacturing or marketing, any product that is covered by these agreements or may face other penalties under such agreements. Such an occurrence could materially adversely affect the value of the product candidate being developed under any such agreement. Termination of these agreements or reduction or elimination of our rights under these agreements, or restrictions on our ability to freely assign or sublicense our rights under such agreements when it is in the interest of our business to do so, may result in our having to negotiate new or reinstated agreements with less favorable terms, cause us to lose our rights under these agreements, including our rights to important intellectual property or technology or impede, or delay or prohibit the further development or commercialization of one or more product candidates that rely on such agreements.

If we do not obtain patent term extension in the United States under the Hatch-Waxman Act and in non-U.S. countries under similar legislation, thereby potentially extending the term of our marketing exclusivity for any product candidates we may develop, our business may be materially harmed.

In the United States, the patent term of a patent that covers an FDA-approved drug may be eligible for limited patent term extension, which permits patent term restoration as compensation for the patent term lost during the FDA regulatory review process. The Drug Price Competition and Patent Term Restoration Act of 1984, also known as the Hatch-Waxman Act, permits a patent term extension of up to five years beyond the expiration of the patent. The length of the patent term extension is related to the length of time the drug is under regulatory review. Patent extension cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval, and only one patent applicable to an approved drug may be extended and only those claims covering the approved drug, a method for using it, or a method for manufacturing it may be extended. Similar provisions are available in Europe and certain other non-United States jurisdictions to extend the term of a patent that covers an approved drug. While, in the future, if and when any product candidates receive FDA approval, we expect to apply for patent term extensions on patents covering those product candidates, there is no guarantee that the applicable authorities will agree with our assessment of whether such extensions should be granted, and even if granted, the length of such extensions. We may not be granted patent term extension either in the United States or in any non-U.S. country because of, for example, failing to exercise due diligence during the testing phase or regulatory review process, failing to apply within applicable deadlines, failing to apply prior to expiration of relevant patents or otherwise failing to satisfy applicable requirements. Moreover, the term of extension, as well as the scope of patent protection during any such extension, afforded by the governmental authority could be less than we request. If we are unable to obtain any patent term extension or the term of any such extension is less than we request, our competitors may obtain approval of competing products following the expiration of our patent rights, and our business, financial condition, results of operations and prospects could be materially harmed.

It is possible that we will not obtain patent term extension under the Hatch-Waxman Act for a U.S. patent covering any of any product candidates that we may identify even where that patent is eligible for patent term extension, or if we obtain such an extension, it may be for a shorter period than we had sought. Further, for our licensed patents, we may not have the right to control prosecution, including filing with the USPTO a petition for patent term extension under the Hatch-Waxman Act. Thus, if one of our licensed patents is eligible for patent term extension under the Hatch-Waxman Act, we may not be able to control whether a petition to obtain a patent term extension is filed, or obtained, from the USPTO.

Also, there are detailed rules and requirements regarding the patents that may be submitted to the FDA for listing in the Approved Drug Products with Therapeutic Equivalence Evaluations, or the Orange Book. We may be unable to obtain patents covering any product candidates that contain one or more claims that satisfy the requirements for listing in the Orange Book. Even if we submit a patent for listing in the Orange Book, the FDA may decline to list the patent, or a manufacturer of generic drugs may challenge the listing. If a product candidate is approved and a patent covering that product candidate is not listed in the Orange Book, a manufacturer of generic drugs would not have to provide advance notice to us of any abbreviated new drug application filed with the FDA to obtain permission to sell a generic version of such product candidate.

Changes to patent laws in the United States and other jurisdictions could diminish the value of patents in general, thereby impairing our ability to protect our products.

Changes in either the patent laws or interpretation of patent laws in the United States, including patent reform legislation such as the Leahy-Smith America Invents Act, or the Leahy-Smith Act, could increase the uncertainties and costs surrounding the prosecution

of our owned and in-licensed patent applications and the maintenance, enforcement or defense of our owned and in-licensed issued patents. The Leahy-Smith Act includes a number of significant changes to United States patent law. These changes include provisions that affect the way patent applications are prosecuted, redefine prior art, provide more efficient and cost-effective avenues for competitors to challenge the validity of patents, and enable third-party submission of prior art to the USPTO during patent prosecution and additional procedures to attack the validity of a patent at USPTO-administered post-grant proceedings, including post-grant review, *inter partes* review, and derivation proceedings. Assuming that other requirements for patentability are met, prior to March 2013, in the United States, the first to invent the claimed invention was entitled to the patent, while outside the United States, the first to file a patent application was entitled to the patent. After March 2013, under the Leahy-Smith Act, the United States transitioned to a first-to-file system in which, assuming that the other statutory requirements for patentability are met, the first inventor to file a patent application will be entitled to the patent on an invention regardless of whether a third-party was the first to invent the claimed invention. As such, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business, financial condition, results of operations and prospects.

In addition, the patent positions of companies in the development and commercialization of biologics and pharmaceuticals are particularly uncertain. Recent U.S. Supreme Court rulings have narrowed the scope of patent protection available in certain circumstances and weakened the rights of patent owners in certain situations. This combination of events has created uncertainty with respect to the validity and enforceability of patents once obtained. Depending on future actions by the U.S. Congress, the federal courts, and the USPTO, the laws and regulations governing patents could change in unpredictable ways that could have a material adverse effect on our patent rights and our ability to protect, defend and enforce our patent rights in the future.

We and our licensor, and any future licensors, may become involved in lawsuits to protect or enforce our patent or other intellectual property rights, which could be expensive, time-consuming and unsuccessful.

Competitors and other third parties may infringe, misappropriate or otherwise violate our or our current and future licensors' issued patents or other intellectual property. As a result, we or any current or future licensor may need to file infringement, misappropriation or other intellectual property related claims, which can be expensive and time-consuming. Any claims we assert against perceived infringers could provoke such parties to assert counterclaims against us alleging that we infringe, misappropriate or otherwise violate their intellectual property. In addition, in a patent infringement proceeding, such parties could counterclaim that the patents we or our licensors have asserted are invalid or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. Third parties may institute such claims before administrative bodies in the United States or abroad, even outside the context of litigation. Such mechanisms include re-examination, post-grant review, *inter partes* review, interference proceedings, derivation proceedings, and equivalent proceedings in non-U.S. jurisdictions (e.g., opposition proceedings). The outcome following legal assertions of invalidity and unenforceability is unpredictable.

An adverse result in any such proceeding could put one or more of our owned or in-licensed patents at risk of being invalidated or interpreted narrowly and could put any of our owned or in-licensed patent applications at risk of not yielding an issued patent. A court may also refuse to stop the third-party from using the technology at issue in a proceeding on the grounds that our owned or in-licensed patents do not cover such technology. Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information or trade secrets could be compromised by disclosure during this type of litigation. Any of the foregoing could allow such third parties to develop and commercialize competing technologies and products and have a material adverse impact on our business, financial condition, results of operations and prospects.

Interference or derivation proceedings provoked by third parties, or brought by us or by our licensor, or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms or at all, or if a non-exclusive license is offered and our competitors gain access to the same technology. Our defense of litigation or interference or derivation proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring any product candidates to market.

Third parties may initiate legal proceedings alleging that we are infringing, misappropriating or otherwise violating 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 and the ability of our collaborators to develop, manufacture, market and sell any product candidates we may develop and use our proprietary technologies without infringing, misappropriating or otherwise violating the intellectual property and proprietary rights of third parties. There is considerable patent and other intellectual property litigation in the pharmaceutical and biotechnology industries. We may become party to, or threatened with, adversarial proceedings or litigation regarding intellectual property rights with respect to our technology and product candidates, including interference proceedings, post grant review, *inter partes* review, and derivation proceedings before the USPTO and similar proceedings in non-U.S. jurisdictions such as oppositions before the European Patent Office. Numerous U.S. and non-U.S. issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are pursuing development candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our technologies or product candidates that we may identify may be subject to claims of infringement of the patent rights of third parties.

The legal threshold for initiating litigation or contested proceedings is low, so that even lawsuits or proceedings with a low probability of success might be initiated and require significant resources to defend. Litigation and contested proceedings can also be expensive and time-consuming, and our adversaries in these proceedings may have the ability to dedicate substantially greater resources to prosecuting these legal actions than we can. The risks of being involved in such litigation and proceedings may increase if and as any product candidates near commercialization and as we gain the greater visibility associated with being a public company. Third parties may assert infringement claims against us based on existing patents or patents that may be granted in the future, regardless of merit. We may not be aware of all such intellectual property rights potentially relating to our technology and product candidates and their uses, or we may incorrectly conclude that third-party intellectual property is invalid or that our activities and product candidates do not infringe such intellectual property. Thus, we do not know with certainty that our technology and product candidates, or our development and commercialization thereof, do not and will not infringe, misappropriate or otherwise violate any third-party's intellectual property.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations or methods, such as methods of manufacture or methods for treatment, related to the discovery, use or manufacture of the product candidates that we may identify or related to our technologies. Because patent applications can take many years to issue, there may be currently pending patent applications which may later result in issued patents that the product candidates that we may identify may infringe. In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. Moreover, as noted above, there may be existing patents that we are not aware of or that we have incorrectly concluded are invalid or not infringed by our activities. If any third-party patents were held by a court of competent jurisdiction to cover, for example, the manufacturing process of the product candidates that we may identify, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize the product candidates that we may identify. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products, be forced to indemnify our customers or collaborators or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

We may choose to take a license or, if we are found to infringe, misappropriate or otherwise violate a third-party's intellectual property rights, we could also be required to obtain a license from such third-party to continue developing, manufacturing and marketing our technology and product candidates. 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 and other third parties access to the same technologies licensed to us and could require us to make substantial licensing and royalty payments. We could be forced, including by court order, to cease developing, manufacturing and commercializing the infringing technology or product. A finding of infringement could prevent us from commercializing any product candidates or force us to cease some of our business operations, which could materially harm our business. In addition, we may be forced to redesign any product candidates, seek new regulatory approvals and indemnify third parties pursuant to contractual agreements. Claims that we have misappropriated the confidential information or trade secrets of third parties could have a similar material adverse effect on our business, financial condition, results of operations and prospects.

Intellectual property litigation or other legal proceedings relating to intellectual property could cause us to spend substantial resources and 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 activities or any future sales, marketing or distribution activities. We may not have sufficient financial or other resources to conduct such litigation or proceedings adequately. 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 and may also have an advantage in such proceedings due to their more mature and developed intellectual property portfolios. Uncertainties resulting from the initiation and continuation of intellectual property litigation or other proceedings could compromise our ability to compete in the marketplace.

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

Periodic maintenance, renewal and annuity fees and various other government fees on any issued patent and pending patent application must be paid to the USPTO and non-U.S. patent agencies in several stages or annually over the lifetime of our owned and in-licensed patents and patent applications. The USPTO and various non-U.S. governmental patent agencies also require compliance with a number of procedural, documentary and other similar provisions during the patent application process. In certain circumstances, we may rely on our licensing partners to pay these fees to, or comply with the procedural and documentary rules of, the relevant patent agency. With respect to our patents, we rely on an annuity service, outside firms and outside counsel to remind us of the due dates and to make payment after we instruct them to do so. While an inadvertent lapse can in many cases be cured by payment of a late fee or by other means in accordance with the applicable rules, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. Non-compliance events that could result in abandonment or lapse of a patent or patent application include failure to respond to official actions within prescribed time limits, non-payment of fees and failure to properly legalize and submit formal documents. In such an event, potential competitors might be able to enter the market with similar or identical products or technology. If we or our current or future licensors fail to maintain the patents and patent applications covering any product candidates, it may have a material adverse effect on our business, financial condition, results of operations and prospects.

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

Filing, prosecuting and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and the laws of non-U.S. countries may not protect our rights to the same extent as the laws of the United States. In addition, the laws of some non-U.S. countries do not protect intellectual property rights to the same extent as federal and state laws in the United States, and even where such protection is nominally available, judicial and governmental enforcement of such intellectual property rights may be lacking. Consequently, we may not be able to prevent third parties from practicing our inventions in all countries outside the United States, or from selling or importing products made using our inventions in and into the United States or other jurisdictions. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection or licenses but enforcement is not as strong as that in the United States. These products may compete with our products, and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in non-U.S. jurisdictions. The legal systems of certain countries do not favor the enforcement of patents, trade secrets, and other intellectual property rights, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our intellectual property and proprietary rights generally. In addition, certain jurisdictions do not protect to the same extent or at all inventions that constitute new methods of treatment.

Proceedings to enforce our intellectual property and proprietary rights in non-U.S. jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly, could put our patent applications at risk of not issuing, and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property and proprietary rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Many countries have compulsory licensing laws under which a patent owner may be compelled to grant licenses to third parties. In addition, many countries limit the enforceability of patents against government agencies or government contractors. In these countries, the patent owner may have limited remedies, which could materially diminish the value of such patent. If we or any of our current or future licensors is forced to grant a license to third parties with respect to any patents relevant to our business, our competitive position may be impaired, and our business, financial condition, results of operations and prospects may be adversely affected.

We may be subject to claims challenging the inventorship or ownership of our patents and other intellectual property.

We or our licensor may be subject to claims that former employees, collaborators or other third parties have an interest in our owned or in-licensed patents, trade secrets or other intellectual property as an inventor or co-inventor. For example, we or our licensor may have inventorship disputes arise from conflicting obligations of employees, consultants or others who are involved in developing any product candidates. Litigation may be necessary to defend against these and other claims challenging inventorship or our or our licensor's ownership of our owned or in-licensed patents, trade secrets or other intellectual property. If we or our licensor fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights, such as exclusive ownership of, or right to use, intellectual property that is important to any product candidates. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

We may be subject to claims by third parties asserting that our employees, consultants or contractors have wrongfully used or disclosed confidential information of third parties, or we have wrongfully used or disclosed alleged trade secrets of their current or former employers or claims asserting we have misappropriated their intellectual property, or claiming ownership of what we regard as our own intellectual property.

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

In addition, while it is our policy to require that our employees, consultants 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. Our intellectual property assignment agreements with them may not be self-executing or may be breached, and we may be forced to bring claims against third parties, or defend claims they may bring against us, to determine the ownership of what we regard as our intellectual property. Such claims could have a material adverse effect on our business, financial conditions, results of operations and prospects.

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, which could have a material adverse effect on our competitive business position and prospects. Such intellectual property rights could be awarded to a third-party, and we could be required to obtain a license from such third-party to commercialize our technology or products, which license may not be available on commercially reasonable terms, or at all, or such license may be non-exclusive. Even if we are successful in prosecuting or defending against such claims, litigation could result in substantial costs and be a distraction to our management and employees.

If we are unable to protect the confidentiality of our trade secrets, our business and competitive position may be harmed.

In addition to seeking patents for any product candidates, we also rely on trade secrets and confidentiality agreements to protect our unpatented know-how, technology and other proprietary information, to maintain our competitive position. We seek to protect our trade secrets and other proprietary technology, 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 research organizations, contract manufacturers, consultants, advisors and other third parties. We also enter into confidentiality and invention or patent assignment agreements with our employees and consultants, but we cannot guarantee that we have entered into such agreements with each party that may have or has had access to our trade secrets or proprietary technology. Despite these efforts, any of these parties may breach the agreements and disclose our proprietary information, including our trade secrets, and we may not be able to obtain adequate remedies for such breaches. Detecting the disclosure or misappropriation of a trade secret and 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, some courts inside and outside of 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 or other third-party, 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 or other third-party, our competitive position may be materially and adversely harmed.

Intellectual property rights do not necessarily address all potential threats.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business or permit us to maintain our competitive advantage. For example:

- others may be able to make product candidates that are similar to ours but that are not covered by the claims of the patents that we own;
- we, or our license partners or current or future collaborators, might not have been the first to make the inventions covered by the issued patent or pending patent applications that we license or may own in the future;
- we, or our license partners or current or future collaborators, might not have been the first to file patent applications covering certain of our or their inventions;
- others may independently develop similar or alternative technologies or duplicate any of our technologies without infringing our owned or in-licensed intellectual property rights;
- it is possible that our owned and in-licensed pending patent applications or those we may own or in-license in the future will not lead to issued patents;
- issued patents that we hold rights to may be held invalid or unenforceable, including as a result of legal challenges by our competitors;
- our competitors might conduct research and development activities in countries where we do not have patent rights and then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we cannot ensure that any of our patents, or any of our pending patent applications, if issued, or those of our licensor, will include claims having a scope sufficient to protect any product candidates;
- we cannot ensure that any patents issued to us or our current or future licensors will provide a basis for an exclusive market for our commercially viable product candidates or will provide us with any competitive advantages;
- we cannot ensure that our commercial activities or product candidates will not infringe upon the patents of others;
- we cannot ensure that we will be able to successfully commercialize any product candidates on a substantial scale, if approved, before the relevant patents that we own or license expire;
- we may not develop additional proprietary technologies that are patentable;
- the patents of others may harm our business; and
- we may choose not to file a patent in order to maintain certain technology as a trade secrets or know-how, and a third-party may subsequently file a patent application covering such technology.

Should any of these events occur, they could have a material adverse effect on our business, financial condition, results of operations and prospects.

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

Even if we complete the necessary preclinical studies and clinical trials, the marketing approval process is expensive, time-consuming and uncertain and may prevent us from obtaining approvals for the commercialization of any product candidates. If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals, we will not be able to commercialize any product candidates, and our ability to generate revenue will be materially impaired.

Tovinontrine and any other product candidates we may develop and the activities associated with their development and commercialization, including design, testing, manufacture, packaging, recordkeeping, labeling, storage, approval, advertising, promotion, sale and distribution, export, import and adverse event reporting, are subject to comprehensive regulation by the FDA and other regulatory agencies in the United States and by the EMA and similar regulatory authorities outside of the United States. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of any such product candidates.

Marketing approval of drugs in the United States requires the submission of a new drug application, or NDA, to the FDA and we are not permitted to market any product candidate in the United States until we obtain approval from the FDA of the NDA for that

product. An NDA must be supported by extensive clinical and preclinical data, as well as extensive information regarding pharmacology, toxicology, and chemistry, manufacturing and controls. We have not submitted an application for or received marketing approval for tovinontrine or any other product candidates we may develop in the United States or in any other jurisdiction.

We have only limited experience in filing and supporting the applications necessary to gain marketing approvals and expect to rely on third-party clinical research organizations or other third-party consultants or vendors to assist us in this process. Securing marketing approval requires the submission of extensive preclinical and clinical data and supporting information to regulatory authorities for each therapeutic indication to establish the product candidate's safety and efficacy. Securing marketing approval also requires the submission of information about the product manufacturing processes to, and inspection of manufacturing facilities by, the regulatory authorities. Our product candidates may not be effective, may be only moderately effective or may prove to have undesirable or unintended side effects, toxicities or other characteristics that may preclude our obtaining marketing approval or prevent or limit commercial use. If any of any product candidates receives marketing approval, the accompanying label may limit the approved use of our drug, which could limit sales of the product.

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. Regulatory authorities 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. In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit or prevent marketing approval of a product candidate in various countries. Any marketing approval we ultimately obtain may be limited or subject to restrictions or post-approval commitments that render the approved product not commercially viable.

Finally, disruptions at the FDA and other agencies may prolong the time necessary for new drugs to be reviewed and/or approved by necessary government agencies, which would adversely affect our business. For example, over the last several years, the U.S. government has shut down several times and certain regulatory agencies, such as the FDA, have had to furlough critical employees and stop critical activities. If a prolonged government shutdown occurs, it could significantly impact the ability of the FDA to timely review and process our regulatory submissions, which could have a material adverse effect on our business.

If we experience delays in obtaining approval or if we fail to obtain approval of tovinontrine and any other product candidates we may develop, the commercial prospects for any product candidates may be harmed and our ability to generate revenues will be materially impaired.

We may not be able to obtain or maintain orphan drug designation or exclusivity for any product candidates and, even if we do, that exclusivity may not prevent the FDA or the EMA from approving other competing products.

We received orphan drug designation for tovinontrine for SCD and β-thalassemia in the United States in February 2017 and June 2020, respectively. We also received orphan drug designation for tovinontrine for SCD in the European Union in August 2020. We may seek orphan drug designation in other indications or for any other product candidates we develop. Regulatory authorities in some jurisdictions, including the United States and the European Union, may designate drugs for relatively small patient populations as orphan drugs. Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is a drug intended to treat a rare disease or condition, which is generally defined as a patient population of fewer than 200,000 individuals in the United States.

Generally, if a product with an orphan drug designation subsequently receives the first marketing approval for the indication for which it has such designation, the product is entitled to a period of marketing exclusivity, which precludes the FDA or the EMA from approving another marketing application for the same drug for that time period. The applicable period is seven years in the United States and ten years in the European Union. The exclusivity period in the European Union can be reduced to six years if a drug no longer meets the criteria for orphan drug designation or if the drug is sufficiently profitable so that market exclusivity is no longer justified. Orphan drug exclusivity may be lost if the FDA or EMA determines that the request for designation was materially defective or if the manufacturer is unable to assure sufficient quantity of the drug to meet the needs of patients with the rare disease or condition.

Even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because competing drugs containing a different active ingredient can be approved for the same condition. In addition, even after an orphan drug is approved, the FDA can subsequently approve the same drug for the same condition if the FDA concludes that the later drug is clinically superior in that it is shown to be safer, more effective or makes a major contribution to patient care.

On August 3, 2017, the U.S. Congress passed the FDA Reauthorization Act of 2017, or FDARA. FDARA, among other things, codified the FDA's pre-existing regulatory interpretation to require that a drug sponsor demonstrate the clinical superiority of an orphan drug that is otherwise the same as a previously approved drug for the same rare disease in order to receive orphan drug exclusivity. The new legislation reverses prior precedent holding that the Orphan Drug Act unambiguously requires that the FDA recognize the orphan exclusivity period regardless of a showing of clinical superiority. The FDA may further reevaluate the Orphan Drug Act and its regulations and policies. We do not know if, when or how the FDA may change the orphan drug regulations and policies in the future, and it is uncertain how any changes might affect our business. Depending on what changes the FDA may make to its orphan drug regulations and policies, our business could be adversely impacted.

Although we have obtained Rare Pediatric Disease Designation for tovinontrine for the treatment of SCD and β-thalassemia, we may not be eligible to receive a priority review voucher in the event that FDA approval does not occur prior to September 30, 2026.

The Rare Pediatric Disease Priority Review Voucher Program, or PRV Program, is intended to incentivize pharmaceutical sponsors to develop drugs for rare pediatric diseases. A sponsor who obtains approval of an NDA or BLA for a rare pediatric disease may be eligible for a Priority Review Voucher, or PRV, under this program, which may be redeemed by the owner of such PRV to obtain priority review for a marketing application. A PRV is fully transferrable and can be sold to any sponsor, who in turn can redeem the PRV for priority review of a marketing application in six months, compared to the standard timeframe of approximately 10 months.

In December 2016, extended the Rare Pediatric Disease Priority Review Voucher Program, authorizing the FDA to award vouchers through September 30, 2022, limited to drugs with rare pediatric disease designation granted by September 30, 2020. On September 30, 2020, Congress provided a short-term extension of the Priority Review Voucher Program. On December 27, 2020, the Rare Pediatric Disease Priority Review Voucher Program was further extended. Under the current statutory sunset provisions, after September 30, 2024, FDA may only award a voucher for an approved rare pediatric disease product application if the sponsor has rare pediatric disease designation for the drug, and that designation was granted by September 30, 2024. After September 30, 2026, FDA may not award any rare pediatric disease priority review vouchers. If we do not obtain approval of an NDA for tovinontrine for SCD or β-thalassemia by these dates, and if the PRV Program is not further extended by congressional action, we may not receive a PRV.

A Fast Track designation by the FDA may not lead to a faster development or regulatory review or approval process.

We have received Fast Track designation for tovinontrine from the FDA, and we may seek Fast Track designation for other product candidates we may develop. If a drug is intended for the treatment of a serious or life-threatening condition and the drug demonstrates the potential to address unmet medical needs for this condition, the drug sponsor may apply for FDA Fast Track designation. The FDA has broad discretion whether or not to grant this designation, so even if we believe a particular product candidate is eligible for this designation, we cannot be certain that the FDA would decide to grant it. Even if we do receive Fast Track designation, we may not experience a faster development process, review or approval compared to conventional FDA procedures. The FDA may withdraw Fast Track designation if it believes that the designation is no longer supported by data from our clinical development program.

Accelerated approval by the FDA, even if granted for any product candidates does not increase the likelihood that any product candidates will ultimately receive full approval.

We may seek approval of tovinontrine and any other product candidates we may develop using the FDA's accelerated approval pathway. A product may be eligible for accelerated approval if it treats a serious or life-threatening condition and generally provides a meaningful advantage over available therapies. In addition, it must demonstrate an effect on a surrogate endpoint that is reasonably likely to predict clinical benefit or on an intermediate clinical endpoint that can be measured earlier than irreversible morbidity or mortality, or IMM, that is reasonably likely to predict an effect on IMM or other clinical benefit. The FDA makes the determination regarding whether to accept a biomarker as a proposed surrogate endpoint.

Prior to seeking such accelerated approval, we will request feedback from the FDA regarding the eligibility of the drug product candidate for accelerated approval and otherwise evaluate our ability to seek and receive such accelerated approval. As a condition of accelerated approval, the FDA will require that a sponsor of a drug or biologic product candidate receiving accelerated approval perform adequate and well-controlled post-marketing clinical trials. These confirmatory trials must be completed with due diligence and we may be required to evaluate different or additional endpoints in these post-marketing confirmatory trials. In addition, the FDA currently requires as a condition for accelerated approval pre-clearance of promotional materials prior to use, which could adversely impact the timing of the commercial launch of the product.

There can be no assurance that the FDA will agree with our surrogate endpoints or intermediate clinical endpoints, or that we will decide to pursue or submit an NDA for accelerated approval or any other form of expedited development, review or approval. Similarly, there can be no assurance that, after feedback from FDA, we will continue to pursue or apply for accelerated approval or any other form of expedited development, review or approval, even if we initially decide to do so. Furthermore, if we decide to submit an application for accelerated approval or under another expedited regulatory designation, there can be no assurance that such submission or application will be accepted or that any expedited review or approval will be granted on a timely basis, or at all.

Moreover, as noted above, for drugs granted accelerated approval, the FDA requires post-marketing trials to confirm the benefit of the drug. These confirmatory trials must be completed with due diligence. We may be required to evaluate additional or different clinical endpoints in these post-marketing confirmatory trials. These confirmatory trials may require enrollment of more patients than we currently anticipate and will result in additional costs, which may be greater than the estimated costs we currently anticipate. The FDA may withdraw approval of a product candidate approved under the accelerated approval pathway if, for example, the trial required to verify the predicted clinical benefit of our product candidate fails to verify such benefit or does not demonstrate sufficient clinical benefit to justify the risks associated with the drug. The FDA may also withdraw approval if other evidence demonstrates that our product candidate is not shown to be safe or effective under the conditions of use, we fail to conduct any required post approval trial of our product candidate with due diligence or we disseminate false or misleading promotional materials relating to our product candidate. A failure to obtain accelerated approval or any other form of expedited development, review or approval for tovinontrine and any other product candidates we may develop, or withdrawal of a product candidate, would result in a longer time period for commercialization of such product candidate, could increase the cost of development of such product candidate and could harm our competitive position in the marketplace.

Even if we do receive accelerated approval, we may not ultimately be able to obtain full FDA approval.

Failure to obtain marketing approval in foreign jurisdictions would prevent any product candidates from being marketed abroad.

In order to market and sell our products in the European Union and many other foreign jurisdictions, we or our potential third-party collaborators must obtain separate marketing approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ substantially from that required to obtain FDA approval. The regulatory approval process outside of the United States generally includes all of the risks associated with obtaining FDA approval. In addition, in many countries outside of the United States, it is required that the product be approved for reimbursement before the product can be made available for sale in that country. We or our potential third-party collaborators may not obtain approvals from regulatory authorities outside of the United States on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one regulatory authority outside of the United States does not ensure approval by regulatory authorities in other countries or jurisdictions or by the FDA. However, a failure or delay in obtaining regulatory approval in one country may have a negative effect on the regulatory process in other countries. We may not be able to file for marketing approvals and may not receive necessary approvals to commercialize our products in any market.

Additionally, we could face heightened risks with respect to seeking marketing approval in the United Kingdom as a result of the recent withdrawal of the United Kingdom from the European Union, commonly referred to as Brexit. Pursuant to the formal withdrawal arrangements agreed between the United Kingdom and the European Union, the United Kingdom withdrew from the European Union, effective December 31, 2020. On December 24, 2020, the United Kingdom and the European Union entered into a Trade and Cooperation Agreement. The agreement sets out certain procedures for approval and recognition of medical products in each jurisdiction. Any delay in obtaining, or an inability to obtain, any marketing approvals, as a result of Brexit or otherwise, would prevent us from commercializing any product candidates in the United Kingdom and/or the European Union and restrict our ability to generate revenue and achieve and sustain profitability. If any of these outcomes occur, we may be forced to restrict or delay efforts to seek regulatory approval in the United Kingdom and/or European Union for any product candidates, which could significantly and materially harm our business.

We expect that we will be subject to additional risks in commercializing any of our product candidates that receive marketing approval outside the United States, including tariffs, trade barriers and regulatory requirements; economic weakness, including inflation, or political instability in particular foreign economies and markets; compliance with tax, employment, immigration and labor laws for employees living or traveling abroad; foreign currency fluctuations, which could result in increased operating expenses and reduced revenue, and other obligations incident to doing business in another country; and workforce uncertainty in countries where labor unrest is more common than in the United States.

In light of the large population of patients with SCD and β-thalassemia who reside in foreign countries, our ability to generate meaningful revenues in those jurisdictions may be limited due to the strict price controls and reimbursement limitations imposed by governments outside of the United States.

In some countries, including for example countries in the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a drug. To obtain coverage and reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidate to other available therapies. If reimbursement of our product candidates is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be harmed, possibly materially, based on the large population of patients with SCD and β-thalassemia who reside in foreign countries.

Any product candidate for which we obtain marketing approval could be subject to post-marketing restrictions or withdrawal from the market and we may be subject to substantial penalties if we fail to comply with regulatory requirements or if we experience unanticipated problems with our products, when and if any of them are approved.

Any product candidate for which we obtain marketing approval, along with the manufacturing processes, post-approval clinical data, labeling, advertising and promotional activities for such product, will be subject to continual requirements of and review by the FDA and other regulatory authorities. These requirements include submissions of safety and other post-marketing information and reports, registration and listing requirements, cGMP requirements relating to manufacturing, quality control, quality assurance and corresponding maintenance of records and documents, requirements regarding the distribution of samples to physicians and recordkeeping. Even if marketing approval of a product candidate is granted, the approval may be subject to limitations on the indicated uses for which the product may be marketed or to the conditions of approval, including the requirement to implement a REMS. If any product candidate receives marketing approval, the accompanying label may limit the approved use of our drug, which could limit sales of the product.

The FDA may also impose requirements for costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product, including the adoption and implementation of REMS. The FDA and other agencies, including the Department of Justice, or the DOJ, closely regulate and monitor the post-approval marketing and promotion of drugs to ensure, among other things, that they are marketed and distributed only for the approved indications and in accordance with the provisions of the approved labeling. The FDA and other agencies impose and enforce stringent restrictions on manufacturers' communications regarding off-label use, and if we promote our products beyond their approved indications, we may be subject to enforcement action or prosecution arising from off-label promotion. Violations of the Federal Food, Drug and Cosmetic Act, or FDCA, and other statutes relating to the promotion and advertising of prescription drugs may lead to investigations and enforcement actions alleging violations of federal and state healthcare fraud and abuse laws, including the False Claims Act, as well as state consumer protection laws.

In addition, later discovery of previously unknown adverse events or other problems with our products, manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may have various consequences, including:

- suspension of or restrictions on such products, manufacturers or manufacturing processes;
- restrictions and warnings on the labeling or marketing of a product;
- restrictions on product distribution or use;
- requirements to conduct post-marketing studies or clinical trials;
- warning letters or untitled letters;
- withdrawal of the products from the market;
- refusal to approve pending applications or supplements to approved applications that we submit;
- recall of products;
- fines, restitution or disgorgement of profits or revenues;
- suspension of any ongoing clinical trials;
- suspension or withdrawal of marketing approvals;
- damage to relationships with any potential collaborators;
- unfavorable press coverage and damage to our reputation;
- refusal to permit the import or export of our products;

- product seizure or detention;
- injunctions or the imposition of civil or criminal penalties; or
- litigation involving patients using our products.

Non-compliance with European Union requirements regarding safety monitoring or pharmacovigilance, and with requirements related to the development of products for the pediatric population, can also result in significant financial penalties. Similarly, failure to comply with the European Union's requirements regarding the protection of personal information can also lead to significant penalties and sanctions.

In addition, manufacturers of approved products and those manufacturers' facilities are required to comply with extensive FDA requirements, including ensuring that quality control and manufacturing procedures conform to cGMPs applicable to drug manufacturers or quality assurance standards applicable to medical device manufacturers, which include requirements relating to quality control and quality assurance as well as the corresponding maintenance of records and documentation and reporting requirements. We, any contract manufacturers we may engage in the future, our future collaborators and their contract manufacturers will also be subject to other regulatory requirements, including submissions of safety and other post-marketing information and reports, registration and listing requirements, requirements regarding the distribution of samples to clinicians, recordkeeping, and costly post-marketing studies or clinical trials and surveillance to monitor the safety or efficacy of the product such as the requirement to implement a REMS.

We may be subject to certain healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm, fines, disgorgement, exclusion from participation in government healthcare programs, curtailment or restricting of our operations, and diminished profits and future earnings.

Healthcare providers, third-party payors and others will play a primary role in the recommendation and prescription of any products for which we obtain marketing approval. Our future arrangements with healthcare providers and third-party payors will 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 market, sell and distribute any products for which we obtain marketing approval. Potentially applicable U.S. federal and state healthcare laws and regulations include the following:

- the federal Anti-Kickback Statute, prohibits, among other things, persons and entities 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 a federal healthcare programs such as Medicare and Medicaid;
- The federal false claims laws, including the civil False Claims Act, impose criminal and civil penalties, including those from 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, or HIPAA, imposes criminal and civil liability for executing or attempting to execute a scheme to defraud any healthcare benefit program;
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or the HITECH Act, also imposes obligations on certain types of individuals and entities, 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;
- the federal Physician Payments Sunshine 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 specific exceptions) to report annually to the U.S. Department of Health and Human Services information related to physician payments and other transfers of value and physician ownership and investment interests; and
- 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 manufacturers to report information related to payments to physicians and other healthcare providers or marketing expenditures. Many state laws also govern the privacy and security of health

information in some circumstances, many of which differ from each other in significant ways and often are not preempted by HIPAA, thus complicating compliance efforts. Foreign laws also govern the privacy and security of health information in many circumstances.

The provision of benefits or advantages to physicians to induce or encourage the prescription, recommendation, endorsement, purchase, supply, order or use of medicinal products is prohibited in the European Union. Payments made to physicians in certain European Union Member States must be publicly disclosed. Moreover, agreements with physicians often must be the subject of prior notification and approval by the physician's employer, his or her competent professional organization and/or the regulatory authorities of the individual European Union Member States. These requirements are provided in the national laws, industry codes or professional codes of conduct applicable in the European Union Member States. Failure to comply with these requirements could result in reputational risk, public reprimands, administrative penalties, fines or imprisonment.

Efforts to ensure that our business arrangements with third parties, and our business generally, 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, imprisonment, exclusion of products from government funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, and reputational harm, any of which could substantially disrupt our operations. If any of the physicians or other providers or entities with whom we expect to do business is found not to be in compliance with applicable laws, they may be subject to criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs.

Compliance with global privacy and data security requirements could result in additional costs and liabilities to us or inhibit our ability to collect and process data globally, and the failure to comply with such requirements could subject us to significant lawsuits or fines and penalties, which may have a material adverse effect on our business, financial condition or results of operations.

The regulatory framework for the collection, use, safeguarding, sharing, transfer and other processing of information worldwide is rapidly evolving and is likely to remain uncertain for the foreseeable future. Globally, virtually every jurisdiction in which we operate has established its own data security and privacy frameworks with which we must comply. For example, the collection, use, disclosure, transfer, or other processing of personal data regarding data subjects in the European Union, including personal health data, is subject to the European Union General Data Protection Regulation, or the GDPR, which took effect across all member states of the European Economic Area, or EEA, in May 2018. The GDPR is wide-ranging in scope and imposes numerous requirements on companies that process personal data, including requirements relating to processing health and other sensitive data, obtaining consent of the individuals to whom the personal data relates, providing information to individuals regarding data processing activities, implementing safeguards to protect the security and confidentiality of personal data, providing notification of data breaches, and taking certain measures when engaging third-party processors. The GDPR increases our obligations with respect to clinical trials conducted in the EEA by expanding the definition of personal data to include coded data and requiring changes to informed consent practices and more detailed notices for clinical trial subjects and investigators. In addition, the GDPR also imposes strict rules on the transfer of personal data to countries outside the European Union, including the United States and, as a result, increases the scrutiny that such rules should apply to transfers of personal data from clinical trial sites located in the EEA to the United States. The GDPR also permits data protection authorities to require destruction of improperly gathered or used personal information and/or impose substantial fines for violations of the GDPR, which can be up to four percent of global revenues or 20 million Euros, whichever is greater, and confers a private right of action on data subjects and consumer associations to lodge complaints with supervisory authorities, seek judicial remedies, and obtain compensation for damages resulting from violations of the GDPR. In addition, the GDPR provides that European Union member states may make their own further laws and regulations limiting the processing of personal data, including genetic, biometric or health data.

Given the breadth and depth of changes in data protection obligations, complying with the GDPR's requirements is rigorous and time intensive and requires significant resources and an ongoing review of our technologies, systems and practices, as well as those of any third-party collaborators, service providers, contractors or consultants that process or transfer personal data collected in the European Union. The GDPR and other changes in laws or regulations associated with the enhanced protection of certain types of sensitive data, such as healthcare data or other personal information from our clinical trials, could require us to change our business practices and put in place additional compliance mechanisms, may interrupt or delay our development, regulatory and commercialization activities and increase our cost of doing business, and could lead to government enforcement actions, private litigation and significant fines and penalties against us and could have a material adverse effect on our business, financial condition or results of operations.

Similar privacy and data security requirements are either in place or underway in the United States. There are a broad variety of data protection laws that may be applicable to our activities, and a range of enforcement agencies at both the state and federal levels that can review companies for privacy and data security concerns based on general consumer protection laws. The Federal Trade Commission and state Attorneys General all are aggressive in reviewing privacy and data security protections for consumers. New laws also are being considered at both the state and federal levels. For example, the California Consumer Privacy Act, or CCPA, which became effective on January 1, 2020, is creating similar risks and obligations as those created by GDPR, although the CCPA does exempt certain information collected as part of a clinical trial subject to the Federal Policy for the Protection of Human Subjects (the Common Rule). Many other states have passed similar legislation. A broad range of legislative measures also have been introduced at the federal level. Accordingly, failure to comply with current and any future federal and state laws regarding privacy and security of personal information could expose us to fines and penalties. We also face a threat of consumer class actions related to these laws and the overall protection of personal data. Even if we are not determined to have violated these laws, investigations into these issues typically require the expenditure of significant resources and generate negative publicity, which could harm our reputation and our business.

Current and future legislation may increase the difficulty and cost for us and any future collaborators to obtain reimbursement for any of our candidate products that do receive marketing approval and our ability to generate revenue will be materially impaired.

In the United States and foreign jurisdictions, there have been a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval. We expect that current laws, as well as other healthcare reform measures that may be adopted in the future, may result in more rigorous coverage criteria and in additional downward pressure on the price that we, or any collaborators, may receive for any approved products. If reimbursement of our products is unavailable or limited in scope, our business could be materially harmed.

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, or collectively the ACA. In addition, other legislative changes have been proposed and adopted since the ACA was enacted. In August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation's automatic reduction to several government programs. These changes included aggregate reductions to Medicare payments to providers of up to 2% per fiscal year, which went into effect in April 2013 and will remain in effect through 2030 under the CARES Act. The American Taxpayer Relief Act of 2012, among other things, reduced Medicare payments to several providers and increased the statute of limitations period for the government to recover overpayments to providers from three to five years. These laws may result in additional reductions in Medicare and other healthcare funding and otherwise affect the prices we may obtain for any of our product candidates for which we may obtain regulatory approval or the frequency with which any such product candidate is prescribed or used.

Since enactment of the ACA, there have been, and continue to be, numerous legal challenges and Congressional actions to repeal and replace provisions of the law. For example, with enactment of the Tax Cuts and Jobs Act of 2017, which was signed by President Trump on December 22, 2017, Congress repealed the "individual mandate." The repeal of this provision, which requires most Americans to carry a minimal level of health insurance, became effective in 2019. Further, on December 14, 2018, a U.S. District Court judge in the Northern District of Texas ruled that the individual mandate portion of the ACA is an essential and inseverable feature of the ACA, and therefore because the mandate was repealed as part of the Tax Cuts and Jobs Act, the remaining provisions of the ACA are invalid as well. On December 18, 2019, the Court of Appeals for the Fifth Circuit court affirmed the lower court's ruling that the individual mandate portion of the ACA is unconstitutional and it remanded the case to the district court for reconsideration of the severability question and additional analysis of the provisions of the ACA. Thereafter, the U.S. Supreme Court agreed to hear this case. Oral argument in the case took place on November 10, 2020, and a ruling by the Court is expected sometime this year. Litigation and legislation over the ACA are likely to continue, with unpredictable and uncertain results.

The Trump Administration also took executive actions to undermine or delay implementation of the ACA, including directing federal agencies with authorities and responsibilities under the ACA to waive, defer, grant exemptions from, or delay the implementation of any provision of the ACA that would impose a fiscal or regulatory burden on states, individuals, healthcare providers, health insurers, or manufacturers of pharmaceuticals or medical devices. On January 28, 2021, however, President Biden issued a new Executive Order which directs federal agencies to reconsider rules and other policies that limit Americans' access to health care, and consider actions that will protect and strengthen that access. Under this Order, federal agencies are directed to re-examine: policies that undermine protections for people with pre-existing conditions, including complications related to COVID-19; demonstrations and waivers under Medicaid and the ACA that may reduce coverage or undermine the programs, including work requirements; policies that undermine the Health Insurance Marketplace or other markets for health insurance; policies that make it more difficult to enroll in Medicaid and the ACA; and policies that reduce affordability of coverage or financial assistance, including for dependents.

Current and future legislative efforts may limit the costs for our products, if and when they are licensed for marketing, and that could materially impact our ability to generate revenues.

The costs of prescription pharmaceuticals have also been the subject of considerable discussion in the United States. To date, there have been several recent U.S. congressional inquiries, as well as proposed and enacted state and federal legislation designed to, among other things, bring more transparency to drug pricing, review the relationship between pricing and manufacturer patient programs, reduce the costs of drugs under Medicare and reform government program reimbursement methodologies for products. To those ends, President Trump issued five executive orders intended to lower the costs of prescription drug products. Several of these orders are reflected in recently promulgated regulations, and one of these regulations is currently subject to a nationwide preliminary injunction. It remains to be seen whether these orders and resulting regulations will remain in force during the Biden Administration. Further, on September 24, 2020, the Trump Administration finalized a rulemaking allowing states or certain other non-federal government entities to submit importation program proposals to the FDA for review and approval. Applicants are required to demonstrate that their importation plans pose no additional risk to public health and safety and will result in significant cost savings for consumers. The FDA has issued draft guidance that would allow manufacturers to import their own FDA-approved drugs that are authorized for sale in other countries (multi-market approved products).

At the state level, legislatures are increasingly passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. In addition, regional healthcare authorities and individual hospitals are increasingly using bidding procedures to determine what pharmaceutical products and which suppliers will be included in their prescription drug and other healthcare programs. These measures could reduce the ultimate demand for our products, once approved, or put pressure on our product pricing. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for any product candidates or additional pricing pressures.

Finally, outside the United States, in some nations, including those of the EU, the pricing of prescription pharmaceuticals is subject to governmental control and access. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we or our collaborators may be required to conduct a clinical trial that compares the cost-effectiveness of our product to other available therapies. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our business could be materially harmed.

If we or any third-party manufacturers we engage now or in the future fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs or liabilities that could harm our business.

We and third-party manufacturers we engage now are, and any third-party manufacturers we may engage in the future will be, 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. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials. Our operations also produce hazardous waste products. We generally 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. Liability under certain environmental laws governing the release and cleanup of hazardous materials is joint and several and could be imposed without regard to fault. We also could incur significant costs associated with civil or criminal fines and penalties or become subject to injunctions limiting or prohibiting our activities for failure to comply with such laws and regulations.

Although we maintain general liability insurance as well as 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 that may be asserted against us in connection with our storage or disposal of biological, hazardous or radioactive materials.

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. Our failure to comply with these laws and regulations also may result in substantial fines, penalties or other sanctions.

Further, with respect to the operations of our current and any future third-party contract manufacturers, it is possible that if they fail to operate in compliance with applicable environmental, health and safety laws and regulations or properly dispose of wastes associated with our products, we could be held liable for any resulting damages, suffer reputational harm or experience a disruption in the manufacture and supply of any product candidates or products. In addition, our supply chain may be adversely impacted if any of our third-party contract manufacturers become subject to injunctions or other sanctions as a result of their non-compliance with environmental, health and safety laws and regulations.

We are subject to anti-corruption laws, as well as export control laws, customs laws, sanctions laws and other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures and legal expenses, be precluded from developing manufacturing and selling certain products outside the United States or be required to develop and implement costly compliance programs, which could adversely affect our business, results of operations and financial condition.

Our operations are subject to anti-corruption laws, including the U.K. Bribery Act 2010, or Bribery Act, the U.S. Foreign Corrupt Practices Act, or FCPA, and other anti-corruption laws that apply in countries where we do business and may do business in the future. The Bribery Act, FCPA and these other laws generally prohibit us, our officers, and our employees and intermediaries from bribing, being bribed or making other prohibited payments to government officials or other persons to obtain or retain business or gain some other business advantage. Compliance with the FCPA, in particular, is expensive and difficult, particularly in countries in which corruption is a recognized problem. In addition, the FCPA presents particular challenges in the pharmaceutical industry, because, in many countries, hospitals are operated by the government, and doctors and other hospital employees are considered foreign officials. Certain payments to hospitals in connection with clinical trials and other work have been deemed to be improper payments to government officials and have led to FCPA enforcement actions.

We may in the future operate in jurisdictions that pose a high risk of potential Bribery Act or FCPA violations, and we may participate in collaborations and relationships with third parties whose actions could potentially subject us to liability under the Bribery Act, FCPA or local anti-corruption laws. In addition, we cannot predict the nature, scope or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. If we expand our operations outside of the United States, we will need to dedicate additional resources to comply with numerous laws and regulations in each jurisdiction in which we plan to operate.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the governments of the United Kingdom and the United States, and authorities in the European Union, including applicable export control regulations, economic sanctions on countries and persons, customs requirements and currency exchange regulations, collectively referred to as the Trade Control laws. In addition, various laws, regulations and executive orders also restrict the use and dissemination outside of the United States, or the sharing with certain non-U.S. nationals, of information classified for national security purposes, as well as certain products and technical data relating to those products. If we expand our presence outside of the United States, it will require us to dedicate additional resources to comply with these laws, and these laws may preclude us from developing, manufacturing, or selling certain products and product candidates outside of the United States, which could limit our growth potential and increase our development costs.

There is no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the Bribery Act, the FCPA or other legal requirements, including Trade Control laws. If we are not in compliance with the Bribery Act, the FCPA and other anti-corruption laws or Trade Control laws, we may be subject to criminal and civil penalties, disgorgement and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. The Securities and Exchange Commission, or SEC, also may suspend or bar issuers from trading securities on U.S. exchanges for violations of the FCPA's accounting provisions. Any investigation of any potential violations of the Bribery Act, the FCPA, other anti-corruption laws or Trade Control laws by United Kingdom, U.S. or other authorities could also have an adverse impact on our reputation, our business, results of operations and financial condition.

Our employees, independent contractors, consultants and vendors may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading, which could cause significant liability for us and harm our reputation.

We are exposed to the risk of fraud or other misconduct by our employees, independent contractors, consultants and vendors. Misconduct by these partners could include intentional failures to comply with FDA regulations or similar regulations of comparable foreign regulatory authorities, provide accurate information to the FDA or similar foreign regulatory authorities, comply with manufacturing standards, comply with federal and state healthcare fraud and abuse laws and regulations and similar laws and regulations established and enforced by comparable foreign regulatory authorities, report financial information or data accurately or disclose unauthorized activities to us. Employee misconduct could also involve the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. This could include violations of HIPAA, other U.S. federal and state law, and requirements of non-U.S. jurisdictions, including the European Union Data Protection Directive. We are also exposed to risks in connection with any insider trading violations by employees or others affiliated with us. It is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to be in compliance with such laws, standards, regulations, guidance or codes of conduct. If any

such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business and results of operations, including the imposition of significant fines or other sanctions.

Our internal computer systems, or those of our collaborators or other contractors or consultants, may fail or suffer security breaches, which could result in a material disruption of our product development programs.

Our internal computer systems and those of any collaborators, contractors or consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Such systems are also vulnerable to service interruptions or to security breaches from inadvertent or intentional actions by our employees, third-party vendors and/or business partners, or from cyberattacks by malicious third parties. Cyber incidents are increasing in their frequency, sophistication and intensity, and have become increasingly difficult to detect. For example, we have experienced attempts at phishing and e-mail fraud with the goal of causing payments to be transmitted to an unintended recipient. Cyber incidents could also include the deployment of harmful malware, ransomware, denial-of-service attacks, unauthorized access to or deletion of files, social engineering and other means to affect service reliability and threaten the confidentiality, integrity and availability of information.

While we have not experienced any material system failure, accident, cyber incidents or security breach to date, if such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our development programs and our business operations, whether due to a loss of our trade secrets or other proprietary information or other similar disruptions. For example, the loss of clinical trial data from completed or future clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data or applications, or inappropriate disclosure of confidential or proprietary information, we could incur liability, our competitive position and reputation could be harmed and the further development and commercialization of tovinontrine and any other product candidates we may develop could be delayed.

Risks Related to Employee Matters and Managing Growth

Our future success depends on our ability to retain key executives and to attract, retain and motivate qualified personnel.

We are highly dependent on the research and development, clinical, financial, operational and other business expertise of our executive officers, as well as the other principal members of our management, scientific and clinical teams. Although we have entered into employment offer letters with our executive officers, each of them may terminate their employment with us at any time. We do not maintain “key person” insurance for any of our executives or other employees. Recruiting and retaining qualified scientific, clinical, manufacturing, accounting, legal and sales and marketing personnel will also be critical to our success.

The loss of the services of our executive officers or other key employees could impede the achievement of our research, development and commercialization objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executive officers and key employees may be difficult and may take an extended period of time because of the limited number of individuals in our industry with the breadth of skills and experience required to successfully develop, gain regulatory approval of and commercialize products. Competition to hire from this limited pool is intense, and we may be unable to hire, train, retain or motivate these key personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for similar personnel. We also experience competition 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 research and 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. Our success also depends on implementing and maintaining internal controls and the accuracy and timeliness of our financial reporting. If we are unable to continue to attract and retain high quality personnel, our ability to pursue our growth strategy will be limited.

We expect to expand our development and regulatory capabilities and potentially implement sales, marketing and distribution capabilities, and as a result, we may encounter difficulties in managing our growth, which could disrupt our operations.

We expect to experience significant growth in the number of our employees and the scope of our operations, particularly in the areas of drug development, clinical, regulatory affairs and, if any product candidate receives marketing approval, sales, marketing and distribution. To manage our anticipated future growth, we must continue 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 limited experience of our management team in managing a company with such anticipated growth, we may not be able to effectively manage the expansion of our operations or recruit and train additional qualified personnel. The 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 Common Stock and Our Status as a Public Company

An active trading market for our common stock may not continue to develop or be sustained.

Our shares began trading on the Nasdaq Global Select Market on March 12, 2020. Prior to March 12, 2020, there was no public market for our common stock, and we cannot be certain that an active trading market for our shares will continue to develop or be sustained. As a result, it may be difficult for our stockholders to sell their shares without depressing the market price for the shares or at all.

If securities analysts do not publish or cease publishing research or reports or publish misleading, inaccurate or unfavorable research about our business or if they publish negative evaluations of our stock, the price and trading volume of our stock could decline.

The trading market for our common stock relies, in part, on the research and reports that industry or financial analysts publish about us or our business. We do not have control over these analysts. There can be no assurance that existing analysts will continue to cover us or that new analysts will begin to cover us. There is also no assurance that any covering analyst will provide favorable coverage. If one or more of the analysts covering our business downgrade their evaluations of our stock or publish inaccurate or unfavorable research about our business, or provides more favorable relative recommendations about our competitors, the price of our stock could decline. If one or more of these analysts cease to cover our stock, we could lose visibility in the market for our stock, which in turn could cause our stock price and trading volume to decline.

The price of our common stock may be volatile and fluctuate substantially, which could result in substantial losses for our stockholders.

Our stock price is likely to be volatile. The stock market in general and the market for smaller biopharmaceutical companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, our stockholders may not be able to sell their common stock at or above the price paid for their shares. The market price for our common stock may be influenced by many factors, including:

- results of or developments in preclinical studies and clinical trials of tovinontrine and any other product candidates we may develop or those of our competitors or potential collaborators;
- timing of the results of our preclinical studies and clinical trials or those of our competitors;
- our success in commercializing any product candidates, if and when approved;
- the success of competitive products or technologies;
- regulatory or legal developments in the United States and other countries;
- developments or disputes concerning patent applications, issued patents or other intellectual property or proprietary rights;
- the recruitment or departure of key personnel;
- the level of expenses related to tovinontrine and any other product candidates we may develop;
- the results of our efforts to discover, develop, acquire or in-license products, product candidates, technologies or data referencing rights, the costs of commercializing any such products and the costs of development of any such product candidates or technologies;
- actual or anticipated changes in estimates as to financial results, development timelines or recommendations by securities analysts;
- variations in our financial results or the financial results of companies that are perceived to be similar to us;
- sales of common stock by us, our executive officers, directors or principal stockholders, or others;
- changes in the structure of healthcare payment systems;
- market conditions in the pharmaceutical and biotechnology sectors;
- general economic, industry and market conditions, including, without limitation, the current adverse impact of the COVID-19 pandemic; and
- the other factors described in this “Risk Factors” section.

In the past, following periods of volatility in the market price of a company's securities, securities class-action litigation has often been instituted against that company. Any lawsuit to which we are a party, with or without merit, may result in an unfavorable judgment. We also may decide to settle lawsuits on unfavorable terms. Any such negative outcome could result in payments of substantial damages or fines, damage to our reputation or adverse changes to our offerings or business practices. Such litigation may also cause us to incur other substantial costs to defend such claims and divert management's attention and resources.

Our executive officers, directors and principal stockholders, if they choose to act together, have the ability to control all matters submitted to stockholders for approval.

As of September 30, 2021, our executive officers and directors and our stockholders who owned more than 5% of our outstanding common stock, in the aggregate, beneficially owned shares representing approximately 72.1% of our common stock. As a result, if these stockholders were to choose to act together, they would be able to control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets.

This concentration of ownership control may:

- delay, defer or prevent a change in control;
- entrench our management and board of directors; or
- delay or prevent a merger, consolidation, takeover or other business combination involving us that other stockholders may desire.

This concentration of ownership may also adversely affect the market price of our common stock.

We have broad discretion in the use of our cash, cash equivalents and investments and may not use them effectively.

Our management has broad discretion in the application of our cash, cash equivalents and investments and could use such funds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could cause the price of our common stock to decline and delay the development of tovinontrine and any other product candidates we may develop. Pending their use, we may invest our cash, cash equivalents and investments in a manner that does not produce income or that loses value.

Because we do not anticipate paying any cash dividends on our capital stock in the foreseeable future, capital appreciation, if any, will be the sole source of gain for our stockholders.

We have never declared or paid cash dividends on our capital stock. We currently intend to retain all of our future earnings, if any, to finance the growth and development of our business. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for our stockholders for the foreseeable future.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall, even if our business is doing well.

Sales of a substantial number of shares of our common stock in the public market, or the perception in the market that the holders of a large number of shares intend to sell shares, could reduce the market price of our common stock, impair our ability to raise capital through the sale of additional equity securities, and make it more difficult for our stockholders to sell their common stock at a time and price that they deem appropriate. Persons who were our stockholders prior to our initial public offering continue to hold a substantial number of shares of our common stock. If such persons sell, or indicate an intention to sell, substantial amounts of our common stock in the public market, the trading price of our common stock could decline.

We currently have on file with the SEC a universal shelf registration statement which allows us to offer and sell registered common stock, preferred stock, debt securities, warrants and/or units from time to time pursuant to one or more offerings up to an aggregate of $200 million, at prices and terms to be determined at the time of sale. In July 2021, we issued and sold 8,333,333 shares of common stock with aggregate gross proceeds of approximately $50 million under this universal shelf registration statement.

Moreover, holders of an aggregate of 11,005,600 shares of our common stock have rights, subject to specified conditions, to require us to file registration statements covering their shares or to include their shares in registration statements that we may file for ourselves or other stockholders. We have also registered all 3,505,468 shares of common stock that we may issue under our equity compensation plans and such shares can be freely sold in the public market upon issuance, subject to volume limitations applicable to affiliates, vesting arrangements and exercise of options.

We are an "emerging growth company" and a "smaller reporting company," and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our common stock less attractive to investors.

We are an "emerging growth company," or EGC, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We may remain an EGC until December 31, 2025, although if the market value of our common stock that is held by non-affiliates exceeds $700.0 million as of any June 30 before that time or if we have annual gross revenues of $1.07 billion or more in any fiscal year, we would cease to be an EGC as of December 31 of the applicable year. We also would cease to be an EGC if we issue more than $1.0 billion of non-convertible debt over a three-year period. For so long as we remain an EGC, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not EGCs. These exemptions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may choose to take advantage of some or all of the available exemptions. We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive as a result, there may be a less active trading market for our common stock and our stock price may be more volatile.

In addition, the JOBS Act permits an EGC to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have elected to take advantage of such extended transition period, which means that when a standard is issued or revised and it has different application dates for public or private companies, we will adopt the new or revised standard at the time private companies adopt the new or revised standard and will do so until such time that we either (1) irrevocably elect to "opt out" of such extended transition period or (2) no longer qualify as an EGC.

We are also a smaller reporting company, and we will remain a smaller reporting company until the fiscal year following the determination that either (i) our voting and non-voting common shares held by non-affiliates is more than $250 million measured on the last business day of our second fiscal quarter, or (ii) our annual revenues are less than $100 million during the most recently completed fiscal year and our voting and non-voting common shares held by non-affiliates is more than $700 million measured on the last business day of our second fiscal quarter. Similar to emerging growth companies, smaller reporting companies have reduced disclosure obligations, such as an exemption from providing selected financial data and an ability to provide simplified executive compensation information and only two years of audited financial statements.

We have incurred and will continue to incur increased costs as a result of operating as a public company, and our management has devoted and will continued to be required to devote substantial time to new compliance initiatives and corporate governance practices.

As a public company, and particularly after we are no longer an EGC, we will incur significant legal, accounting and other expenses that we did not incur as a private company. The Sarbanes-Oxley Act of 2002, the Dodd-Frank Wall Street Reform and Consumer Protection Act, the listing requirements of the Nasdaq Global Select Market and other applicable securities rules and regulations impose various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs, particularly as we hire additional financial and accounting employees to meet public company internal control and financial reporting requirements, and will make some activities more time-consuming and costly.

We continue to evaluate these rules and regulations, and cannot predict or estimate the amount of additional costs we may incur or the timing of such costs. These rules and regulations are often subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and

governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal control over financial reporting beginning with our filing of an Annual Report on Form 10-K with the SEC for the year ended December 31, 2021. However, while we remain an EGC, we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we are engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, including through hiring additional financial and accounting personnel, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. Despite our efforts, there is a risk that we will not be able to conclude, within the prescribed timeframe or at all, that our internal control over financial reporting is effective as required by Section 404. If we identify one or more material weaknesses in our internal control over financial reporting, it could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our financial statements.

If we fail to maintain an effective system of internal control over financial reporting, we may not be able to accurately report our financial results or prevent fraud. As a result, stockholders could lose confidence in our financial and other public reporting, which would harm our business and the trading price of our common stock.

Effective internal controls over financial reporting are necessary for us to provide reliable financial reports and, together with adequate disclosure controls and procedures, are designed to prevent fraud. Any failure to implement required new or improved controls, or difficulties encountered in their implementation could cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act of 2002, or any subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our stock.

We are required to disclose changes made in our internal controls and procedures on a quarterly basis and our management is required to assess the effectiveness of these controls annually. However, for as long as we are an “emerging growth company” under the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal controls over financial reporting pursuant to Section 404. We could be an “emerging growth company” for up to five years. An independent assessment of the effectiveness of our internal controls over financial reporting could detect problems that our management’s assessment might not. Undetected material weaknesses in our internal controls over financial reporting could lead to financial statement restatements and require us to incur the expense of remediation.

Our disclosure controls and procedures may not prevent or detect all errors or acts of fraud.

As a public company, we are subject to certain reporting requirements of the Exchange Act. Our disclosure controls and procedures are designed to reasonably assure that information required to be disclosed by us in reports we file or submit under the Exchange Act is accumulated and communicated to management, recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC. We believe that any disclosure controls and procedures or internal controls and procedures, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by an unauthorized override of the controls. Accordingly, because of the inherent limitations in our control system, misstatements or insufficient disclosures due to error or fraud may occur and not be detected.

Changes in tax laws or in their implementation or interpretation may adversely affect our business and financial condition.

Changes in tax law may adversely affect our business or financial condition. On December 22, 2017, the U.S. government enacted the TCJA, which significantly reformed the Code. The TCJA, among other things, contained significant changes to corporate taxation, including a reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, the limitation of the tax deduction for net interest expense to 30% of adjusted taxable income (except for certain small businesses), the limitation of the deduction for NOLs arising in taxable years beginning after December 31, 2017 to 80% of current year taxable income and elimination of NOL carrybacks for losses arising in taxable years ending after December 31, 2017 (though any such NOLs may be carried forward indefinitely), the imposition of a one-time taxation of offshore earnings at reduced rates regardless of whether they are

repatriated, the elimination of U.S. tax on foreign earnings (subject to certain important exceptions), the allowance of immediate deductions for certain new investments instead of deductions for depreciation expense over time, and the modification or repeal of many business deductions and credits.

As part of Congress' response to the COVID-19 pandemic, the Families First Coronavirus Response Act, or FFCR Act, was enacted on March 18, 2020, the CARES Act was enacted on March 27, 2020 and COVID-19 relief provisions were also included in the Consolidated Appropriations Act 2021, or CAA, which was enacted on December 27, 2020. The FFCR Act, the CARES Act, and the CAA contain numerous tax provisions. In particular, the CARES Act retroactively and temporarily (for taxable years beginning before January 1, 2021) suspends application of the 80%-of-income limitation on the use of NOLs, which was enacted as part of the TCJA. It also provides that NOLs arising in any taxable year beginning after December 31, 2017, and before January 1, 2021 are generally eligible to be carried back up to five years. The CARES Act also temporarily (for taxable years beginning in 2019 or 2020) relaxes the limitation of the tax deductibility for net interest expense by increasing the limitation from 30% to 50% of adjusted taxable income.

Regulatory guidance under the TCJA, the FFCR Act, the CARES Act and the CAA is and continues to be forthcoming, and such guidance could ultimately increase or lessen the impact of these laws on our business and financial condition. It is also likely that Congress will enact additional legislation in connection with the COVID-19 pandemic and as a result of the changes in the U.S. presidential administration and control of the U.S. Senate, additional tax legislation may also be enacted; any such additional legislation could have an impact on us. In addition, it is uncertain if and to what extent various states will conform to the TCJA, the FFCR Act, the CARES Act or the CAA.

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

Provisions in our certificate of incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control of our company that stockholders may consider favorable, including transactions in which our stockholders might otherwise receive a premium for their shares. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. 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:

- establish a classified board of directors such that only one of three classes of directors is elected each year;
- allow the authorized number of our directors to be changed only by resolution of our board of directors;
- limit the manner in which stockholders can remove directors from 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 "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 specified provisions of our certificate of incorporation or bylaws.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, or the DGCL, 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.

Our certificate of incorporation designates the state courts in the State of Delaware as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could discourage lawsuits against the company and our directors, officers and employees.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) will be the sole and exclusive forum for the following types of proceedings: (1) any derivative action or proceeding brought on our behalf, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers, employees or stockholders to our company or our stockholders, (3) any action asserting a claim arising pursuant to any provision of the DGCL or as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware or (4) any action asserting a claim arising pursuant to any provision of our certificate of incorporation or bylaws (in each case, as they may be amended from time to time) or governed by the internal affairs doctrine. These choice of forum provisions will not apply to suits brought to enforce a duty or liability created by the Securities Act, the Exchange Act or any other claim for which federal courts have exclusive jurisdiction.

These exclusive forum provisions may limit the ability of our stockholders to bring a claim in a judicial forum that such stockholders find favorable for disputes with us or our directors, officers or employees, which may discourage such lawsuits against us and our directors, officers and employees. Alternatively, if a court were to find the choice of forum provisions contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could materially adversely affect our business, financial condition and operating results.

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

Use of Proceeds from Initial Public Offering

On March 16, 2020, we completed our IPO, pursuant to which we issued and sold all 4,700,000 shares of our registered common stock at the public offering price of $16.00 per share. On April 13, 2020, the underwriters exercised their option in full to purchase 705,000 additional shares of our registered common stock at the public offering price of $16.00 per share. The aggregate gross proceeds of our IPO, inclusive of the underwriters' option to purchase additional shares, were $86.5 million. The offering commenced on March 11, 2020 and did not terminate until the sale of all of the shares offered.

The offer and sale of all of the shares of our common stock in our IPO were registered under the Securities Act pursuant to a registration statement on Form S-1 (File No. 333-236465), which was declared effective by the Securities and Exchange Commission, or SEC, on March 11, 2020. Morgan Stanley & Co. LLC, Citigroup Global Markets Inc. and SVB Leerink LLC. acted as joint book-running managers for our IPO.

We received aggregate net proceeds from the IPO, inclusive of the underwriters' option to purchase additional shares, of approximately $76.5 million, after deducting $6.1 million of underwriting discounts and commissions and $3.9 million of other offering expenses payable by us. None of the underwriting discounts and commissions or offering expenses were paid directly or indirectly to any directors or officers of ours or their associates or to persons owning 10% or more of any class of equity securities or to any affiliates of ours. We have used approximately $25.2 million of the net proceeds from the IPO as of September 30, 2021. We have invested the unused net proceeds from the offering in money market accounts. There has been no material change in our planned use of the net proceeds from our IPO as described in our final prospectus filed pursuant to Rule 424(b)(4) under the Securities Act with the SEC on March 12, 2020.

Item 5. Other Items.

Amendments to Letter Agreements

On November 5, 2021, we entered into amendments to our letter agreements with Rahul D. Ballal, Ph.D., our President and Chief Executive Officer (the "Ballal Amendment"), and Michael P. Gray, our Chief Financial Officer and Chief Operating Officer (the "Gray Amendment"), to modify the severance benefits to be received by Dr. Ballal and Mr. Gray if either is terminated in connection with a change of control of Imara.

Under the Ballal Amendment, if Dr. Ballal's employment is terminated by us without cause or by Dr. Ballal with good reason within twelve months following a change of control, each as defined in Dr. Ballal's letter agreement, Dr. Ballal will be entitled, subject to his execution and nonrevocation of a release of claims in our favor and his continued compliance with certain restrictive covenants, to (i) continue receiving his then-current annual base salary for a period of eighteen months following the date his employment with us is terminated, (ii) reimbursement of COBRA premiums for health benefit coverage for a period of up to eighteen

months following the date that his employment with us is terminated and (iii) one hundred and fifty percent of his annual bonus target amount for the year in which the termination occurs, payable as a lump sum.

Under the Gray Amendment, if Mr. Gray's employment is terminated by us without cause or by Mr. Gray with good reason within twelve months following a change of control, each as defined in Dr. Gray's letter agreement, Mr. Gray will be entitled, subject to his execution and nonrevocation of a release of claims in our favor and his continued compliance with certain restrictive covenants, to (i) continue receiving his then-current annual base salary for a period of twelve months following the date his employment with us is terminated, (ii) reimbursement of COBRA premiums for health benefit coverage for a period of up to twelve months following the date that his employment with us is terminated and (iii) one hundred percent of his annual bonus target amount for the year in which the termination occurs, payable as a lump sum.

Copies of the Ballal Amendment and the Gray Amendment are attached as Exhibit 10.1 Exhibit 10.2, respectively, to this Quarterly Report on Form 10-Q and are incorporated herein by reference. The foregoing descriptions of the Ballal Amendment and the Gray Amendment do not purport to be complete and are qualified in their entirety by reference to such exhibits.

Item 6. Exhibits.

Exhibit Number	Description
10.1	First Amendment to the Amended and Restated Letter Agreement, dated as of November 5, 2021, by and between the Registrant and Rahul D. Ballal, Ph.D.
10.2	First Amendment to the Amended and Restated Letter Agreement, dated as of November 5, 2021, by and between the Registrant and Michael P. Gray.
31.1	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of 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	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document
101.SCH	Inline XBRL Taxonomy Extension Schema Document
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021, has been formatted in Inline XBRL

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.

IMARA Inc.

Date: November 9, 2021 By: /s/ Rahul D. Ballal, Ph.D.

Rahul D. Ballal, Ph.D.
President and Chief Executive Officer, Director (Principal Executive Officer)

Date: November 9, 2021 By: /s/ Michael P. Gray

Michael P. Gray
Chief Financial Officer and Chief Operating Officer (Principal Financial and Accounting Officer)

IMARA Inc.
116 Huntington Avenue, 6th Floor
Boston, MA 02116 USA

Info@Imaratx.com
+1 617 202-2020

www.imaratx.com

November 5, 2021

Rahul D. Ballal, Ph.D.

Dear Rahul,

You are a key member of the senior management team of Imara Inc. (the "***Company***"). As a result, the Company would like to amend that certain letter agreement (the "***Letter Agreement***"), dated September 23, 2019, setting forth the terms of your employment with the Company.

This first amendment (the "***First Amendment***") to the Letter Agreement, is effective as of the date set forth above (the "***Amendment Effective Date***") and shall update the terms of your employment with the Company as set forth below.

1. Defined Terms. Capitalized terms not otherwise defined herein shall have the meaning ascribed to such term in the Letter Agreement.

2. Termination of Employment. Section 5(b) of the Letter Agreement is hereby amended and restated in its entirety to read as follows:

   "(b) (I) If the Company terminates your employment for any reason other than Cause (except for termination due to your death or Disability,) or you resign for Good Reason (in either case, a ***"Qualifying Termination"***) and such Qualifying Termination occurs outside of the Change of Control Period, you will receive the Accrued Benefits, and, based upon satisfaction of the criteria in Section 5(d) below, including without limitation your execution and delivery of the separation and release agreement described therein and the lapse of any applicable revocation period without the release being revoked, you shall be eligible to receive the following severance benefits: (i) continuation of your base salary in effect as of the Termination Date for a period of twelve (12) months, less standard deductions, payable in accordance with the Company's then regular pay policies commencing on or before the sixtieth (60th) day following the Termination Date, provided, that the first such payment shall include any amounts that would have been paid to you hereunder had the release become effective upon the Termination Date; and (ii) following the Termination Date, if you are eligible for and elect to continue your health insurance coverage pursuant to your rights under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or any state equivalent ("***COBRA***"), then the Company shall reimburse you for your premiums under COBRA on a monthly basis until the earlier of (x) twelve (12) months following the Termination Date, or (y) the date upon which you

commence full-time employment (or employment that provides you with eligibility for healthcare benefits substantially comparable to those provided by the Company) with an entity other than the Company. Notwithstanding any of the foregoing, if the 60-day period following the Termination Date would end in a calendar year subsequent to the year in which the Termination Date occurs, the payments under this Section 5(b)(I) will not be paid or commence before the first payroll of the subsequent calendar year.

(II) If you experience a Qualifying Termination during the Change of Control Period, you will receive the Accrued Benefits, and, based upon satisfaction of the criteria in Section 5(d) below, including without limitation your execution and delivery of the separation and release agreement described therein and the lapse of any applicable revocation period without the release being revoked, you shall be eligible to receive the following severance benefits: (i) continuation of your base salary in effect as of the Termination Date for a period of eighteen (18) months, less standard deductions, payable in accordance with the Company's then regular pay policies commencing on or before the sixtieth (60th) day following the Termination Date ("***COC Base Salary Severance***"), provided, that the first such payment shall include any amounts that would have been paid to you hereunder had the release become effective upon the Termination Date, (ii) one hundred and fifty percent (150%) of your annual bonus target amount for the year in which the Termination Date occurred in a lump sum on the date the first installment of COC Base Salary Severance is paid and (iii) following the Termination Date, if you are eligible for and elect to continue your health insurance coverage pursuant to your rights under COBRA, then the Company shall reimburse you for your premiums under COBRA on a monthly basis until the earlier of (x) eighteen (18) months following the Termination Date, or (y) the date upon which you commence full-time employment (or employment that provides you with eligibility for healthcare benefits substantially comparable to those provided by the Company) with an entity other than the Company. Notwithstanding any of the foregoing, if the 60-day period following the Termination Date would end in a calendar year subsequent to the year in which the Termination Date occurs, the payments under this Section 5(b)(II) will not be paid or commence before the first payroll of the subsequent calendar year."

3. No Other Amendments. Except as amended by this First Amendment, the Letter Agreement remains unaltered and all other terms of the Letter Agreement shall remain in full force and effect.

4. Counterparts. This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original and all of which taken together shall be deemed to constitute one and the same instrument. An executed signature page of this First Amendment delivered by facsimile transmission (with transmission confirmed) or in .pdf format via e-mail shall be as effective as an original executed signature page.

Please accept all of the terms as set forth herein by signing and returning this First Amendment.

Sincerely,

IMARA INC.

By: /s/ David Mott
Name: David Mott
Title: Chairman of the Board

AGREED:

By: /s/ Rahul D. Ballal, Ph.D.
Name: Rahul D. Ballal, Ph.D.

Exhibit 10.2

IMARA Inc.
116 Huntington Avenue, 6th Floor
Boston, MA 02116 USA

Info@Imaratx.com
+1 617 202-2020

www.imaratx.com

November 5, 2021

Michael Gray

Dear Mike,

You are a key member of the senior management team of Imara Inc. (the "***Company***"). As a result, the Company would like to amend that certain letter agreement (the "***Letter Agreement***"), dated September 23, 2019, setting forth the terms of your employment with the Company.

This first amendment (the "***First Amendment***") to the Letter Agreement, is effective as of the date set forth above (the "***Amendment Effective Date***") and shall update the terms of your employment with the Company as set forth below.

1. Defined Terms. Capitalized terms not otherwise defined herein shall have the meaning ascribed to such term in the Letter Agreement.

2. Termination of Employment. Section 5(b) of the Letter Agreement is hereby amended and restated in its entirety to read as follows:

   "(b) (I) If the Company terminates your employment for any reason other than Cause (except for termination due to your death or Disability) or you resign for Good Reason (in either case, a "***Qualifying Termination***") and such Qualifying Termination occurs outside of the Change of Control Period, you will receive the Accrued Benefits, and, based upon satisfaction of the criteria in Section 5(d) below, including without limitation your execution and delivery of the separation and release agreement described therein and the lapse of any applicable revocation period without the release being revoked, you shall be eligible to receive the following severance benefits: (i) continuation of your base salary in effect as of the Termination Date for a period of nine (9) months, less standard deductions, payable in accordance with the Company's then regular pay policies commencing on or before the sixtieth (60th) day following the Termination Date ("***Severance Pay***"), provided, that the first such payment shall include any amounts that would have been paid to you hereunder had the release become effective upon the Termination Date; and (ii) following the Termination Date, if you are eligible for and elect to continue your health insurance coverage pursuant to your rights under the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or any state equivalent ("***COBRA***"), then the Company shall reimburse you for your premiums under COBRA on a monthly basis until the earlier of (x) nine (9) months following the Termination Date, or (y) the date upon which you commence full-time employment (or employment that provides you with eligibility for healthcare benefits substantially comparable to those provided by the Company) with an entity other

than the Company. Notwithstanding any of the foregoing, (i) if the 60-day period following the Termination Date would end in a calendar year subsequent to the year in which the Termination Date occurs the payments under this Section 5(b) will not be paid or commence before the first payroll of the subsequent calendar year; and (ii) any Severance Pay received in any calendar year shall be reduced by the amount of Garden Leave Pay you receive in the same such calendar year under, and as defined in, the Restrictive Covenants Agreement, provided that in no event shall the Severance Pay be reduced below $1000.

(II) If you experience a Qualifying Termination during the Change of Control Period, you will receive the Accrued Benefits, and, based upon satisfaction of the criteria in Section 5(d) below, including without limitation your execution and delivery of the separation and release agreement described therein and the lapse of any applicable revocation period without the release being revoked, you shall be eligible to receive the following severance benefits: (i) continuation of your base salary in effect as of the Termination Date for a period of twelve (12) months, less standard deductions, payable in accordance with the Company's then regular pay policies commencing on or before the sixtieth (60th) day following the Termination Date ("***COC Base Salary Severance***"), provided, that the first such payment shall include any amounts that would have been paid to you hereunder had the release become effective upon the Termination Date, (ii) one hundred percent (100%) of your annual bonus target amount for the year in which the Termination Date occurred in a lump sum on the date the first installment of COC Base Salary Severance is paid ("***COC Bonus Severance***") and (iii) following the Termination Date, if you are eligible for and elect to continue your health insurance coverage pursuant to your rights under COBRA, then the Company shall reimburse you for your premiums under COBRA on a monthly basis until the earlier of (x) twelve (12) months following the Termination Date, or (y) the date upon which you commence full-time employment (or employment that provides you with eligibility for healthcare benefits substantially comparable to those provided by the Company) with an entity other than the Company. Notwithstanding any of the foregoing, (i) if the 60-day period following the Termination Date would end in a calendar year subsequent to the year in which the Termination Date occurs, the payments under the prior sentence will not be paid or commence before the first payroll of the subsequent calendar year and (ii) any COC Base Salary Severance and COC Bonus Severance received in any calendar year shall be reduced by the amount of Garden Leave Pay you receive in the same such calendar year under, and as defined in, the Restrictive Covenants Agreement, provided that in no event shall the aggregate COC Base Salary Severance and COC Bonus Severance be reduced below $1000."

3. No Other Amendments. Except as amended by this First Amendment, the Letter Agreement remains unaltered and all other terms of the Letter Agreement shall remain in full force and effect.

4. Counterparts. This First Amendment may be executed in any number of counterparts, each of which shall be deemed an original and all of which taken together shall be deemed to constitute one and the same instrument. An executed signature page of this First

Amendment delivered by facsimile transmission (with transmission confirmed) or in .pdf format via e-mail shall be as effective as an original executed signature page.

Please accept all of the terms as set forth herein by signing and returning this First Amendment.

Sincerely,

IMARA INC.

By: /s/ Rahul D. Ballal, Ph.D.
Name: Rahul D. Ballal, Ph.D.
Title: President and CEO

AGREED:

By: /s/ Michael Gray
Name: Michael Gray

Exhibit 31.1

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Rahul D. Ballal, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of IMARA Inc.;

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

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

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

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

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

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

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

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

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

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

Date: November 9, 2021

By: /s/ Rahul D. Ballal, Ph.D.

Rahul D. Ballal, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael P. Gray, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of IMARA Inc.;

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

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

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

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

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

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

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

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

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

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

Date: November 9, 2021

By: /s/ Michael P. Gray

Michael P. Gray
Chief Financial Officer and Chief Operating Officer
(Principal Financial Officer)

Exhibit 32.1

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

In connection with the Quarterly Report on Form 10-Q of IMARA Inc. (the "Company") for the period ending September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Rahul D. Ballal, President and Chief Executive Officer of the Company, hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: November 9, 2021

By: /s/ Rahul D. Ballal, Ph.D.

Rahul D. Ballal, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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

In connection with the Quarterly Report on Form 10-Q of IMARA Inc. (the "Company") for the period ending September 30, 2021, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Michael P. Gray, Chief Financial Officer and Chief Operating Officer of the Company, hereby certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that to his knowledge:

(1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: November 9, 2021

By: /s/ Michael P. Gray

Michael P. Gray
Chief Financial Officer and Chief Operating Officer
(Principal Financial Officer)