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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2020

OR

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

FOR THE TRANSITION PERIOD FROM TO

COMMISSION FILE NUMBER: 001-36485

ARDELYX, INC.
(EXACT NAME OF REGISTRANT AS SPECIFIED IN ITS CHARTER)

DELAWARE	**26-1303944**
(STATE OR OTHER JURISDICTION OF INCORPORATION OR ORGANIZATION)	(I.R.S. EMPLOYER IDENTIFICATION NUMBER)

34175 Ardenwood Boulevard,
Fremont, California 94555
(ADDRESS OF PRINCIPAL EXECUTIVE OFFICES, INCLUDING ZIP CODE)

(510) 745-1700
(REGISTRANT'S TELEPHONE NUMBER, INCLUDING AREA CODE)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.0001	ARDX	The Nasdaq Global Market

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

Indicate by check mark whether the registrant has submitted electronically 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, or 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 ☒

The number of issued and outstanding shares of the registrant's Common Stock, $0.0001 par value per share, as of August 3, 2020, was 89,140,563.

ARDELYX, INC.

PART I. FINANCIAL INFORMATION

ITEM 1. CONDENSED FINANCIAL STATEMENTS

ARDELYX, INC.
CONDENSED BALANCE SHEETS
(Unaudited)
(in thousands, except share and per share amounts)

	June 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 100,494	$ 181,133
Short-term investments	104,347	66,379
Unbilled revenue	750	750
Prepaid expenses and other current assets	6,035	3,800
Total current assets	211,626	252,062
Property and equipment, net	2,501	3,436
Right-of-use assets	2,945	3,970
Other assets	271	314
Total assets	$ 217,343	$ 259,782
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 4,212	$ 2,187
Accrued compensation and benefits	3,081	4,453
Current portion of operating lease liability	2,826	2,608
Loan payable, current portion	13,716	1,183
Deferred revenue	2,241	4,541
Accrued expenses and other current liabilities	7,574	7,248
Total current liabilities	33,650	22,220
Operating lease liability, net of current portion	608	2,076
Loan payable, net of current portion	36,735	48,831
Total liabilities	70,993	73,127
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, $0.0001 par value; 5,000,000 shares authorized; no shares issued and outstanding as of June 30, 2020 and December 31, 2019, respectively.	—	—
Common stock, $0.0001 par value; 300,000,000 shares authorized; 89,140,563 and 88,817,741 shares issued and outstanding as of June 30, 2020 and December 31, 2019, respectively.	9	9
Additional paid-in capital	653,805	647,078
Accumulated deficit	(507,781)	(460,452)
Accumulated other comprehensive income	317	20
Total stockholders' equity	146,350	186,655
Total liabilities and stockholders' equity	$ 217,343	$ 259,782

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

ARDELYX, INC.
CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(Unaudited)
(in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Revenues:				
Licensing revenue	$ 706	$ —	$ 706	$ —
Collaborative development revenue	1,125	—	2,300	—
Other revenue	5	18	43	18
Total revenues	1,836	18	3,049	18
Operating expenses:				
Cost of revenue	141	—	141	—
Research and development	18,864	19,475	34,708	39,856
General and administrative	7,038	5,371	14,176	10,488
Total operating expenses	26,043	24,846	49,025	50,344
Loss from operations	(24,207)	(24,828)	(45,976)	(50,326)
Interest expense	(1,226)	(1,451)	(2,583)	(2,885)
Other income, net	477	812	1,230	1,602
Loss before provision for income taxes	(24,956)	(25,467)	(47,329)	(51,609)
Provision for income taxes	—	—	—	2
Net loss	$ (24,956)	$ (25,467)	$ (47,329)	$ (51,611)
Net loss per common share, basic and diluted	$ (0.28)	$ (0.41)	$ (0.53)	$ (0.82)
Shares used in computing net loss per share - basic and diluted	89,080,046	62,651,863	88,980,353	62,599,371
Comprehensive loss:				
Net loss	$ (24,956)	$ (25,467)	$ (47,329)	$ (51,611)
Unrealized gains on available-for-sale securities	361	4	297	54
Comprehensive loss	$ (24,595)	$ (25,463)	$ (47,032)	$ (51,557)

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

ARDELYX, INC.
CONDENSED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
For the Three and Six Months ended June 30, 2020
(Unaudited)
(in thousands, except share amounts)

	Three Months Ended June 30, 2020					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balance as of March 31, 2020	89,035,096	$ 9	$ 650,617	$ (482,825)	$ (44)	$ 167,757
Issuance of common stock for services	42,403	—	310	—	—	310
Issuance of common stock upon exercise of options	63,064	—	204	—	—	204
Stock-based compensation	—	—	2,674	—		2,674
Unrealized gains on available-for-sale securities	—	—	—	—	361	361
Net loss	—	—	—	(24,956)	—	(24,956)
Balance as of June 30, 2020	89,140,563	$ 9	$ 653,805	$ (507,781)	$ 317	$ 146,350

	Six Months Ended June 30, 2020					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2019	88,817,741	$ 9	$ 647,078	$ (460,452)	$ 20	$ 186,655
Issuance of common stock under employee stock purchase plan	75,804	—	375	—	—	375
Issuance of common stock for services	42,403	—	310	—	—	310
Issuance of common stock upon exercise of options	204,615	—	420	—	—	420
Stock-based compensation	—	—	5,622	—	—	5,622
Unrealized gains on available-for-sale securities	—	—	—	—	297	297
Net loss	—	—	—	(47,329)	—	(47,329)
Balance as of June 30, 2020	89,140,563	$ 9	$ 653,805	$ (507,781)	$ 317	$ 146,350

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

ARDELYX, INC.
CONDENSED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
For the Three and Six Months ended June 30, 2019
(Unaudited)
(in thousands, except share amounts)

	Three Months Ended June 30, 2019					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Income	Total Stockholders' Equity
	Shares	Amount				
Balance as of March 31, 2019	62,600,443	$ 6	$ 483,479	$ (391,656)	$ 12	$ 91,841
Issuance of common stock for services	113,136	—	311	—	—	311
Issuance of common stock upon exercise of options	1,681	—	5	—	—	5
Issuance of common stock upon vesting of restricted stock units	85,609	—	—	—	—	—
Stock-based compensation	—	—	1,923	—		1,923
Unrealized gains on available-for-sale securities	—	—	—	—	4	4
Net loss	—	—	—	(25,467)	—	(25,467)
Balance as of June 30, 2019	62,800,869	$ 6	$ 485,718	$ (417,123)	$ 16	$ 68,617

	Six Months Ended June 30, 2019					
	Common Stock		Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive (Loss) Income	Total Stockholders' Equity
	Shares	Amount				
Balance as of December 31, 2018	62,516,627	$ 6	$ 481,357	$ (365,512)	$ (38)	$ 115,813
Issuance of common stock under employee stock purchase plan	83,046	—	198	—	—	198
Issuance of common stock for services	113,136	—	311	—	—	311
Issuance of common stock upon exercise of options	2,451	—	7	—	—	7
Issuance of common stock upon vesting of restricted stock units	85,609	—	—	—	—	—
Stock-based compensation	—	—	3,845	—	—	3,845
Unrealized gains on available-for-sale securities	—	—	—	—	54	54
Net loss	—	—	—	(51,611)	—	(51,611)
Balance as of June 30, 2019	62,800,869	$ 6	$ 485,718	$ (417,123)	$ 16	$ 68,617

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

ARDELYX, INC.
CONDENSED STATEMENTS OF CASH FLOWS
(Unaudited)
(in thousands)

	Six Months Ended June 30,	
	2020	2019
Operating activities		
Net loss	$ (47,329)	$ (51,611)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation expense	960	1,353
Amortization of deferred financing costs	282	282
Amortization of deferred compensation for services	158	154
Amortization of premium on investment securities	(227)	(537)
Non-cash lease expense	1,025	891
Stock-based compensation	5,622	3,845
Change in derivative liabilities	152	61
Non-cash interest associated with debt discount accretion	257	231
Changes in operating assets and liabilities:		
Unbilled revenue	—	5,000
Prepaid expenses and other assets	(2,144)	12
Accounts payable	2,025	(887)
Accrued compensation and benefits	(1,372)	(372)
Lease liabilities	(1,251)	(825)
Accrued and other liabilities	174	(2,330)
Deferred revenue	(2,300)	—
Net cash used in operating activities	(43,968)	(44,733)
Investing activities		
Proceeds from maturities of investments	25,519	86,454
Purchases of investments	(62,960)	(30,857)
Purchases of property and equipment	(25)	(211)
Net cash (used in) provided by investing activities	(37,466)	55,386
Financing activities		
Proceeds from issuance of common stock under stock plans	375	198
Issuance of common stock upon exercise of options	420	7
Net cash provided by financing activities	795	205
Net (decrease) increase in cash and cash equivalents	(80,639)	10,858
Cash and cash equivalents at beginning of period	181,133	78,768
Cash and cash equivalents at end of period	$ 100,494	$ 89,626
Supplementary disclosure of cash flow information:		
Income taxes paid	$ —	$ 2
Supplementary disclosure of non-cash activities:		
Right-of-use assets obtained in exchange for lease obligations	$ —	$ 5,810

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

ARDELYX, INC.
NOTES TO CONDENSED FINANCIAL STATEMENTS
(Unaudited)
(tabular amounts in thousands, except share and per share amounts and where otherwise noted)

NOTE 1. ORGANIZATION AND BASIS OF PRESENTATION

Ardelyx, Inc. (the "Company," "we," "us" or "our") is a specialized biopharmaceutical company focused on developing innovative first-in-class medicines to improve treatment for people with kidney and cardiovascular diseases.

The Company operates in one business segment, which is the research and development of biopharmaceutical products.

Basis of Presentation

These condensed financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP") and pursuant to the requirements of the Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules and regulations, certain footnotes or other financial information that are normally required by U.S. GAAP have been condensed or omitted. These condensed financial statements have been prepared on the same basis as the Company's most recent annual financial statements and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments necessary to present fairly the Company's financial position at June 30, 2020 and results of operations, changes in stockholders' equity, and cash flows for the interim periods ended June 30, 2020 and 2019.

The accompanying condensed financial statements and related financial information should be read in conjunction with the audited financial statements and the related notes thereto included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019. The results for the three and six months ended June 30, 2020 are not necessarily indicative of results to be expected for the entire year ending December 31, 2020, or for any other interim period or future year.

Prior Period Errors

In connection with our review of our financial statements as of and for the six months ended June 30, 2019, we corrected errors related to the accounting for clinical trial accruals that had resulted in an overstatement of research and development expenses during the three months ended March 31, 2019 and during the year ended December 31, 2018. Specifically, management concluded that the Company's research and development expenses recorded during the three months ended March 31, 2019 and during year ended December 31, 2018 had been overstated by $0.5 million and $3.6 million, respectively, and that the Company's accrued expenses and other current liabilities for these periods had been overstated by the same amounts.

Management analyzed the potential impact of these errors in accordance with the SEC's Staff Accounting Bulletin No. 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements*, and concluded that while the errors were significant to the Company's financial statements as of and for the six months ended June 30, 2019, a correction of the errors would not have been material to each quarter or the full year results for 2019 and 2018 nor affect the trend of financial results. Accordingly, during the second quarter of 2019, the Company reduced accrued and other liabilities by $4.1 million and recorded a cumulative adjustment of $4.1 million in the condensed statement of operations to reduce research and development expenses.

Liquidity

As of June 30, 2020, the Company had cash, cash equivalents and short-term investments of approximately $204.8 million. The Company believes its current available cash, cash equivalents and short-term investments will be sufficient to fund the Company's planned expenditures and meet its obligations for at least 12 months following August 6, 2020, which is the date that these condensed financial statements are being issued.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and judgments that affect the amounts reported in the financial statements and accompanying notes thereto. On an ongoing basis, management evaluates its estimates, including those related to recognition of revenue, clinical trial accruals, contract manufacturing accruals, the fair value of assets and liabilities, income taxes and stock-based compensation. Management bases its estimates on historical experience and on various other market-specific and relevant assumptions that management believes to be reasonable under the circumstances. Actual results could materially differ from those estimates.

Summary of Significant Accounting Policies

There have been no changes to the significant accounting policies disclosed in the Company's most recent Annual Report on Form 10-K.

Recent Accounting Pronouncements

Recently Adopted Accounting Pronouncements

In December 2019, as part of its initiative to reduce complexity in the accounting standards, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes* ("ASU 2019-12"), which eliminates certain exceptions related to the approach for intra-period tax allocation, the methodology for calculating income taxes in an interim period and the recognition of deferred tax liabilities for outside basis differences. ASU 2019-12 also clarifies and simplifies other aspects of the accounting for income taxes. The standard is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020, with early adoption permitted. The Company early adopted ASU 2019-12 on April 1, 2020, retrospective adoption was effective on January 1, 2020, and this adoption had no material impact on the Company's financial position or results of operations.

In November 2018, the FASB issued ASU 2018-18, *Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606* ("ASU 2018-18"), which clarifies that certain transactions between collaborative arrangement participants should be accounted for as revenue under the FASB's Accounting Standards Codification ("ASC") No. 606, *Revenue from Contracts with Customers* ("ASC 606") when the collaborative arrangement participant is a customer. The Company adopted ASU 2018-18 on January 1, 2020, and the adoption of this standard did not have a material impact on the Company's financial statements. In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework— Changes to the Disclosure Requirements for Fair Value Measurement* ("ASU 2018-13"), which considers cost and benefits and removes, modifies and adds disclosure requirements in Topic 820. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty is to be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments were to be applied retrospectively to all periods presented. The Company adopted ASU 2018-13 on January 1, 2020, and the adoption of this standard did not have a material impact on the Company's financial statements.

Recent Accounting Pronouncements Not Yet Adopted

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides temporary optional guidance to companies impacted by the transition away from the London Interbank Offered Rate ("LIBOR"). The guidance provides certain expedients and exceptions to applying GAAP in order to lessen the potential accounting burden when contracts, hedging relationships, and other transactions that reference LIBOR as a benchmark rate are modified. This guidance is effective upon issuance and expires on December 31, 2022. Management does not expect this guidance will have a significant impact on the Company's financial statements.

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, an amendment which modifies the measurement and recognition of credit losses for most financial assets and certain other instruments. The amendment updates the guidance for measuring and recording credit losses on financial assets measured at amortized cost by replacing the "incurred loss" model with an "expected loss" model. Accordingly, these financial assets will be presented at the net amount expected to be collected. The amendment also requires that credit losses related to available-for-sale debt securities be recorded as an allowance through net income rather than reducing the carrying amount under the current, other-than-temporary-impairment model. For smaller reporting companies the guidance is effective for fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. Early adoption is permitted. Management is currently assessing the impact of this standard on the Company's financial statements.

NOTE 2. CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS

Securities classified as cash, cash equivalents and short-term investments as of June 30, 2020 and December 31, 2019 are summarized below.

	June 30, 2020			
		Gross Unrealized		
	Amortized Cost	Gains	Losses	Fair Value
Cash and cash equivalents:				
Money market funds	$ 99,410	$ —	$ —	$ 99,410
Cash	1,084	—	—	1,084
Total cash and cash equivalents	100,494	—	—	100,494
Short-term investments				
Commercial paper	$ 46,328	$ 115	$ —	$ 46,443
Corporate bonds	35,119	170	—	35,289
Asset-backed securities	10,507	25	—	10,532
U.S. government-sponsored agency bonds	8,077	—	(2)	8,075
U.S. treasury notes	3,999	9	—	4,008
Total short-term investments	104,030	319	(2)	104,347
Total cash equivalents and short-term investments	$ 204,524	$ 319	$ (2)	$ 204,841

	December 31, 2019			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and cash equivalents:				
Money market funds	$ 147,208	$ —	$ —	$ 147,208
Commercial paper	19,357	3	—	19,360
Corporate bonds	11,441	—	—	11,441
Cash	3,124	—	—	3,124
Total cash and cash equivalents	181,130	3	—	181,133
Short-term investments				
Commercial paper	$ 36,667	$ 14	$ —	$ 36,681
Corporate bonds	21,690	6	(3)	21,693
Asset-backed securities	8,005	—	—	8,005
Total short-term investments	66,362	20	(3)	66,379
Total cash equivalents and short-term investments	$ 247,492	$ 23	$ (3)	$ 247,512

All available-for-sale securities held as of June 30, 2020 had contractual maturities of less than one year. The Company's available-for-sale securities are subject to a periodic impairment review. The Company considers a debt security to be impaired when the fair value of that security is less than its carrying cost, in which case the Company would further evaluate the investment to determine whether the security is other-than-temporarily impaired. When the Company evaluates an investment for other-than-temporary impairment, the Company reviews factors such as the length of time and extent to which fair value has been below cost basis, the financial condition or creditworthiness of the issuer and any changes thereto, intent to sell, and whether it is more likely than not the Company will be required to sell the investment before the recovery of its cost basis. If an investment is other-than-temporarily impaired, the Company writes the investment down through the statement of operations to its fair value and establishes that value as the new cost basis for the investment. Management has determined that none of the Company's available-for-sale securities were other-than-temporarily impaired in any of the periods presented, and as of June 30, 2020, no investment was in a continuous unrealized loss position for more than one year. As such, the Company believes that it is more likely than not that the investments will be held until maturity or a forecasted recovery of fair value.

While our investment policy requires that we only invest in highly-rated securities and limit our exposure to any single issuer, the COVID-19 pandemic may materially affect the financial conditions of issuers, which could result in a default by one or more issuers or result in downgrades below our minimum credit rating requirements.

NOTE 3. FAIR VALUE MEASUREMENTS

The Company's financial instruments consist of cash and cash equivalents, short-term investments, prepaid expenses, other current assets, accounts payable, accrued expenses, and the Term Loan, as defined and discussed in Note 5. Fair value estimates of these instruments are made at a specific point in time based on relevant market information. These estimates may be subjective in nature and involve uncertainties and matters of significant judgment. The carrying amounts of financial instruments such as cash and cash equivalents, prepaid expenses, other current assets, accounts payable and accrued expenses approximate the related fair values due to the short maturities of these instruments. Based on prevailing borrowing rates available to the Company for loans with similar terms, the Company believes the fair value of the Term Loan, considering level 2 inputs, approximates this instrument's carrying value.

Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs.

The three-level hierarchy for the inputs to valuation techniques is briefly summarized as follows:

Level 1 – Valuations are based on quoted prices in active markets for identical assets or liabilities and readily accessible by the Company at the reporting date. Examples of assets and liabilities utilizing Level 1 inputs are certain money market funds, U.S. treasuries and trading securities with quoted prices on active markets.

Level 2 – Valuations based on inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities; quoted prices in markets that are not active; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Examples of assets and liabilities utilizing Level 2 inputs are corporate bonds, commercial paper, certificates of deposit and over-the-counter derivatives.

Level 3 – Valuations based on unobservable inputs in which there is little or no market data, which require the Company to develop its own assumptions.

The following table sets forth the fair value of the Company's financial assets and liabilities that are measured or disclosed on a recurring basis:

	June 30, 2020			
	Total Fair Value	Level 1	Level 2	Level 3
Assets:				
Money market funds	$ 99,410	$ 99,410	$ —	$ —
Commercial paper	46,443	—	46,443	—
Corporate bonds	35,289	—	35,289	—
Asset-backed securities	10,532	—	10,532	—
U.S. government-sponsored agency bonds	8,075	8,075		
U.S. treasury notes	4,008	4,008	—	—
Total	$ 203,757	$ 111,493	$ 92,264	$ —
Liabilities:				
Derivative liability for Exit Fee	$ 1,121	$ —	$ —	$ 1,121
Total	$ 1,121	$ —	$ —	$ 1,121

	December 31, 2019			
	Total Fair Value	Level 1	Level 2	Level 3
Assets:				
Money market funds	$ 147,208	$ 147,208	$ —	$ —
Commercial paper	56,041	—	56,041	—
Corporate bonds	33,134	—	33,134	—
Asset-backed securities	8,005	—	8,005	—
Total	$ 244,388	$ 147,208	$ 97,180	$ —
Liabilities:				
Derivative liability for Exit Fee	$ 969	$ —	$ —	$ 969
Total	$ 969	$ —	$ —	$ 969

Where quoted prices are available in an active market, securities are classified as Level 1. The Company classifies money market funds, U.S. treasury securities and U.S. treasury notes as Level 1. When quoted market prices are not available for the specific security, the Company estimates fair value by using benchmark yields, reported trades, broker/dealer quotes and issuer spreads. The Company classifies corporate bonds, commercial paper, asset-backed

securities and foreign currency derivative contracts as Level 2. In certain cases, where there is limited activity or less transparency around inputs to valuation, securities or derivative liabilities such as the Exit Fee, as defined and discussed in Note 4, are classified as Level 3. There were no transfers between Level 1 and Level 2 during the periods presented.

NOTE 4. DERIVATIVE LIABILITY

In May 2018, in connection with entering into the Loan Agreement, as defined and discussed in Note 5, the Company entered into an agreement pursuant to which the Company agreed to pay $1.5 million in cash (the "Exit Fee") upon any change of control transaction in respect of the Company or if the Company obtains both (i) U.S. Food and Drug Administration ("FDA") approval of tenapanor for the treatment of hyperphosphatemia in chronic kidney disease patients on dialysis and (ii) FDA approval of tenapanor for the treatment of patients with irritable bowel syndrome with constipation ("IBS-C"), which was obtained on September 12, 2019 when the FDA approved IBSRELA® (tenapanor), a 50 milligram, twice daily oral pill for the treatment of IBS-C in adults (the "Exit Fee Agreement"). Notwithstanding the prepayment or termination of the Term Loan, as defined and discussed in Note 5, the Company's obligation to pay the Exit Fee will expire on May 16, 2028. The Company concluded that the Exit Fee is a freestanding derivative which should be accounted for at fair value on a recurring basis. The estimated fair value of the Exit Fee is recorded as a derivative liability and included in accrued expenses and other current liabilities on the accompanying condensed balance sheets.

The fair value of the derivative liability was determined using a discounted cash flow analysis, and the key assumptions included in the calculation of the estimated fair value of the derivative liability include: (i) the Company's estimates of both the probability and timing of payment of the Exit Fee to Solar Capital Ltd. and Western Alliance Bank as a result of the FDA approvals and (ii) a variable discount rate. Generally, increases or decreases in the probability of occurrence would result in a directionally similar impact in the fair value measurement of the derivative liability, and it is estimated that a 10% increase or decrease in the probability of occurrence would result in a fair value fluctuation of approximately $0.1 million.

Changes in fair value, which are presented as other income, net, in the Company's condensed statements of operations, were as follows:

	Six Months Ended June 30,	
	2020	2019
Fair value of Exit Fee derivative liability at January 1	$ 969	$ 533
Change in estimated fair value of derivative liability	152	61
Fair value of Exit Fee derivative liability at June 30	$ 1,121	$ 594

NOTE 5. BORROWING

Solar Capital and Western Alliance Bank Loan Agreement

On May 16, 2018, the Company entered into a loan and security agreement (the "Loan Agreement"), with Solar Capital Ltd. and Western Alliance Bank (collectively the "Lenders"). The Loan Agreement provides for a $50.0 million term loan facility with a maturity date of November 1, 2022 (the "Term Loan").

Borrowings under the Term Loan bear interest at a floating per annum rate equal to 7.45% plus the one-month LIBOR. The Company is permitted to make interest-only payments on the Term Loan until December 1, 2020. Beginning on December 1, 2020 and through the maturity date, in addition to monthly interest payments, the Company will be required to make monthly principal payments in equal monthly installments of approximately $2.1 million.

The Company paid a closing fee of 1% of the Term Loan, or $0.5 million, upon the closing of the Term Loan, and the Company is obligated to pay a final fee equal to 3.95% of the Term Loan upon the earliest to occur of the maturity date, the acceleration of the Term Loan, the prepayment or repayment of the Term Loan or the termination of the Loan Agreement. The Company may voluntarily prepay the outstanding Term Loan, subject to a prepayment premium of (i) 3%

of the principal amount of the Term Loan if prepaid prior to or on the first anniversary of the Closing Date, (ii) 2% of the principal amount of the Term Loan if prepaid after the first anniversary of the Closing Date through and including the second anniversary of the Closing Date, or (iii) 1% of the principal amount of the Term Loan if prepaid after the second anniversary of the Closing Date and prior to the maturity date. The Term Loan is secured by substantially all the Company's assets, except for the Company's intellectual property and certain other customary exclusions. Additionally, in connection with the Term Loan, the Company entered into the Exit Fee Agreement, as discussed in Note 4.

The Loan Agreement contains customary representations and warranties and customary affirmative and negative covenants. As of June 30, 2020, the Company was in compliance with all of the covenants set forth in the Loan Agreement.

The Loan Agreement also contains customary events of default that entitle the Lender to cause the Company's indebtedness under the Loan Agreement to become immediately due and payable, and to exercise remedies against the Company and the collateral securing the Term Loan, including the Company's cash. Upon the occurrence and for the duration of an event of default, an additional default interest rate equal to 4.0% per annum will apply to all amounts owed under the Loan Agreement. As of June 30, 2020, to the Company's knowledge, there were no facts or circumstances in existence that would give rise to an event of default.

As of June 30, 2020, the Company's future payment obligations related to the Term Loan, excluding interest payments and the Exit Fee, are as follows:

Remainder of 2020	$ 2,083
2021	25,000
2022	24,892
Total principal and final fee payments	51,975
Less: Unamortized discount and debt issuance costs	(561)
Less: Unaccreted value of final fee	(963)
Loan payable	50,451
Less: Loan payable, current portion	13,716
Loan payable, net of current portion	$ 36,735

NOTE 6. LEASES

All of the Company's leases, which primarily include the right to use office and laboratory space, are operating leases, and certain of the leases have both lease and non-lease components. The Company has elected to account for each separate lease component and the non-lease components associated with that lease component as a single lease component for all classes of underlying assets.

The following table provides additional details related to our facility leases, as presented in the Company's condensed balance sheet as of June 30, 2020:

Facilities		
Right of use assets	$	2,945
Current portion of lease liabilities		2,826
Operating lease liability, net of current portion		608
Total	$	3,434
Weighted-average remaining life (years)		1.25
Weighted-average discount rate		12.99 %

Other information related to the Company's facilities lease is as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Operating lease expense	$ 648	$ 648	$ 1,296	$ 1,296
Cash paid for operating lease	$ 761	$ 616	$ 1,521	$ 1,230

The following table summarizes the Company's undiscounted cash payment obligations for its operating lease liabilities as of June 30, 2020:

Remainder of 2020	$ 1,544
2021	2,183
Total undiscounted operating lease payments	3,727
Imputed interest expenses	(293)
Total operating lease liabilities	3,434
Less: Current portion of operating lease liability	2,826
Operating lease liability, net of current portion	$ 608

NOTE 7. EQUITY INCENTIVE PLANS

Stock Option Plan

During the three and six months ended June 30, 2020, options were granted to employees and members of the board of directors to purchase 729,727 and 2,649,516 shares, respectively, of the Company's common stock. The weighted-average grant-date estimated fair value of options granted during the three and six months ended June 30, 2020 was $5.14 and $5.19, respectively. The estimated grant date fair value of employee stock options was calculated using the Black-Scholes option-pricing model, based on the following weighted-average assumptions:

	Six Months Ended June 30, 2020
Expected term (years)	6.00
Expected volatility	83.55 %
Risk-free interest rate	1.33 %
Dividend yield	— %

During the three and six months ended June 30, 2020, options were exercised to purchase 63,064 and 204,615 shares, respectively, of the Company's common stock, resulting in corresponding approximately $0.2 million and $0.4 million net proceeds, respectively, to the Company. During the three and six months ended June 30, 2019, options were exercised to purchase 1,681 and 2,451 shares, respectively, of the Company's common stock, resulting in corresponding insignificant net proceeds to the Company.

Restricted Stock Units ("RSUs")

In July 2018, the Company granted 903,374 performance-based restricted stock units ("PRSUs") to its employees that vest upon the achievement of certain performance conditions, subject to the employees' continued service relationship with the Company through the achievement date. As of June 30, 2020, 849,328 of these PRSUs were outstanding and none of these PRSUs were vested. Additionally, during the three months ended June 30, 2020, the Company granted 30,000 PRSUs with the same performance criteria to its recently hired chief commercial officer and chief financial officer, of which none vested and those 30,000 PRSU's are also outstanding at June 30, 2020. Based on the evaluation of the performance conditions, the Company recorded stock-based compensation expense of $0.6 million and $1.4 million for the three and six months ended June 30, 2020, respectively. The Company had not recorded stock-based compensation expense for the three and six months ended June 30, 2019 related to these PRSUs. The related compensation cost is

recognized as an expense ratably over the estimated vesting period. The expense recognized for these awards is based on the grant date fair value of the Company's common stock multiplied by the number of units granted.

For each of the three and six months ended June 30, 2020 and 2019, the Company issued zero and 85,609 shares, respectively, of its common stock upon vesting of time-based RSUs to its employees. No time-based RSUs were granted to employees during the three and six months ended June 30, 2020 or 2019.

Employee Stock Purchase Plan

In February 2020, the Company sold 75,804 shares of its common stock under the Company's employee stock purchase program ("ESPP"). The shares were purchased by employees at a purchase price of $4.95 per share with proceeds to the Company of approximately $0.4 million. In February 2019, the Company sold 83,046 shares of its common stock under the ESPP. The shares were purchased by employees at a purchase price of $2.39 per share with proceeds to the Company of approximately $0.2 million.

Issuance of Common Stock for Services

For the three and six months ended June 30, 2020, the Company issued 42,403 shares of its common stock to members of the board of directors who elected to receive stock in lieu of their cash fees under the Company's Amended and Restated Non-Employee Director Compensation Program. The shares issued were valued at $0.3 million based on the fair value of the common stock on the date of grant. For the three and six months ended June 30, 2019, the Company issued 113,136 shares of its common stock to members of the board of directors who elected to receive stock in lieu of their cash fees under the Company's Amended and Restated Non-Employee Director Compensation Program. The shares issued were valued at $0.3 million based on the fair value of the common stock on the date of grant.

Stock-Based Compensation

Stock-based compensation expense recognized for stock options, RSUs, PRSUs and the Company's ESPP are recorded as operating expenses in the Company's condensed statements of operations and comprehensive loss, as follows:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
Research and development	$ 1,144	$ 767	$ 2,202	$ 1,527
General and administrative	1,530	1,156	3,420	2,318
Total	$ 2,674	$ 1,923	$ 5,622	$ 3,845

As of June 30, 2020, the Company's total unrecognized stock-based compensation expense, net of estimated forfeitures, and average remaining vesting period, included the following:

	Unrecognized Compensation Expense	Average Remaining Vesting Period (Years)
Stock options	$ 15,202	2.8
PRSUs	$ 396	0.2
ESPP	$ 78	0.2

Warrants

In June 2015, the Company had sold and issued warrants to purchase 2,172,899 shares of common stock. The purchase price for the warrants was $0.125 per warrant. The warrants were exercisable for an exercise price of $13.91 per share at any time prior to the earlier of (i) 5 years from the date of issuance or (ii) certain changes in control of the Company. The Company had determined that the warrants should be classified as equity. In June 2020, the warrants expired with none of the warrants exercised.

NOTE 8. NET LOSS PER SHARE

Basic net loss per share is calculated by dividing net loss by the weighted-average number of common shares outstanding during the period, less shares subject to repurchase, and excludes any dilutive effects of stock-based awards and warrants. Diluted net loss per common share is computed giving effect to all potential dilutive common shares, including common stock issuable upon exercise of stock options, and unvested restricted common stock and stock units. As the Company had net losses for the three and six months ended June 30, 2020 and 2019, all potential common shares were determined to be anti-dilutive. The following table sets forth the computation of net loss per common share:

	Three Months Ended		Six Months Ended June 30,	
	2020	2019	2020	2019
Numerator:				
Net loss	$ (24,956)	$ (25,467)	$ (47,329)	$ (51,611)
Denominator:				
Weighted average common shares outstanding - basic and diluted	89,080,046	62,651,863	88,980,353	62,599,371
Net loss per share - basic and diluted	$ (0.28)	$ (0.41)	$ (0.53)	$ (0.82)

For the three and six months ended June 30, 2020, the total number of securities that could potentially dilute basic net loss per share in the future that were not included in the computation of diluted net loss per share because the effect would have been antidilutive was 11.5 million and 11.7 million, respectively.

For the three and six months ended June 30, 2019, the total number of securities that could potentially dilute basic net loss per share in the future that were not included in the computation of diluted net loss per share because the effect would have been antidilutive was 10.2 million and 10.0 million, respectively.

NOTE 9. COLLABORATION AND LICENSING AGREEMENTS

Kyowa Kirin Co., Ltd. ("KKC")

2019 KKC Agreement

In November 2019, the Company entered into a research collaboration and option agreement with KKC (the "2019 KKC Agreement") for research associated with identifying two pre-clinical compounds that are ready for designation as development compounds, with one compound inhibiting the first undisclosed target ("Program 1"), and a second inhibiting the second undisclosed target ("Program 2"). Pursuant to the 2019 KKC Agreement, upon completion of the research and designation by the research steering committee of one or more development candidates ("DCs"), KKC has the right to execute one or more separate collaborative agreements relating to the development and commercialization of one or both DCs in certain specified territories.

Under the terms of the 2019 KKC Agreement, KKC agreed to pay the Company a non-refundable, non-creditable upfront fee of $10.0 million, payable as follows: the first installment of $5.0 million within 30 days of November 11, 2019 (the "Effective Date"), and the second installment of $5.0 million on the first anniversary of the Effective Date, unless the 2019 KKC Agreement is earlier terminated by KKC due to material breach by the Company. The term of the 2019 KKC Agreement commenced on the Effective Date and ends on the earliest of: (i) two years following the Effective Date, or (ii) the nomination of a program DC for both programs, (iii) or the nomination of one program DC and the decision by the parties to cease research for the other program, or (iv) the decision by the parties to cease research for both programs. The Company assessed the 2019 KKC Agreement in accordance with ASC 606 and concluded that the contract's counterparty, KKC, is a customer. Management also considered the modification guidance prescribed in ASC 606 and concluded that the 2019 KKC Agreement should be accounted for as a separate contract from the 2017 KKC Agreement, as defined and discussed below.

The Company identified various promises in the 2019 KKC Agreement, including: the grant of an initial research license; the Program 1 research; the Program 2 research; the right to obtain certain development and commercialization rights to a Program 1 DC in certain territories; the right to obtain development and commercialization rights to a Program 2 DC in certain territories; and participation in a joint steering committee ("JSC"). The Company determined that KKC could not benefit from either of the research programs without the research license and participation in the JSC. As such, the combined license, research programs and participation in the JSC were deemed to be the highest level of goods and services that can be deemed distinct for each of the Program 1 research and Program 2 research. The Company concluded that the options to obtain additional development and commercialization rights that are exercisable by KKC under certain circumstances are not performance obligations of the contract at inception because the option fees reflect the standalone selling price of the options, and therefore, the options are not considered to be material rights.

At the outset of the 2019 KKC Agreement, the Company determined that the initial transaction price amounted to $10.0 million and that revenue associated with the combined performance obligations will be recognized as services are provided using an input method. Since transfer of control occurs over time, in management's judgment this input method is the best measure of progress towards satisfying the performance obligations and reflects a faithful depiction of the transfer of goods and services. Revenue will be recognized over the Program 1 and Program 2 research periods, which are currently expected to extend through the end of 2021. Management will re-evaluate the estimates related to the transaction price at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur and adjust the timing of revenue recognition as necessary.

During the three and six months ended June 30, 2020, the Company recognized $1.1 million and $2.3 million, respectively, as revenue under the 2019 KKC Agreement in the accompanying statement of operations and comprehensive loss. The aggregate amount of the transaction price allocated to the Company's partially unsatisfied performance obligations as of June 30, 2020 was $7.2 million, of which $2.2 million is presented in the accompanying condensed balance sheet as deferred revenue. As of June 30, 2020, the Company expects to recognize the remaining transaction price allocated to the Company's partially unsatisfied performance obligations over the remaining research terms, which, as noted above, are currently expected to extend through the end of 2021. There were no changes in estimates associated with the 2019 KKC Agreement during the three and six months ended June 30, 2020.

2017 KKC Agreement

In November 2017, the Company entered into an exclusive license agreement with KKC (the "2017 KKC Agreement"), for the development, commercialization and distribution of tenapanor in Japan for cardiorenal indications. The Company granted KKC an exclusive license to develop and commercialize certain sodium hydrogen exchanger 3 ("NHE3") inhibitors including tenapanor in Japan for the treatment of cardiorenal diseases and conditions, excluding cancer. The Company retained the rights to tenapanor outside of Japan, and also retained the rights to tenapanor in Japan for indications other than those stated above. Pursuant to the 2017 KKC Agreement, KKC is responsible for all costs and expenses incurred in the development and commercialization of tenapanor for the treatment of cardiorenal diseases and conditions, excluding cancer in Japan. Under the 2017 KKC Agreement, the Company is responsible for supplying the tenapanor drug product for KKC's use in development and during commercialization until KKC has assumed such responsibility. Additionally, the Company is responsible for supplying the tenapanor drug substance for KKC's use in development and commercialization throughout the term of the 2017 KKC Agreement, provided that KKC may exercise an option to manufacture the tenapanor drug substance under certain conditions.

The Company assessed these arrangements in accordance with ASC 606 and concluded that the contract counterparty, KKC, is a customer. Under the terms of the 2017 KKC Agreement, the Company received $30.0 million in upfront license fees, which was recognized as revenue when the agreement was executed. Based on the Company's assessment, management determined that the license and the manufacturing supply services were its material performance obligations at the inception of the 2017 KKC Agreement, and as such, each of the performance obligations is distinct. Additionally, the Company recorded unbilled revenue of $5.0 million and an increase in uncharged license fees of $1.0 million related to the first milestone under the 2017 KKC Agreement that KKC; this first milestone was achieved in February 2019.

In addition to the $30.0 million upfront license fee, the Company may be entitled to receive up to $55.0 million in total development milestones, of which $5.0 million has been received to date, and approximately $78.9 million in

commercialization milestones, as well as reimbursement of costs plus a reasonable overhead for the supply of product and high-teen royalties on net sales throughout the term of the agreement. The variable consideration related to the remaining development milestone payments has not been included in the transaction price as these were fully constrained at June 30, 2020.

During the three and six months ended June 30, 2020, the Company recognized $5,000 and $43,000, respectively, as other revenue related to the manufacturing supply of tenapanor and other materials to KKC pursuant to the 2017 KKC Agreement. Similarly, for each of the three and six months ended June 30, 2019, $18,000 was recognized as other revenue..

Xuanzhu (HK) Biopharmaceutical Limited ("XuanZhu")

In November 2019, the Company entered into a license agreement with XuanZhu (the "XuanZhu Agreement"), pursuant to which the Company granted XuanZhu a license to certain specific patent and patent applications. The Company assessed the XuanZhu Agreement in accordance with ASC 606 and concluded that the contract counterparty, XuanZhu, is a customer. Under the terms of the XuanZhu Agreement, the Company recognized $1.5 million in license fees, which constituted the initial transaction price, when the agreement was executed, of which $750,000 was received upfront in November 2019, and achievement for the second $750,000 payment, related to the issuance and grant of a specific patent, was determined to be not materially at risk and probable of achievement. Based on management's assessment, the Company determined that it has one combined performance obligation, which is the license and the specific patent grant.

No revenue related to the XuanZhu Agreement was recorded during the three and six months ended June 30, 2020.

Shanghai Fosun Pharmaceutical Industrial Development Co. Ltd. ("Fosun Pharma")

In December 2017, the Company entered into an exclusive license agreement with Fosun Pharma (the "Fosun Agreement"), for the development, commercialization and distribution of tenapanor in China for both hyperphosphatemia and IBS-C. The Company assessed these arrangements in accordance with ASC 606 and concluded that the contract counterparty, Fosun Pharma, is a customer. Under the terms of the Fosun Agreement, the Company received $12.0 million in upfront license fees which was recognized as revenue when the agreement was executed. Based on management's assessment, the Company determined that the license and the manufacturing supply services represented the material performance obligations at the inception of the agreement, and as such, each of the performance obligations is distinct.

The Company may be entitled to additional development and commercialization milestones of up to $110.0 million, as well as reimbursement of cost plus a reasonable overhead for the supply of product and tiered royalties on net sales ranging from the mid-teens to 20%. The variable consideration related to the remaining development milestone payments has not been included in the transaction price as these were fully constrained at June 30, 2020.

The Company has recorded no revenue during the three and six months ended June 30, 2020 or 2019 related to the Fosun Agreement.

Knight Therapeutics, Inc. ("Knight")

In March 2018, the Company entered into an exclusive license agreement with Knight (the "Knight Agreement"), for the development, commercialization and distribution of tenapanor in Canada for hyperphosphatemia and IBS-C. The Company assessed this arrangement in accordance with ASC 606 and concluded that the contract counterparty, Knight, is a customer. Based on management's assessment, the Company determined that the license and the manufacturing supply services represented the material performance obligations at the inception of the agreement, and as such, each of the performance obligations is distinct.

Under the terms of the agreement, the Company is eligible to receive up to $18.3 million, including an upfront payment, development and sales milestones, reimbursement of supply costs on a schedule specifying cost per tablet, with a reasonable mark up for overhead, as well as tiered royalty rates on net sales ranging from the mid-single digits to the low twenties. The variable consideration related to the remaining development milestone payments has not been included in the transaction price as these were fully constrained at June 30, 2020.

In April 2020, Knight announced that it had received approval from Health Canada for IBSRELA® (tenapanor) for the treatment of IBS-C, and in May 2020, the Company received a development milestone payment from Knight related to the achievement of the aforementioned milestone.

For each of the three and six months ended June 30, 2020 the Company recognized $0.7 million as licensing revenue and for the three and six months ended June 30, 2019 no revenue was recognized related to the Knight Agreement.

AstraZeneca AB ("AstraZeneca")

In June 2015, the Company entered into a termination agreement with AstraZeneca (the "AstraZeneca Termination Agreement") pursuant to which the Company has agreed to pay AstraZeneca fees for (i) future royalties at a royalty rate of 10% of net sales of tenapanor or other NHE3 products by the Company or its licensees, and (ii) 20% of non-royalty revenue received from a new collaboration partner should the Company elect to license, or otherwise provide rights to develop and commercialize tenapanor or another NHE3 inhibitor, up to a maximum of $75.0 million in aggregate for (i) and (ii). As of June 30, 2020, to date in aggregate, the Company has recognized $10.6 million of the $75.0 million, recorded as cost of revenue, and has paid AstraZeneca $10.6 million. For each of the three and six months ended June 30, 2020 and 2019 the Company has recognized and recorded as cost of revenue $0.1 million and zero, respectively, related to the AstraZeneca Termination Agreement.

The following table presents changes in the Company's deferred revenue balance, which is attributable entirely to the 2019 KKC Agreement discussed above, during the reporting period:

	Deferred revenue
Balance at December 31, 2019	$ 4,541
Increases due to cash received, excluding amounts recognized as revenue during the period	—
Decreases due to revenue recognized in the period for which cash has been received	(1,150)
Decreases due to revenue recognized in the period for which cash has not been received	(1,150)
Balance at June 30, 2020	$ 2,241

NOTE 10. CONTINGENCIES

From time to time the Company may be involved in claims arising in connection with its business. Based on information currently available, management believes that the amount, or range, of reasonably possible losses in connection with any pending actions against the Company will not be material to the Company's financial condition or cash flows, and no contingent liabilities were accrued as of June 30, 2020 or 2019.

NOTE 11. INCOME TAXES

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act") was signed into law. The CARES Act includes, among other features, provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property. While the Company continues to evaluate the impact of the CARES Act, it does not expect the provisions of the legislation to have a significant impact on the effective tax rate or on the income tax provision or deferred income tax positions of the Company.

NOTE 12. SUBSEQUENT EVENT

On July 9, 2020 the Company filed a Form S-3 registration statement containing (i) a base prospectus for the offering, issuance and sale by the Company of up to a maximum aggregate offering price of $250,000,000 of the Company's common stock, preferred stock, debt securities, warrants and/or units, from time to time in one or more offerings; and (ii) a prospectus supplement for the offering, issuance and sale by the Company of up to a maximum aggregate offering price of $100,000,000 of the Company's common stock that may be issued and sold, from time to time, under a sales agreement with Jefferies LLC, deemed to be "at the market offerings". This prospectus supplement supersedes prior "at the market offerings" agreement. Subsequently, on July 24, 2020 the Company filed an amendment to the said Form S-3, which became effective on August 3, 2020.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with the condensed financial statements and notes thereto included elsewhere in this report and with the audited financial statements and related notes thereto included as part of our Annual Report on Form 10-K for the year ended December 31, 2019. This discussion and analysis and other parts of this report contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results could differ materially from those discussed in these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section of this report entitled "Risk Factors". These forward-looking statements speak only as of the date hereof. Except as required by law, we assume no obligation to update or revise these forward-looking statements for any reason. Unless the context requires otherwise, the terms "Ardelyx", "Company", "we", "us", and "our" refer to Ardelyx, Inc.

About Ardelyx

We are a specialized biopharmaceutical company focused on developing innovative first-in-class medicines to improve treatment for people with kidney and cardiovascular diseases. This includes patients with chronic kidney disease ("CKD") on dialysis suffering from elevated serum phosphorus ("hyperphosphatemia") and patients with CKD and/or heart failure patients with elevated serum potassium ("hyperkalemia").

Our portfolio is led by the development of tenapanor, a first-in-class medicine for the control of serum phosphorus in adult patients with CKD on dialysis, for which we completed the Phase 3 clinical program and have submitted a New Drug Application ("NDA") to the United States Food and Drug Administration ("FDA") on June 30, 2020. Based on standard FDA review timelines, we expect to receive notification from the FDA on the acceptance of the filing for substantive review by early September 2020. Tenapanor for the control of serum phosphorus has a unique mechanism of action and acts locally in the gut to inhibit the sodium hydrogen exchanger 3 ("NHE3"). This results in the tightening of the epithelial cell junctions, thereby significantly reducing paracellular uptake of phosphate, the primary pathway of phosphate absorption. Three successful Phase 3 studies demonstrating tenapanor's ability to reduce phosphate levels, as either monotherapy or as part of a dual mechanism approach with phosphate binders, have been reported.

We have evaluated tenapanor in a Phase 3 program for the control of serum phosphorus in CKD patients on dialysis. In December 2019, we reported statistically significant topline efficacy results from our second monotherapy Phase 3 clinical trial, the PHREEDOM trial. The PHREEDOM trial followed a successful monotherapy Phase 3 clinical trial completed in 2017, which achieved statistical significance for the primary endpoint. PHREEDOM is a one-year study with a 26-week open-label treatment period and a 12-week double-blind, placebo-controlled randomized withdrawal period followed by a 14-week open-label safety extension period. An active safety control group, for safety analysis only, received sevelamer, open-label, for the entire 52-week study period. Patients completing the PHREEDOM trial from both the tenapanor arm and the sevelamer active safety control arm had the option to participate in NORMALIZE, an ongoing open-label 18-month extension study.

In June 2020, we announced positive results from a planned interim data analysis from our ongoing NORMALIZE Phase 4 study evaluating tenapanor, as monotherapy or in combination with sevelamer, to achieve serum phosphorus levels in the normal range (2.5 – 4.5 mg/dL) in patients with CKD on dialysis. The NORMALIZE extension study allowed patients from our PHREEDOM study to continue therapy with tenapanor and enabled those patients in the PHREEDOM safety control arm receiving sevelamer carbonate to transition to tenapanor. The data from the planned interim analysis demonstrated that the foundational use of tenapanor as monotherapy or in combination with sevelamer carbonate produces a significant phosphorus-lowering effect with a mean serum phosphorous reduction of 2.33 mg/dL, from a mean baseline phosphorus of 7.27 mg/dL at the beginning of the PHREEDOM trial to a mean of 4.94 mg/dL at the time of this analysis. Of the 171 patients in this interim analysis who completed up to 9 months of treatment in this extension study, up to 47.4% achieved a normal serum phosphorus level, and of those, the majority were on tenapanor alone or tenapanor with low dose sevelamer of ≤3 sevelamer tablets per day. These data represent a 58% improvement in the rate of patients who achieve a normal serum phosphorus level, as compared to current treatment practice data as reported in the April 2020 Dialysis Outcomes Practice Patterns Study (“DOPPS”) Practice Monitor. The DOPPS data demonstrate that, with currently available treatments, only 30% of patients have serum phosphorous levels < 4.6 mg/dL. The only adverse event reported in >5% of patients in NORMALIZE was diarrhea, with an incidence rate of 23.3%.

In September 2019, we reported positive results from the AMPLIFY trial, a Phase 3 study evaluating tenapanor in patients with CKD on dialysis who had uncontrolled hyperphosphatemia despite phosphate binder treatment.

In June 2020, our partner Kyowa Kirin Co., Ltd. (“KKC”), a Japan-based global specialty pharmaceutical company exclusively developing tenapanor in Japan, presented results from a Phase 2 trial of tenapanor at the European Renal Association-European Dialysis and Transplant Association annual meeting (“ERA-EDTA 2020”). The trial was designed to evaluate if, with tenapanor, patients with hyperphosphatemia undergoing hemodialysis could achieve at least a 30% decrease in mean pill burden while maintaining their serum phosphorus level. The study results were statistically significant, with 71.6% ($p<0.001$) of patients achieving at least a 30% reduction in mean pill burden. The overall mean reduction in phosphate binder usage was 80% (reduction from 14.7 to 3.0 pills per day), while maintaining serum phosphorus control. The mean phosphorus level of patients entering the study on treatment with binders was 5.2 mg/dL at baseline and 4.7 mg/dL at the end of the 26-week study

Tenapanor, if approved, would be the first therapy for phosphate management that blocks phosphorus absorption at the primary pathway of uptake. It is not a phosphate binder. Tenapanor is a novel, potent, small molecule, that has been shown in the phase 3 studies to treat hyperphosphatemia as monotherapy and as a dual mechanism approach . Additionally, as such we believe tenapanor could greatly improve patient adherence and compliance with one single pill dosed twice daily in contrast to current therapies where typically multiple pills are taken before every meal.

We are also advancing a small molecule potassium secretagogue program, RDX013, for the potential treatment of hyperkalemia. Hyperkalemia is a common problem in patients with heart and kidney disease, particularly in patients taking common blood pressure medications known as renin-angiotensin-aldosterone system (“RAAS”) inhibitors. Similar to what we have done with tenapanor in developing a non-binder approach for the treatment of elevated serum phosphate levels, RDX013 is designed to target the underlying biological mechanisms of potassium secretion to lower elevated potassium. While currently available therapies are all ion exchange agents, RDX013 is a first in class approach that exerts its effects by amplifying the underlying pathways of potassium secretion in the colon.

In addition to the development of tenapanor for hyperphosphatemia, we have developed tenapanor for the treatment of patients with irritable bowel syndrome with constipation (“IBS-C”). In September 2019, we received FDA approval of IBSRELA® (tenapanor) for the treatment of IBS-C in adults. IBS-C is a burdensome gastrointestinal (“GI”) disorder affecting a significant number of people. It is characterized by significant abdominal pain, constipation, straining during bowel movements, bloating and/or gas. We are currently seeking a collaboration partner to commercialize IBSRELA® (tenapanor) in the United States.

We have developed a proprietary drug discovery and design platform to discover targets found in the GI tract that regulate processes in the body and design product candidates that act upon those targets to take advantage of the gut’s ability to communicate with other organs.

Since commencing operations in October 2007, substantially all our efforts have been dedicated to our research and development ("R&D") activities, including developing our clinical product candidate tenapanor and developing our proprietary drug discovery and design platform. We have not generated any revenues from product sales. As of June 30, 2020, we had an accumulated deficit of $507.8 million.

We expect to continue to incur substantial operating losses for the foreseeable future as a result of costs associated with the following activities: our continued development of tenapanor for the control of serum phosphorus in CKD patients on dialysis; our preparations for the commercialization of tenapanor in the United States for the control of serum phosphorus in CKD patients on dialysis, including significant increased personnel costs associated with building out our commercial team; the performance of certain activities required as a result of our NDA approval of tenapanor for IBS-C, including costs associated with conducting the pediatric clinical trials for IBS-C; and the advancement of our research programs into the preclinical stage. To date, we have funded our operations from the sale and issuance of common stock and convertible preferred stock, funds from our collaboration partnerships, and funds from our Loan Agreement with Solar Capital Ltd. and Western Alliance Bank.

Impact of COVID-19

The global COVID-19 pandemic has impacted the operational decisions of companies worldwide. It also has created and may continue to create significant uncertainty in the global economy. We have undertaken measures to protect our employees, partners, collaborators, and vendors, some of which impact our normal operations. To date, we have been able to continue our operations with our workforce, most of whom are working remotely, and our pre-existing infrastructure that supports secure access to our internal systems. If, however, the COVID-19 pandemic has a substantial impact on the productivity of our employees, our ability to successfully prepare for the commercial launch of tenapanor for the control of serum phosphorous in CKD patients on dialysis, including our ability to hire and successfully integrate into the company the new personnel required to prepare for such launch, or our ability to progress our research and development efforts, the results of our operations and overall financial performance may be adversely impacted. We filed our NDA with the FDA on June 30, 2020, and the timing of this review may be affected due to constraints at the FDA, as many of the FDA staff are working on COVID-19 activities and the FDA may be required to further reprioritize their resources for the COVID-19 drug programs. The extent of the impact from the COVID-19 pandemic on our business will depend largely on future developments that are highly uncertain and cannot be predicted. For a discussion of risks of COVID-19 relating to our business, see "Part II: Other Information-Item 1A.- Risk Factors- Risks Related to Our Business- *The ongoing COVID-19 pandemic, or any other outbreak of epidemic diseases, or the perception of their effects, could have a material adverse effect on our business, financial condition, results of operations or cash flows*." As of the date of issuance of this financial report, we are not aware of any specific event or circumstance that would require updates to our estimates and judgments or revisions to the carrying value of our assets or liabilities. These estimates may change, as new events occur and additional information is obtained.

Critical Accounting Policies and Significant Judgments and Estimates

Our discussion and analysis of financial condition and results of operations is based on our condensed financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. Critical accounting policies are those that require significant judgment and/or estimates by management at the time that financial statements are prepared such that materially different results might have been reported if other assumptions had been made. These estimates form the basis for making judgments about the carrying values of assets and liabilities. We base our estimates and judgments on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates.

The critical accounting policies that we believe impact significant judgments and estimates used in the preparation of our financial statements presented in this report are described in Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations*, in our Annual Report on Form 10-K filed with the SEC on March 6, 2020. There have been no significant changes to our critical accounting policies as disclosed in our most recently filed Annual Report on Form 10-K during the three and six months ended June 30, 2020.

Recent Accounting Pronouncements

A summary of recent accounting pronouncements that we have adopted or may expect to adopt is included in Note 1 – Description of Business and Basis of Presentation to our condensed financial statements (see Part I, Item 1 *Notes to Condensed Financial Statements*, of this Quarterly Report on Form 10-Q).

Financial Operations Overview

Revenue

Our revenue to date has been generated primarily through license, research and development collaborative agreements with various collaboration partners. We have not generated any revenue from product sales. In the future, we may generate revenue from a combination of license fees and other upfront payments, milestone payments, product sales and royalties in connection with our current or future collaborative partnerships. We expect that any revenue we generate will fluctuate in future periods as a result of, among other factors: the timing and progress of goods and services provided pursuant to our current or future collaborative partnerships; our or our collaborators' achievement of preclinical, clinical, regulatory or commercialization milestones, to the extent achieved; the timing and amount of any payments to us relating to the aforementioned milestones; and the extent to which any of our product candidates are approved and successfully commercialized by us or a collaboration partner. If we, our current collaboration partners or any future collaboration partners fail to develop product candidates in a timely manner or to obtain regulatory approval for product candidates, our ability to generate future revenue from collaborative arrangements, and our results of operations and financial position, would be materially and adversely affected. Our past revenue performance is not necessarily indicative of results to be expected in future periods.

Cost of Revenue

Cost of revenue currently represents payments due to AstraZeneca AB ("AstraZeneca"), which under the terms of a termination agreement entered into in 2015 is entitled to (i) future royalties at a rate of 10% of net sales of tenapanor or other NHE3 products by us or our licensees, and (ii) 20% of non-royalty revenue received from a new collaboration partner should we elect to license, or otherwise provide rights to develop and commercialize tenapanor or certain other NHE3 inhibitors. We have agreed to pay AstraZeneca up to a maximum of $75.0 million in the aggregate for (i) and (ii). We recognize these expenses as cost of revenue when we recognize the corresponding revenue that gives rise to payments due to AstraZeneca. To date, we have recognized an aggregate of $10.6 million of the $75.0 million under the AstraZeneca Termination Agreement.

Research and Development Expenses

We recognize all R&D expenses as they are incurred to support the discovery, research, development and manufacturing of our product candidates. R&D expenses include, but are not limited to, the following:

- external R&D expenses incurred under agreements with consultants, third-party contract research organizations and investigative sites where a substantial portion of our clinical studies are conducted, and with contract manufacturing organizations where our clinical supplies are produced;
- employee-related expenses, which include salaries, bonuses, benefits, travel and stock-based compensation;
- facilities and other allocated expenses, which include direct and allocated expenses for rent and maintenance of facilities, depreciation and amortization expense and information technology expenses;.
- expenses associated with supplies and materials consumed in connection with our research operations; and
- other costs associated with regulatory, clinical and non-clinical development activities.

We expect to continue to make substantial investments in research and development activities as we further progress the development of tenapanor, as well as our other product candidates, as we advance our research programs into the preclinical stage and as we continue our early stage research. The process of conducting preclinical studies and clinical trials necessary to obtain regulatory approval is costly and time-consuming. We may not succeed in achieving marketing approval for our product candidates, including tenapanor for the control of serum phosphorus. Additionally, with respect to the marketing approval received in the United States for tenapanor for the treatment of IBS-C, we may not be successful in securing one or more collaboration partners to commercialize tenapanor in the United States. The probability of success of each of our product candidates may be affected by numerous factors, including preclinical data, clinical data, market acceptance, sufficient third-party coverage or reimbursement, our ability to access capital on acceptable terms, competition, manufacturing capability and commercial viability.

We anticipate that we will make determinations as to which programs to pursue and how much funding to direct to each program on an ongoing basis in response to the scientific and clinical success of each product candidate, ongoing assessment as to each product candidate's commercial potential, and our ability to access capital on acceptable terms. We will need to raise additional capital and may seek additional collaboration partnerships in order to complete the development and commercialization of tenapanor. If we are unable to access capital on a timely basis and on terms that are acceptable to us, we may be forced to restructure certain aspects of our business or identify and complete one or more strategic collaborations or other transactions in order to fund the development or commercialization of tenapanor or certain of our product candidates through the use of alternative structures.

General and Administrative Expenses

General and administrative expenses consist primarily of salaries and related benefits, including stock-based compensation, for our executive, board, finance, legal, business development, market development, commercial and support staff. Other general and administrative expenses include facility related costs and professional fees for legal, accounting and audit, investor relations, other consulting services and allocated facility-related costs not otherwise included in research and development expenses.

We anticipate that our general and administrative expenses will increase in the future primarily because of increased pre-commercial activities, personnel costs and professional fees for services to support the potential launch and commercialization of tenapanor for the control of serum phosphorus in CKD patients on dialysis.

Interest Expense

Interest expense represents the interest paid on our loan payable.

Other Income, net

Other income consists of interest income earned on our cash and cash equivalents and held-to-maturity investments, the periodic revaluation of the exit fee related to our loan and currency exchange gains and losses.

Income Taxes

On March 27, 2020, the Coronavirus Aid, Relief and Economic Security Act (the "CARES Act") was signed into law. The CARES Act includes, among other features, provisions relating to refundable payroll tax credits, deferment of employer side social security payments, net operating loss carryback periods, alternative minimum tax credit refunds, modifications to the net interest deduction limitations and technical corrections to tax depreciation methods for qualified improvement property. While we continue to evaluate the impact of the CARES Act, we do not expect the provisions of the legislation to have a significant impact on the effective tax rate or on the income tax provision or deferred income tax positions of the Company.

RESULTS OF OPERATIONS

Comparison of the three and six months ended June 30, 2020 and 2019

The following table summarizes the results of our operations for the periods indicated (amounts in thousands, except percentages):

	Three Months Ended June 30,			
	2020	2019	$ Change	% Change
Revenues:				
Licensing revenue	$ 706	$ —	$ 706	* %
Collaborative development revenue	1,125	—	1,125	* %
Other revenue	5	18	(13)	(72.2) %
Total revenues	1,836	18	1,818	* %
Operating expenses:				
Cost of revenue	141	—	141	* %
Research and development	18,864	19,475	(611)	(3.1) %
General and administrative	7,038	5,371	1,667	31.0 %
Total operating expenses	26,043	24,846	1,197	4.8 %
Loss from operations	(24,207)	(24,828)	621	(2.5) %
Interest expense	(1,226)	(1,451)	225	(15.5) %
Other income, net	477	812	(335)	(41.3) %
Net loss	$ (24,956)	$ (25,467)	$ 511	(2.0) %

	Six Months Ended June 30,			
	2020	2019	$ Change	% Change
Revenues:				
Licensing revenue	$ 706	$ —	$ 706	* %
Collaborative development revenue	2,300	—	2,300	* %
Other revenue	43	18	25	138.9 %
Total revenues	3,049	18	3,031	* %
Operating expenses:				
Cost of revenue	141	—	141	* %
Research and development	34,708	39,856	(5,148)	(12.9) %
General and administrative	14,176	10,488	3,688	35.2 %
Total operating expenses	49,025	50,344	(1,319)	(2.6) %
Loss from operations	(45,976)	(50,326)	4,350	(8.6) %
Interest expense	(2,583)	(2,885)	302	(10.5) %
Other income, net	1,230	1,602	(372)	(23.2) %
Loss before provision for income taxes	(47,329)	(51,609)	4,280	(8.3) %
Provision for income taxes	—	2	(2)	(100.0) %
Net loss	$ (47,329)	$ (51,611)	$ 4,282	(8.3) %

* Not meaningful

The results of operations are not necessarily indicative of the results to be expected for the year ended December 31, 2020, for any other interim period, or for any other future year.

Revenue

Total revenue was $1.8 million for the three months ended June 30, 2020, an increase of $1.8 million compared to $18,000 for the three months ended June 30, 2019. This increase was primarily attributable to $1.1 million higher

collaborative development revenue recognized in connection with the research collaboration and option agreement entered into in December 2019 with Kyowa Kirin Co., Ltd. ("KKC") (the "2019 KKC Agreement") and a $0.7 million increase in licensing revenue recognized upon Knight's achievement of a development milestone, pursuant to the Knight Agreement, partially offset by a $13,000 decrease in manufacturing supply of tenapanor and other materials sold to KKC (the "2017 KKC Agreement") for its product development and clinical trials in Japan in accordance with our agreement with KKC. For the above mentioned 2019 KKC Agreement, the initial transaction price of $10.0 million, revenue is being recognized as services are provided using an input method. As of June 30, 2020, the remaining unamortized initial transaction price totaled $7.2 million, and we currently expect this amount will be recognized through the end of 2021.

Total revenue was $3.0 million for the six months ended June 30, 2020, an increase of $3.0 million compared to $18,000 for the six months ended June 30, 2019. This increase was primarily attributable to $2.3 million higher collaborative development revenue recognized in connection with the 2019 KKC Agreement, a $0.7 million increase in licensing revenue recognized upon Knight's achievement of a development milestone, pursuant to the Knight Agreement and a $25,000 increase in manufacturing supply of tenapanor and other materials sold to KKC in accordance with the 2017 KKC Agreement.

Cost of revenue

The increase in cost of revenue for both the three and six months ended June 30, 2020 was due to an increase in fees owed to AstraZeneca pursuant to the AstraZeneca Termination Agreement, corresponding to the licensing revenue realized.

Research and Development Expenses

The following table presents our R&D expenses incurred during the periods indicated (in thousands):

	Three Months Ended June 30,			
	2020	2019	$ Change	% Change
External R&D expenses	$ 12,277	$ 13,308	$ (1,031)	(7.7) %
Employee-related expenses	5,129	4,556	573	12.6 %
Facilities, equipment and depreciation expenses	1,414	1,572	(158)	(10.1) %
Other	44	39	5	12.8 %
Total	$ 18,864	$ 19,475	$ (611)	(3.1) %

	Six Months Ended June 30,			
	2020	2019	$ Change	% Change
External R&D expenses	$ 21,475	$ 27,601	$ (6,126)	(22.2) %
Employee-related expenses	10,123	9,156	967	10.6 %
Facilities, equipment and depreciation expenses	3,006	2,989	17	0.6 %
Other	104	110	(6)	(5.5) %
Total	$ 34,708	$ 39,856	$ (5,148)	(12.9) %

The decrease in our external R&D expenses for the three months ended June 30, 2020 primarily includes a $1.1 million decrease in our tenapanor-related expenses, as well as a $0.6 million decrease in our RDX013 program-related expenses, partially offset by $0.7 million of higher expenses attributable to 2019 KKC Agreement-related and general R&D expenses. Of the overall tenapanor-related decrease, approximately $7.9 million relates to lower clinical study costs due to the winding down of expenses associated with our Phase 3 program for tenapanor for the control of hyperphosphatemia, offset by an out-of-period adjustment that reduced clinical trial expenses by $4.1 million related to our tenapanor clinical trials for the three months ended June 30, 2019; and an approximately $2.1 million decrease in manufacturing expenses due to reduced validation related expenses for tenapanor in 2020 as compared to 2019; offset by an increase of $4.6 million related to regulatory expenses that includes $2.9 million paid to the FDA for the filing of a NDA for tenapanor for the control of serum phosphorus in CKD patients on dialysis on June 30, 2020.

The decrease in our external R&D expenses for the six months ended June 30, 2020 primarily includes a $6.1 million decrease in our tenapanor-related expenses, as well as a $1.4 million decrease in our RDX013 program-related expenses, partially offset by $1.4 million of higher expenses attributable to 2019 KKC Agreement-related and general R&D expenses. Of the overall tenapanor-related decrease, approximately $11.6 million relates to lower clinical study costs due to the winding down of expenses associated with our Phase 3 program for tenapanor for the control of hyperphosphatemia, offset by an out-of-period adjustment that had reduced clinical trial expenses by $3.6 million related to our tenapanor clinical trials for the six months ended June 30, 2019; and approximately $3.3 million relates to lower manufacturing expenses due to reduced validation related expenses for tenapanor in 2020 as compared to 2019; offset by an increase of $4.9 million related to regulatory expenses that includes $2.9 million paid to the FDA for the filing of a NDA for tenapanor for the control of serum phosphorus in CKD patients on dialysis on June 30, 2020.

General and Administrative Expenses

The increase in general and administrative expenses for the three months ended June 30, 2020 was primarily due to an increase in headcount and related personnel costs, including stock-based compensation costs related to option vesting and performance-based restricted stock units and an increase in professional services.

The increase in general and administrative expenses for the six months ended June 30, 2020 was primarily due to an increase in headcount and related personnel costs, including stock-based compensation costs related to option vesting and performance-based restricted stock units, severance expenses related to our former chief financial officer and an increase in professional services.

Interest Expense

The decrease in interest expense for both the three and six months ended June 30, 2020 was primarily due to lower interest rates.

Other Income, net

The decrease in other income, net for the three months ended June 30, 2020 was primarily due to a decrease in investment income, a higher exit fee revaluation adjustment related to our loan agreement and an increase in currency exchange losses.

The decrease in other income, net for the six months ended June 30, 2020 was primarily due to a decrease in investment income and a higher exit fee revaluation adjustment related to our loan agreement.

Liquidity and Capital Resources

Our primary sources of cash have been from the sale and issuance of common stock (in both public offerings and private placements) and private placements of convertible preferred stock, funds from our collaboration partnerships, and funds from our loan agreement. Our primary uses of cash are to fund operating expenses, primarily research and

development expenditures, and pre-commercial expenses. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses, as reflected in the change in our outstanding accounts payable and accrued expenses.

As of June 30, 2020 and December 31, 2019, our cash, cash equivalents and short-term investments were as follows (in thousands):

	June 30, 2020	December 31, 2019
Cash and cash equivalents	$ 100,494	$ 181,133
Short-term investments	104,347	66,379
Total liquid funds	$ 204,841	$ 247,512

Cash Flows

The following table summarizes our cash flows for the periods indicated (in thousands):

	Six Months Ended June 30,	
	2020	2019
Cash used in operating activities	$ (43,968)	$ (44,733)
Cash (used in) provided by investing activities	(37,466)	55,386
Cash provided by financing activities	795	205
Net (decrease) increase in cash and cash equivalents	$ (80,639)	$ 10,858

Cash Flows from Operating Activities

Net cash used in operating activities during the six months ended June 30, 2020 was $43.9 million, as compared to $44.7 million for the six months ended June 30, 2019. The $0.8 million decrease is primarily attributable to:

- a $4.4 million decrease in cash received from collaboration partners during the six months ended June 30, 2020 as compared to payments received during the six months ended June 30, 2019;
- a $0.7 million increase in cash expense related to AstraZeneca payments during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019;
- a $5.8 million decrease in cash R&D expenses (excluding working capital-related fluctuations) during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019;
- a $2.8 million increase in cash G&A expenses (excluding working capital-related fluctuations) during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019;
- a $0.4 million decrease in net cash interest payments during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019;
- a $0.1 million increase in net cash other income during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019;
- a $2.5 million net decrease in cash used related to fluctuations in components of our non-revenue-related working capital during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019, which comprised of net decreases of $2.9 million, and $3.1 million in cash used related to fluctuations in our accounts payable and non-payroll-related accruals and other current liabilities, and net increases of $2.0 million, $1.0 million, and $0.5 million in cash used in our prepaid expenses and other assets, accrued compensation and benefits, and lease liabilities respectively.

Cash Flows from Investing Activities

Net cash used in investing activities was $37.5 million for the six months ended June 30, 2020, as compared to cash provided by investing activities of $55.4 million for the six months ended June 30, 2019. The $92.9 million decrease in net cash provided by investing activities was primarily attributable to a $61.0 million decrease in proceeds from maturities of investments, a $0.2 million decrease in purchases of property and equipment, and $32.1 million increase in purchases of investments.

Cash Flows from Financing Activities

Net cash provided by financing activities increased by $0.6 million during the six months ended June 30, 2020, as compared to the six months ended June 30, 2019. This increase was attributable to an $0.2 million increase in net proceeds from issuance of common stock under our stock plans, and a $0.4 million decrease in issuance of common stock upon exercise of options.

Funding Requirements

We believe that our existing capital resources as of June 30, 2020 will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months following our financial statement issuance date. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. In particular, our operating plan can change, and we may require significant additional capital to fund our operations, including to support the development, commercialization and manufacturing efforts for tenapanor. We may seek to obtain such additional capital through debt financings, credit facilities, additional equity offerings and/or strategic collaborations. We currently have no unutilized credit facility or committed sources of capital, and there can be no assurances that such sources of capital will be available to us when needed or on acceptable terms. There are numerous risks and uncertainties associated with research, development and commercialization initiatives, and actual results could vary materially as a result of a number of factors, many of which are outside of our control. Our future capital requirements are difficult to forecast and will depend on many factors, including:

- the FDA's actions and decisions with respect to the NDA submitted to the FDA on June 30, 2020 to request marketing authorization for tenapanor for the control of serum phosphorus in CKD patients on dialysis;
- our ability to successfully commercialize tenapanor for the control of serum phosphorus in CKD patients on dialysis, if approved, either alone or with one or more collaboration partners;
- the sales price and the availability of adequate third-party reimbursement for tenapanor, if approved
- our ability to identify a collaboration partner and negotiate acceptable terms for a collaboration partnership for the commercialization of tenapanor in IBS-C in the United States;
- the manufacturing costs of our product candidates, and the availability of one or more suppliers for our product candidates at reasonable costs, both for clinical and commercial supply;
- the selling and marketing costs associated with tenapanor, including the cost and timing of building our sales and marketing capabilities;
- our ability to maintain our existing collaboration partnerships and to establish additional collaboration partnerships, in-license/out-license, joint ventures or other similar arrangements and the financial terms of such agreements;
- the timing, receipt, and amount of sales of, or royalties on, tenapanor, if any;
- the cash requirements of any future acquisitions or discovery of product candidates;

- the number and scope of preclinical and discovery programs that we decide to pursue or initiate, and any clinical trials we decide to pursue for other product candidates, including RDX013;
- the time and cost necessary to respond to technological and market developments;
- the costs of filing, prosecuting, maintaining, defending and enforcing any patent claims and other intellectual property rights, including litigation costs and the outcome of such litigation, including costs of defending any claims of infringement brought by others in connection with the development, manufacture or commercialization of tenapanor or any of our product candidates; and
- the payment of interest and principal related to our loan and security agreement entered into with Solar Capital and Western Alliance Bank in May 2018.

Please see the risk factors set forth in Part II, Item 1A, *Risk Factors*, in this Quarterly Report on Form 10-Q for additional risks associated with our capital requirements.

Off-Balance Sheet Arrangements

None.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest Rate Risk. We are subject to market risks, including interest rate fluctuation exposure through our investments, in the ordinary course of our business. However, the goals of our investment policy are the preservation of capital, fulfillment of liquidity needs and fiduciary control of cash. To achieve our goal of maximizing income without assuming significant market risk, we maintain our excess cash and cash equivalents in money market funds and short-term debt securities. Because of the short-term maturities of our cash equivalents, we do not believe that a decrease in interest rates would have any material negative impact on the fair value of our cash equivalents.

As of June 30, 2020, we had cash, cash equivalents and short-term investments of $204.8 million, which consist of bank deposits and money market funds, as well as high quality fixed income instruments including corporate bonds, commercial paper, and asset-backed securities collateralized by non-mortgage consumer receivables. The credit rating of our short-term investments must be rated A-1/P-1, or better by Standard and Poor's and Moody's Investors Service. Asset-backed securities must be rated AAA/Aaa. Money Market funds must be rated AAAm/Aaa. Such interest-earning instruments carry a degree of interest rate risk. However, because our investments are high quality and short-term in duration, we believe that our exposure to interest rate risk is not significant and that a 10% movement in market interest rates would not have a significant impact on the total value of our portfolio, as noted above. We do not enter into investments for trading or speculative purposes.

We are subject to interest rate fluctuation exposure through our borrowings under the Loan Agreement and our investment in money market accounts which bear a variable interest rate. Borrowings under the Loan Agreement bear interest at a rate equal to one-month London Interbank Offered Rate ("LIBOR"), plus 7.45% per annum. A hypothetical increase in one-month LIBOR of 100 basis points above the current one-month LIBOR rates would have increased our interest expense by approximately $0.2 million for the six months ended June 30, 2020. As of June 30, 2020, we had an aggregate principal amount of $50.5 million outstanding pursuant to our Loan Agreement.

Foreign Currency Risk. The majority of our transactions are denominated in U.S. dollars. However, we do have certain transactions that are denominated in currencies other than the U.S. dollar, primarily Swiss francs and the euro, and we therefore are subject to foreign exchange risk. The fluctuation in the value of the U.S. dollar against other currencies affects the reported amounts of expenses, assets and liabilities associated with a limited number of manufacturing activities.

We do not use derivative financial instruments for speculative trading purposes, nor do we hedge foreign currency exchange rate exposure in a manner that entirely offsets the earnings effects of changes in foreign currency exchange rates.

The counterparties to our forward foreign currency exchange contracts are creditworthy commercial banks, which minimizes the risk of counterparty nonperformance.

As of June 30, 2020, we had no open forward foreign currency exchange contracts.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a-15(b) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), our management, under the supervision and with the participation of our principal executive officer and principal accounting and financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of June 30, 2020. Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on such evaluation, our principal executive officer and principal accounting and financial officer have concluded that, as of June 30, 2020, our disclosure controls and procedures were effective at a reasonable assurance level.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the quarter ended June 30, 2020, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal controls over financial reporting, despite the fact that most of our employees are working remotely due to the COVID-19 pandemic. We are continually monitoring and assessing the COVID-19 situation to minimize the impact on the design and operating effectiveness of our internal controls over financial reporting.

Inherent Limitations on Effectiveness of Controls

Internal control over financial reporting has inherent limitations. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements will not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we may be involved in legal proceedings arising in the ordinary course of business. As of June 30, 2020, there is no litigation pending that would reasonably be expected to have a material adverse effect on our results of operations and financial condition, and no contingent liabilities were accrued as of June 30, 2020.

ITEM 1A. RISK FACTORS

Our business involves significant risks, some of which are described below. You should carefully consider these risks, as well as other information in this Quarterly Report on Form 10-Q, including our condensed financial statements and the notes thereto and "Management's Discussion and Analysis of Financial Condition and Results of Operations." The occurrence of any of the events or developments described below could harm our business, financial condition, results of operations, cash flows, the trading price of our common stock and our growth prospects. Many of the following risks and uncertainties are, and will be, exacerbated by the COVID-19 pandemic and any worsening of the global business and

economic environment as a result. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations.

Risks Related to Our Limited Operating History, Financial Condition and Capital Requirements

We have a limited operating history, have incurred significant losses since our inception and we will incur losses in the future, which makes it difficult to assess our future viability.

We are a clinical-stage biopharmaceutical company with a limited operating history. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. To date, we have focused substantially all of our efforts on our research and development activities, including developing tenapanor and developing our proprietary drug discovery and design platform. To date, we have not commercialized any products or generated any revenue from the sale of products.

We are not profitable and have incurred losses in each year since our inception in October 2007, and we do not know whether or when we will become profitable. We have only a limited operating history upon which to evaluate our business and prospects. We continue to incur significant research, development and other expenses related to our ongoing operations. As of June 30, 2020, we had an accumulated deficit of $507.8 million.

We expect to continue to incur substantial operating losses for the foreseeable future as we prepare for the potential commercialization of, and incur manufacturing and development costs for, tenapanor for the control of serum phosphorus in chronic kidney disease ("CKD") patients on dialysis; , if approved, as we commence commercialization of tenapanor for that indication; and as we continue our discovery and research activities.

Our prior losses, combined with expected future losses, have had and will continue to have an adverse effect on our stockholders' equity and working capital. Further, the net losses we incur may fluctuate significantly from quarter-to-quarter and year-to-year, such that a period-to-period comparison of our results of operations may not be a good indication of our future performance.

We have substantial net operating loss and tax credit carryforwards for Federal and California income tax purposes. Such net operating losses and tax credits carryforwards may be reduced as a result of certain intercompany restructuring transactions. In addition, the future utilization of such net operating loss and tax credit carryforwards and credits will be subject to limitations, pursuant to Internal Revenue Code Sections 382 and 383, as a result of ownership changes that have occurred previously and additional limitations may be applicable as a result of ownership changes that could occur in the future.

We have never generated any revenue from product sales and may never be profitable.

We received FDA approval for our NDA for tenapanor for the treatment of irritable bowel syndrome with constipation ("IBS-C") in adults in September 2019. However, we do not currently expect to commercialize tenapanor for IBS-C ourselves in the United States and have not entered into a collaboration partnership for such commercialization. We have no other products approved for sale and have never generated any revenue from product sales. Our ability to generate revenue from product sales and achieve profitability depends on our ability to obtain the regulatory and marketing approvals necessary to commercialize tenapanor for the control of serum phosphorus in CKD patients on dialysis, either on our own or with one or more collaboration partners, and on our ability to successfully identify a collaboration partner for the commercialization of tenapanor for the treatment of IBS-C in the United States. There can be no assurances that we will generate product revenue from sales of tenapanor, either on our own, or with a collaboration partner. Our ability to generate future revenue from product sales or pursuant to milestone payments depends heavily on many factors, including but not limited to:

- obtaining regulatory approvals for tenapanor for the control of serum phosphorus in adult CKD patients on dialysis, either on our own or with one or more collaboration partners;

- our ability to identify a collaboration partner and negotiate acceptable terms for a collaboration partnership for the commercialization of tenapanor for IBS-C in the United States;

- our ability to successfully commercialize tenapanor, which has been approved by the FDA for the treatment of IBS-C in adults, and/or tenapanor for the control of serum phosphorus in adult CKD patients on dialysis, if approved, either on our own or with one or more collaboration partners;

- developing a sustainable and scalable manufacturing process for tenapanor and establishing and maintaining supply and manufacturing relationships with third parties that can provide an adequate (in amount and quality) supply of product to support the market demand for tenapanor for the treatment of IBS-C, and/or, if approved, tenapanor for the control of serum phosphorus in adult CKD patients on dialysis;

- obtaining market acceptance of tenapanor as a viable treatment option for the indications for which it is approved and commercialized;

- addressing any competing technological and market developments;

- identifying, assessing, acquiring, in-licensing and/or developing new product candidates;

- negotiating favorable terms in any collaboration partnership, licensing or other arrangements into which we may enter;

- maintaining, protecting and expanding our portfolio of intellectual property rights, including patents, trade secrets, and know-how, and our ability to develop, manufacture and commercialize our product candidates and products without infringing intellectual property rights of others; and

- attracting, hiring, and retaining qualified personnel.

In cases where we are successful in obtaining regulatory approvals to market tenapanor for one or more indications, our revenue will be dependent, in part, upon the size of the markets in the territories for which regulatory approval is granted, our ability to identify a collaboration partner and negotiate acceptable terms for a collaboration partnership for the commercialization of tenapanor for the IBS-C indication in the United States, the accepted price for the product, the ability to get reimbursement at any price and whether we are commercializing the product or the product is being commercialized by a collaboration partner, and in such case, whether we have royalty and/or co-promotion rights for that territory, and whether any royalty we have a right to receive from a collaboration partner is in excess of the royalty we owe AstraZeneca as a result of the termination of our License Agreement with AstraZeneca in 2015. See NOTE 13, COLLABORATION AND LICENSING AGREEMENTS, in the notes to our financial statements, included in Part II, Item 8, of our most recent Annual Report on Form 10-K, for details on our obligations to AstraZeneca. While there is significant uncertainty related to the insurance coverage and reimbursement of newly approved products in general in the United States, there is additional uncertainty related to insurance coverage and reimbursement for drugs, like tenapanor, which, if approved, will be marketed for the control of serum phosphorus in CKD patients on dialysis. If we are successful in obtaining regulatory approval to market tenapanor for the control of serum phosphorus in CKD patients on dialysis, our ability to generate and sustain future revenues from sales of tenapanor for such indication, may be dependent upon whether tenapanor, along with other oral only drugs for CKD patients on dialysis, are bundled into the end-stage renal disease ("ESRD") prospective payment system beginning in 2025, and the manner in which such introduction into the ESRD prospective payment system may occur. See "*Third-party payor coverage and reimbursement status of newly-approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our products, if approved, could limit our ability to market those products and decrease our ability to generate revenue"* below**.** Additionally, if the number of patients suitable for tenapanor is not as significant as we estimate, the indication approved by regulatory authorities is narrower than we expect, coverage and reimbursement for tenapanor are not available in the manner and to the extent which we expect, or the reasonably accepted population for treatment is narrowed by competition, physician choice or treatment guidelines, we may not generate significant revenue from the sale of tenapanor, even if approved. Even

if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods. Our failure to generate revenue from product sales would likely depress our market value and could impair our ability to raise capital, expand our business, discover or develop other product candidates or continue our operations. A decline in the value of our common stock could cause our stockholders to lose all or part of their investment.

Our operating activities may be restricted as a result of covenants related to the indebtedness under our loan and security agreement and we may be required to repay the outstanding indebtedness in an event of default, which could have a materially adverse effect on our business.

On May 16, 2018, we entered into a loan and security agreement with Solar Capital, Ltd. and Western Alliance Bank (collectively the "Lenders") pursuant to which the Lenders agreed to provide us a $50.0 million term loan facility with a maturity date of November 1, 2022. The full amount of the loan was funded on May 16, 2018. Until we have repaid such indebtedness, the loan and security agreement subjects us to various customary covenants, including requirements as to financial reporting and insurance and restrictions on our ability to dispose of our business or property, to change our line of business, to liquidate or dissolve, to enter into any change in control transaction, to merge or consolidate with any other entity or to acquire all or substantially all the capital stock or property of another entity, to incur additional indebtedness, to incur liens on our property, to pay any dividends or other distributions on capital stock other than dividends payable solely in capital stock, to redeem capital stock, to enter into licensing agreements, to engage in transactions with affiliates, and to encumber our intellectual property. Our business may be adversely affected by these restrictions on our ability to operate our business.

We are permitted to make interest only payments on the loan facility through December 1, 2020. However, we may be required to repay the outstanding indebtedness under the loan facility if an event of default occurs under the loan and security agreement. An event of default will occur if, among other things, we fail to make payments under the loan and security agreement; we breach any of our covenants under the loan and security agreement, subject to specified cure periods with respect to certain breaches; the Lenders determine that a material adverse change has occurred; we or our assets become subject to certain legal proceedings, such as bankruptcy proceedings; we are unable to pay our debts as they become due; or we default on contracts with third parties which would permit the Lenders to accelerate the maturity of such indebtedness or that could have a material adverse change on us. We may not have enough available cash or be able to raise additional funds through equity or debt financings to repay such indebtedness at the time any such event of default occurs. In this case, we may be required to delay, limit, reduce or terminate our product development or commercialization efforts or grant to others' rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves. The Lenders could also exercise their rights as collateral agent to take possession of and to dispose of the collateral securing the term loans, which collateral includes substantially all of our property (excluding intellectual property, which is subject to a negative pledge). Our business, financial condition and results of operations could be materially adversely affected as a result of any of these events.

We will require substantial additional financing to achieve our goals, and the inability to access this necessary capital when needed on acceptable terms, or at all, could force us to delay, limit, reduce or terminate our pre-commercialization efforts for tenapanor and our other product development and platform development activities.

Since our inception, most of our resources have been dedicated to our research and development activities, including developing our clinical product candidate tenapanor and developing our proprietary drug discovery and design platform. We believe that we will continue to expend substantial resources for the foreseeable future, including, if approved, costs associated with the commercialization of tenapanor for the control of serum phosphorus in CKD patients on dialysis, research and development, conducting preclinical studies and clinical trials for our other programs, obtaining regulatory approvals, developing and maintaining scalable manufacturing processes for our product candidates and sales and marketing. Because the outcome of any clinical trial and/or regulatory approval process is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development, regulatory approval process and commercialization or co-promotion of any of our product candidates. Our future funding requirements will depend on many factors, including, but not limited to:

- the FDA's actions and decisions with respect to the NDA submitted to the FDA on June 30, 2020 to request marketing authorization for tenapanor for the control of serum phosphorus in adult CKD patients on dialysis;

- our ability to successfully commercialize tenapanor for the control of serum phosphorus in CKD patients on dialysis, if approved, either alone or with one or more collaboration partners;
- the sales price and the availability of adequate third-party reimbursement for tenapanor, if approved
- our ability to identify a collaboration partner and negotiate acceptable terms for a collaboration partnership for the commercialization of tenapanor in IBS-C in the United States;
- the manufacturing costs of our product candidates, and the availability of one or more suppliers for our product candidates at reasonable costs, both for clinical and commercial supply;
- the selling and marketing costs associated with tenapanor, including the cost and timing of building our sales and marketing capabilities;
- our ability to maintain our existing collaboration partnerships and to establish additional collaboration partnerships, in-license/out-license, joint ventures or other similar arrangements and the financial terms of such agreements;
- the timing, receipt, and amount of sales of, or royalties on, tenapanor, if any;
- the cash requirements of any future acquisitions or discovery of product candidates;
- the number and scope of preclinical and discovery programs that we decide to pursue or initiate, and any clinical trials we decide to pursue for other product candidates, including RDX013;
- the time and cost necessary to respond to technological and market developments;
- the costs of filing, prosecuting, maintaining, defending and enforcing any patent claims and other intellectual property rights, including litigation costs and the outcome of such litigation, including costs of defending any claims of infringement brought by others in connection with the development, manufacture or commercialization of tenapanor or any of our product candidates; and
- the payment of interest and principal related to our loan and security agreement entered into with Solar Capital and Western Alliance Bank in May 2018.

Additional funds may not be available when we need them on terms that are acceptable to us, or at all. If adequate funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate our research activities, preclinical and clinical trials for our product candidates and our establishment and maintenance of sales and marketing capabilities or other activities that may be necessary to commercialize tenapanor, either alone or with collaboration partners. Additionally, our inability to access capital on a timely basis and on terms that are acceptable to us may force us to restructure certain aspects of our business or identify and complete one or more strategic collaborations or other transactions in order to fund the development or commercialization of tenapanor or certain of our product candidates through the use of alternative structures.

Risks Related to Our Business

We are substantially dependent on the success of our lead product candidate, tenapanor, which may not receive regulatory approval for the control of serum phosphorus or be successfully commercialized for IBS-C or hyperphosphatemia.

To date, we have invested a significant amount of our efforts and financial resources in the research and development of tenapanor, which is currently our lead product candidate. The commercial success of tenapanor will depend on a number of factors, including the following:

- whether tenapanor's safety and efficacy profile is satisfactory to the FDA and foreign regulatory authorities to gain marketing approval for the control of serum phosphorus;
- our ability to, in a timely manner and under terms that are acceptable to us, establish a collaboration partnership for the commercialization of tenapanor for the treatment of IBS-C in the United States;
- the ability of the third-party manufacturers we contract with to successfully execute and scale up the manufacturing processes for tenapanor, which has not yet been fully demonstrated, and to manufacture supplies of tenapanor and to develop, validate and maintain commercially viable manufacturing processes that are compliant with cGMP requirements, particularly in light of the effects of the COVID-19 pandemic;
- whether or not the content of the label approved by the FDA or foreign regulatory authorities may materially and adversely impact our ability the ability of our collaboration partners to commercialize the product for the approved indication, or for any other indication;
- whether we will be required to conduct clinical trials in addition to those anticipated to obtain adequate commercial pricing;
- the prevalence and severity of adverse side effects of tenapanor;
- the timely receipt of necessary marketing approvals from the FDA and foreign regulatory authorities;
- our ability, either alone, or with a collaboration partner, to successfully commercialize tenapanor, if approved for marketing and sale by the FDA or foreign regulatory authorities, including educating physicians and patients about the benefits, administration and use of tenapanor;
- achieving and maintaining compliance with all regulatory requirements applicable to tenapanor;
- acceptance of tenapanor as safe, effective and well-tolerated by patients and the medical community;
- our ability, alone or with collaboration partners, to manage the complex pricing and reimbursement negotiations associated with marketing the same product at different doses for separate indications for tenapanor for the treatment of IBS-C, and, if approved, for the control of serum phosphorus in CKD patients on dialysis;
- the availability, perceived advantages, relative cost, relative safety and relative efficacy of tenapanor compared to alternative and competing treatments;
- obtaining and sustaining an adequate level of coverage and reimbursement for tenapanor by third-party payors;
- enforcing intellectual property rights in and to tenapanor;

- avoiding third-party interference, opposition, derivation or similar proceedings with respect to our patent rights, and avoiding other challenges to our patent rights and patent infringement claims; and

- a continued acceptable safety and tolerability profile of tenapanor following approval.

As tenapanor is a first-in-class drug, there is a higher likelihood that approval may not be attained as compared to a class of drugs with approved products. Although tenapanor met the primary endpoints in all of the three Phase 3 clinical trials evaluating tenapanor for the control of serum phosphorus in CKD patients on dialysis, there can be no assurances that we will receive regulatory approval to market tenapanor for the control of serum phosphorus in CKD patients on dialysis. Further, it may not be possible or practicable to demonstrate, or if approved, to market tenapanor on the basis of certain of the benefits we believe tenapanor possesses. If the number of patients in the market for tenapanor or the price that the market can bear is not as significant as we estimate, or if we are not able to secure adequate coverage and reimbursement for tenapanor, we may not generate sufficient revenue from sales of tenapanor for the control of serum phosphorus, if approved, or for IBS-C. Additionally, we may not be successful in establishing a collaboration partnership for the commercialization of tenapanor for the treatment of IBS-C in the United States in a timely manner and under terms that are acceptable to us. Accordingly, there can be no assurance that tenapanor will ever be successfully commercialized or that we will ever generate income from sales of tenapanor. If we are not successful in obtaining approval for, tenapanor for the control of serum phosphorus, or we are not successful in commercializing tenapanor, or are significantly delayed in doing so, our business will be materially harmed.

Even if we are successful in obtaining regulatory approval for tenapanor for the control of serum phosphorus, and tenapanor is ultimately commercialized for any approved indications, tenapanor may never achieve market acceptance, sufficient third-party coverage or reimbursement, or commercial success, which will depend, in part, upon the degree of acceptance among physicians, patients, patient advocacy groups, health care payors and the medical community.

Market acceptance of tenapanor, in the event that marketing approval is obtained, depends on a number of factors, including:

- with respect to tenapanor for IBS-C in the United States, our ability to obtain a collaboration partner for commercialization and the strength of such collaboration partner’s financial resources and marketing and distribution organizations, as well as the commitment of such collaboration partner’s sales organization to tenapanor;

- the efficacy demonstrated in our clinical trials;

- with respect to tenapanor for the control of serum phosphorus, whether tenapanor, along with other oral only medications, are included in the bundled prospective payment system for the treatment of ESRD patients, and the manner in which such transition is achieved;

- the prevalence and severity of any side effects and overall safety and tolerability profile of the product;

- the clinical indications for which it is approved;

- advantages over new or traditional or existing therapies, including recently approved therapies or therapies that the physician community anticipate will be approved;

- acceptance by physicians, major operators of clinics and patients of tenapanor as a safe, effective and well-tolerated treatment;

- relative convenience and ease of administration of tenapanor;

- the potential and perceived advantages of tenapanor over current treatment options or alternative treatments, including future alternative treatments;

- the cost of treatment in relation to alternative treatments and the willingness to pay for tenapanor, if approved, on the part of physicians and patients;
- the availability of alternative products and their ability to meet market demand; and
- the quality of our relationships with patient advocacy groups.

Any failure by us to obtain a collaboration partner for the commercialization of tenapanor in the United States for IBS-C and any failure of tenapanor to achieve market acceptance, sufficient third-party coverage or reimbursement, or commercial success for any approved indications would adversely affect our results of operations.

We currently have no sales organization. If we are unable to establish sales capabilities on our own or through third parties, we may not be able to commercialize tenapanor or any of our other product candidates.

We currently do not have a sales organization. In order to commercialize or co-promote tenapanor for the treatment of IBS-C, we currently plan to seek a collaborative relationship with one or more third parties, rather than to build internal marketing, sales, distribution, managerial and other non-technical capabilities for the commercialization of tenapanor for IBS-C. There can be no assurances that we will be successful in establishing collaborative relationships in a timely manner or on terms that are acceptable to us, and if we fail to do so, we may choose to further delay, or delay indefinitely, the commercialization of tenapanor for IBS-C.

We currently plan to commercialize tenapanor for the control of serum phosphorus in CKD patients on dialysis, if approved, on our own. In order to do so, we will need to establish an appropriate sales organization with technical expertise, as well as supporting distribution capabilities. This will be expensive and time consuming. As a company, we have no prior experience in the marketing, sale and distribution of pharmaceutical products and there are significant risks involved in building and managing a sales organization, including our ability to secure the capital necessary to fund such efforts on acceptable terms, hire, retain, and incentivize qualified individuals, generate sufficient sales leads, provide adequate training to sales and marketing personnel, comply with regulatory requirements applicable to the marketing and sale of drug products and effectively manage a geographically dispersed sales and marketing team.

If we fail or are delayed in the development of our internal sales, marketing and distribution capabilities, we may choose to delay the commercialization tenapanor for the control of serum phosphorus, if approved, or such commercialization could be adversely impacted.

Third-party payor coverage and reimbursement status of newly-approved products are uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our products, if approved, could limit our ability to market those products and decrease our ability to generate revenue.

The pricing, coverage and reimbursement of our product candidates, if approved, must be adequate to support a commercial infrastructure. The availability and adequacy of coverage and reimbursement by governmental and private payors are essential for most patients to be able to afford treatments such as ours, assuming approval. Sales of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid for by health maintenance, managed care, pharmacy benefit, and similar healthcare management organizations, or reimbursed by government authorities, private health insurers, and other third-party payors. If coverage and reimbursement are not available, or are available only to limited levels, we, or our collaboration partners, may not be able to successfully commercialize our product candidates. Even if coverage is provided, the approved reimbursement amount may not be high enough to allow us to establish or maintain pricing sufficient to realize a return on our investment.

There is significant uncertainty related to the insurance coverage and reimbursement of newly approved products. In the United States, the principal decisions about coverage and reimbursement for new drugs are typically made by the Centers for Medicare & Medicaid Services (“CMS”), an agency within the U.S. Department of Health and Human Services responsible for administering the Medicare program, as CMS decides whether and to what extent a new drug will be covered and reimbursed under Medicare. Private payors tend to follow the coverage reimbursement policies established

by CMS to a substantial degree. It is difficult to predict what CMS will decide with respect to reimbursement for products such as ours.

There is increased uncertainty related to insurance coverage and reimbursement for drugs, like tenapanor, which, if approved, will be marketed for the control of serum phosphorus in CKD patients on dialysis. In January 2011, CMS implemented a new prospective payment system for dialysis treatment. Under the ESRD prospective payment system, CMS generally makes a single bundled payment to the dialysis facility for each dialysis treatment that covers all items and services routinely required for dialysis treatments furnished to Medicare beneficiaries in Medicare-certified ESRD facilities or at their home, including the cost of certain routine drugs. The inclusion of oral medications without intravenous equivalents in the bundled payment was initially delayed until January 1, 2014 and through several subsequent legislative actions was delayed again January 1, 2025. As a result, absent further legislation on this matter, beginning in 2025, oral-only ESRD-related drugs may be included in the ESRD bundle and separate Medicare payment for these drugs will no longer be available, as is the case today under Medicare Part D. While it is too early to project the full impact that bundling may have on the industry, the impact could add significant pricing pressure to tenapanor in this segment, if approved. We may be unable to sell tenapanor, if approved, to dialysis providers on a profitable basis if third-party payors reduce their current levels of payment, or if our costs of production are higher than levels necessary for an appropriate gross margin after payment of all discounts, rebates and chargebacks.

Outside the United States, international operations are generally subject to extensive governmental price controls and other market regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe, Canada, Japan, China and other countries has and will continue to put pressure on the pricing and usage of our product candidates. In many countries, the prices of medical products are subject to varying price control mechanisms as part of national health systems. Other countries allow companies to fix their own prices for medicinal products, but monitor and control company profits. Additional foreign price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our product candidates. Accordingly, in markets outside the United States, the reimbursement for our products may be reduced compared with the United States and may be insufficient to generate commercially reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to cap or reduce healthcare costs may cause such organizations to limit both coverage and the level of reimbursement for newly approved products and, as a result, these caps may not cover or provide adequate payment for our product candidates. We expect to experience pricing pressures in connection with the sale of any of our product candidates due to the trend toward managed healthcare, the increasing influence of health maintenance organizations, and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs and surgical procedures and other treatments, has become very intense. As a result, increasingly high barriers are being erected to the entry of new products.

We may not be successful in our efforts to develop our product candidates that are at an early stage of development, or expand our pipeline of product candidates, as a result of numerous factors, which may include the inability to access capital necessary to fund such efforts on acceptable terms.

A key element of our strategy has been focused on the expansion of our pipeline of product candidates utilizing our proprietary drug discovery and design platform and to advance such product candidates through clinical development. Our inability to access capital in a timely manner or on acceptable terms to fund our early stage product candidates may force us to consider certain restructuring activities to enable the funding of those early assets through the use of alternative structures. In addition, of the large number of drugs in development, only a small percentage of such drugs successfully complete the FDA regulatory approval process and are commercialized. Accordingly, even if we are able to continue to fund our research and early stage development programs, there can be no assurance that any product candidates will reach the clinic or be successfully developed or commercialized.

Research programs to identify product candidates require substantial technical, financial and human resources, whether or not any product candidates are ultimately identified. Although our research and development efforts to date have resulted in several development programs, we may not be able to develop product candidates that are safe, effective and well-tolerated. Our research programs may initially show promise in identifying potential product candidates, and we

may select candidates for development, yet we may fail to advance product candidates to clinical development for many reasons, including the following:

- we may be unable to access sufficient capital on acceptable terms to fund the development of all of our assets and as a result we may be forced to delay or terminate the development of certain product candidates, or to consider restructuring efforts to secure alternate funding for those assets;
- the research methodology used and our drug discovery and design platform may not be successful in identifying potential product candidates;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- product candidates we develop may nevertheless be covered by third parties' patents or other exclusive rights;
- the market for a product candidate may change during our program so that the continued development of that product candidate is no longer reasonable;
- a product candidate may on further study be shown to have harmful side effects or other characteristics that indicate it is unlikely to be effective, well-tolerated or otherwise does not meet applicable regulatory or commercial criteria;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe, effective and well-tolerated by patients, the medical community or third-party payors, if applicable.

Even if we are successful in continuing to expand our pipeline, through our own research and development efforts, the potential product candidates that we identify or for which we acquire rights may not be suitable for clinical development, including as a result of being shown to have harmful side effects or other characteristics that indicate that they are unlikely to receive marketing approval and achieve market acceptance. If we do not successfully develop and commercialize a product pipeline, we may not be able to generate revenue from product sales in future periods or ever achieve profitability.

Clinical drug development involves a lengthy and expensive process with an uncertain outcome and the results of earlier studies and trials may not be predictive of future trial results.

Before obtaining marketing approval from regulatory authorities for the sale of our product candidates, we must conduct extensive clinical studies to demonstrate the safety and efficacy of the product candidates in humans. Clinical testing is expensive and can take many years to complete, and its outcome is inherently uncertain. Failure can occur at any time during the clinical trial process. The results of preclinical and clinical studies of our product candidates may not be predictive of the results of later-stage clinical trials. An unexpected adverse event profile, or the results of drug-drug interaction studies, may present challenges for the future development and commercialization of a product candidate for a particular condition despite receipt of positive efficacy data in a clinical study. A number of companies in the pharmaceutical, biopharmaceutical and biotechnology industries have suffered significant setbacks in advanced clinical trials for similar indications that we are pursuing due to lack of efficacy or adverse safety profiles, notwithstanding promising results in earlier studies, and we cannot be certain that we will not face similar setbacks.

Furthermore, we could encounter delays if our ongoing clinical trials are suspended or terminated by us, by the IRBs of the institutions in which the trial is being conducted, or by the FDA or other regulatory authorities. Such authorities may suspend or terminate a clinical trial due to a number of factors, including failure to conduct the clinical trial in accordance with regulatory requirements or our clinical protocols, inspection of the clinical trial operations or trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold, unforeseen safety issues or adverse

side effects, failure to demonstrate a benefit from using a drug, changes in governmental regulations or administrative actions or lack of adequate funding to continue the clinical trial. Any delays in completing a clinical trial will increase costs, slow down our development and regulatory approval process for our potential products and jeopardize the ability to commence product sales and generate revenue from a potential product. Any of these occurrences may significantly harm our business, financial condition and prospects. Additionally, our ongoing or planned clinical trials for tenapanor for the control of serum phosphorus may be delayed as a result of the restrictions placed on access to dialysis centers during the COVID-19 outbreak. Other potential impacts of the COVID-19 pandemic on our various clinical trials include delays or difficulties in any planned clinical site initiation, including difficulties in obtaining IRB approvals, recruiting clinical site investigators and clinical site staff, delays or difficulties in enrolling patients, interruption of planned key clinical trial activities, such as clinical trial site data monitoring due to diversion of resources at clinical sites or limitation on travel imposed by federal or state governments.

Furthermore, even though we have completed our Phase 3 clinical development program for tenapanor for the control of serum phosphorus, the results may not be sufficient to obtain the desired regulatory approval for tenapanor, or if such regulatory approval is obtained, the content of the label approved by regulatory authorities may materially and adversely impact our ability to commercialize the product for the approved indication.

We rely on third parties to conduct some of our nonclinical studies and all of our clinical trials. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be unable to obtain regulatory approval for additional products or commercialize our product candidates.

We do not have the ability to independently conduct clinical trials and, in some cases, nonclinical studies. We rely on medical institutions, clinical investigators, contract laboratories, and other third parties, such as CROs, to conduct clinical trials on our product candidates. The third parties with whom we contract for execution of the clinical trials play a significant role in the conduct of these trials and the subsequent collection and analysis of data. However, these third parties are not our employees, and except for contractual duties and obligations, we control only certain aspects of their activities and have limited ability to control the amount or timing of resources that they devote to our programs. Although we rely, and will continue to rely, on these third parties to conduct some of our nonclinical studies and all of our clinical trials, we remain responsible for ensuring that each of our studies and clinical trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards and our reliance on third parties does not relieve us of our regulatory responsibilities. We, and these third parties are required to comply with current GLPs for nonclinical studies, and good clinical practices ("GCPs") for clinical studies. GLPs and GCPs are regulations and guidelines enforced by the FDA, the Competent Authorities of the Member States of the European Economic Area ("EEA") and comparable foreign regulatory authorities for all of our products in nonclinical and clinical development, respectively. Regulatory authorities enforce GCPs through periodic inspections of trial sponsors, principal investigators and trial sites. If we or any of our third-party contractors fail to comply with applicable regulatory requirements, including GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, the European Medicines Agency ("EMA"), or comparable foreign regulatory authorities may require us to perform additional clinical trials before approving our marketing applications. There can be no assurance that upon inspection by a given regulatory authority, such regulatory authority will determine that any of our clinical trials comply with GCP regulations. In addition, our clinical trials must be conducted with product produced under cGMP regulations. Our failure to comply with these regulations may require us to repeat clinical trials, which would delay the regulatory approval process.

Our products or product candidates may cause undesirable side effects or have other properties that could delay our clinical trials, or delay or prevent regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following any regulatory approval that is achieved. If we or others identify undesirable side effects caused by any product candidate following receipt of marketing approval, the ability to market such product candidate could be compromised.

Undesirable side effects caused by our products or product candidates could cause us or regulatory authorities to interrupt, delay or halt clinical trials, result in the delay or denial of regulatory approval by the FDA or other comparable foreign regulatory authorities or limit the commercial profile of an approved label. To date, patients treated with tenapanor have experienced drug-related side effects including diarrhea, nausea, vomiting, flatulence, abdominal discomfort, abdominal pain, abdominal distention and changes in electrolytes. Despite our receipt of marketing approval for tenapanor

for IBS-C in adults and the completion of our Phase 3 clinical program for tenapanor for the control of serum phosphorus, in the event that future trials conducted by us with tenapanor, or trials we conduct with our other product candidates, reveal an unacceptable severity and prevalence of these or other side effects, such trials could be suspended or terminated and the FDA or comparable foreign regulatory authorities could order us to cease further development of or deny approval of tenapanor for such indication, or any such other product candidate, for any or all targeted indications. Additionally, despite a positive efficacy profile, the prevalence and/or severity of these or other side effects could cause us to cease further development of a product candidate for a particular indication, or entirely. The drug-related side effects could affect patient recruitment or the ability of enrolled patients to complete the trial or result in potential product liability claims. Any of these occurrences may harm our business, financial condition and prospects significantly.

In addition, if we or others identify undesirable side effects caused by one of our products for which we have received regulatory approval, a number of potentially significant negative consequences could occur, including:

- regulatory authorities may withdraw their approval of the product or seize the product;
- we, or a collaboration partner, may be required to recall the product;
- additional restrictions may be imposed on the marketing of the particular product or the manufacturing processes for the product or any component thereof, including the imposition of a Risk Evaluation and Mitigation Strategy ("REMS") which could require creation of a Medication Guide or patient package insert outlining the risks of such side effects for distribution to patients, a communication plan to educate healthcare providers of the drugs' risks, as well as other elements to assure safe use of the product, such as a patient registry and training and certification of prescribers;
- we, or a collaboration partner, may be subject to fines, injunctions or the imposition of civil or criminal penalties;
- regulatory authorities may require the addition of labeling statements, such as a "black box" warning or a contraindication;
- we could be sued and held liable for harm caused to patients;
- the product may become less competitive; and
- our reputation may suffer.

Any of the foregoing events could prevent us, or a collaboration partner, from achieving or maintaining market acceptance of a particular product candidate, if approved, and could result in the loss of significant revenue to us, which would materially and adversely affect our results of operations and business.

We face substantial competition and our competitors may discover, develop or commercialize products faster or more successfully than us.

The biotechnology and pharmaceutical industries are highly competitive, and we face significant competition from companies in the biotechnology, pharmaceutical and other related markets that are researching and marketing products designed to address diseases that we are currently developing products to treat. If approved for marketing by the FDA or other regulatory agencies, tenapanor, as well as our other product candidates, would compete against existing treatments.

For example, tenapanor will, if approved for the control of serum phosphorus in CKD patients on dialysis, compete directly with phosphate binders for the control of serum phosphorus in CKD patients on dialysis. The various types of phosphate binders commercialized in the United States include the following:

- Calcium carbonate (many over-the-counter brands including Tums and Caltrate);

- Calcium acetate (several prescription brands including PhosLo and Phoslyra);
- Lanthanum carbonate (Fosrenol);
- Sevelamer hydrochloride (Renagel);
- Sevelamer carbonate (Renvela);
- Sucroferric oxyhydroxide (Velphoro); and
- Ferric citrate (Auryxia).

In addition to the branded products described above, generic sevelamer carbonate has been approved in certain jurisdictions in Europe since 2015 and in the U.S. market since June 2017. In addition to the currently marketed phosphate binders, we are aware of at least two other binders in development, including fermagate (Alpharen), an iron-based binder in Phase 3 being developed by Opko Health, Inc., and PT20, an iron-based binder in Phase 3 being developed by Shield Therapeutics.

In respect of tenapanor for the treatment of IBS-C, numerous treatments exist for constipation and the constipation component of IBS-C, many of which are over-the-counter. These include psyllium husk (such as Metamucil), methylcellulose (such as Citrucel), calcium polycarbophil (such as FiberCon), lactulose (such as Cephulac), polyethylene glycol (such as MiraLax), sennosides (such as Exlax), bisacodyl (such as Ducolax), docusate sodium (such as Colace), magnesium hydroxide (such as Milk of Magnesia), saline enemas (such as Fleet) and sorbitol. These agents are generally inexpensive and work well to temporarily relieve constipation.

We are aware of four prescription products marketed for certain patients with IBS-C, including Linzess (linaclotide), Amitiza (lubiprostone), Trulance (plecanatide) and Zelnorm (tegaserod maleate).

It is possible that our competitors will develop and market drugs or other treatments that are less expensive and more effective than our product candidates, or that will render our product candidates obsolete. It is also possible that our competitors will commercialize competing drugs or treatments before we, or our collaboration partners, can launch any products developed from our product candidates. We also anticipate that we will face increased competition in the future as new companies enter into our target markets.

Many of our competitors have materially greater name recognition and financial, manufacturing, marketing, research and drug development resources than we do. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. Large pharmaceutical companies in particular have extensive expertise in preclinical and clinical testing and in obtaining regulatory approvals for drugs. In addition, academic institutions, government agencies, and other public and private organizations conducting research may seek patent protection with respect to potentially competitive products or technologies. These organizations may also establish exclusive collaboration partnerships or licensing relationships with our competitors.

We may experience difficulties in managing our current activities and growth given our level of managerial, operational, financial and other resources.

While we have continued to work to optimize our management composition, personnel and systems to support our current activities for future growth, these resources may not be adequate for this purpose. Our need to effectively execute our business strategy requires that we:

- manage our pre-commercialization activities effectively;
- manage our clinical trials effectively;

- manage our internal research and development efforts effectively while carrying out our contractual obligations to licensors, contractors, collaborators, government agencies and other third parties;
- continue to improve our operational, financial and management controls, reporting systems and procedures; and
- retain and motivate our remaining employees and potentially identify, recruit, and integrate additional employees.

If we are unable to maintain or expand our managerial, operational, financial and other resources to the extent required to manage our development and pre-commercialization activities, our business will be materially adversely affected.

We rely completely on third parties to manufacture our nonclinical and clinical drug supplies, and we intend to rely on third parties to produce commercial supplies of tenapanor, if tenapanor is ultimately commercialized for any indication. Our business would be harmed if those third parties fail to obtain approval of the FDA or comparable regulatory authorities, fail to provide us with sufficient quantities of drug, or fail to do so at acceptable quality levels or prices.

We do not currently have, nor do we plan to acquire, the infrastructure or capability internally to manufacture tenapanor or any of other our product candidates on a commercial scale, or to manufacture our drug supplies for use in the conduct of our nonclinical and clinical studies. The facilities used by our contract manufacturers to manufacture our drug supply are subject to inspection by the FDA. Our ability to control the manufacturing process of our product candidates is limited to the contractual requirements and obligations we impose on our contract manufacturer. Although they are contractually required to so do, we are completely dependent on our contract manufacturing partners for compliance with the regulatory requirements, known as cGMPs, for manufacture of both active drug substances and finished drug products.

If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would require a transfer of technology to such alternative facilities and potentially additional capital investment. In addition, the use of alternative manufacturing facilities would require qualification with the FDA or comparable foreign regulatory authorities, all of which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved.

We rely on our manufacturers to purchase from third-party suppliers the materials necessary to produce our product candidates for our clinical studies. There are a limited number of suppliers for raw materials and certain processes, such as spray drying, that we use to manufacture our drugs, and there may be a need to identify alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical studies, and, if approved, ultimately for commercial sale. We do not have any control over the process or timing of the acquisition of these raw materials or processes by our manufacturers. Although we generally do not begin a clinical study unless we believe we have on hand, or will be able to manufacture, a sufficient supply of a product candidate to complete such study, any significant delay or discontinuity in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical study due to the need to replace a third-party manufacturer could considerably delay completion of our clinical studies, product testing, and potential regulatory approval of our product candidates, which could harm our business and results of operations.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of our product candidates.

We face an inherent risk of product liability as a result of the clinical testing of our product candidates and will face an even greater risk if we commercialize any products. For example, we may be sued if any product we develop allegedly causes injury or is found to be otherwise unsuitable during product testing, manufacturing, marketing or sale. Any such product liability claims may include allegations of defects in manufacturing, defects in design, a failure to warn of dangers

inherent in the product, negligence, strict liability, and a breach of warranties. Claims could also be asserted under state consumer protection acts. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to limit commercialization of our product candidates. Even successful defense would require significant financial and management resources. Regardless of the merits or eventual outcome, liability claims may result in:

- decreased demand for our product candidates;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- a diversion of management's time and our resources;
- substantial monetary awards to trial participants or patients;
- regulatory investigations, product recalls or withdrawals, or labeling, marketing or promotional restrictions;
- loss of revenue; and
- the inability to commercialize or co-promote our product candidates.

Our inability to obtain and maintain sufficient product liability insurance at an acceptable cost and scope of coverage to protect against potential product liability claims could prevent or inhibit the commercialization of any products we develop. We currently carry product liability insurance covering use in our clinical trials in the amount of $10.0 million in the aggregate. Although we maintain such insurance, any claim that may be brought against us could result in a court judgment or settlement in an amount that is not covered, in whole or in part, by our insurance or that is in excess of the limits of our insurance coverage. Our insurance policies also have various exclusions and deductibles, and we may be subject to a product liability claim for which we have no coverage. We will have to pay any amounts awarded by a court or negotiated in a settlement that exceed our coverage limitations or that are not covered by our insurance, and we may not have, or be able to obtain, sufficient capital to pay such amounts. Moreover, in the future, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses.

If we fail to attract, retain and motivate our executives, senior management and key personnel, our business will suffer.

Recruiting and retaining qualified scientific, clinical, medical, manufacturing, and sales and marketing personnel is critical to our success. We are highly dependent on our executives, senior management and certain other key employees. The loss of the services of our executives, senior management or other key employee could impede the achievement of our research, development and commercial objectives and seriously harm our ability to successfully implement our business strategy. Furthermore, replacing executives, senior management and other 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 marketing approval of and commercialize products. We may be unable to hire, train or motivate these key personnel on acceptable terms given the intense competition among numerous biopharmaceutical companies for similar personnel, particularly in our geographic regions. If we are unable to continue to attract and retain high quality personnel, our ability to grow and pursue our business strategy will be limited.

Our proprietary drug discovery and design platform, and, in particular, APECCS, is a new approach to the discovery, design and development of new product candidates and may not result in any products of commercial value. Furthermore, the APECCS aspects of our drug discovery and design platform may have diminished relevance to our efforts focused on the discovery of targets and therapies for the treatment of renal diseases.

We have developed a proprietary drug discovery and design platform to enable the identification, screening, testing, design and development of new product candidates, and have developed APECCS as a component of this of this platform. We have utilized APECCS in the design of our small molecules and to identify new and potentially novel targets in the GI tract. However, there can be no assurance that APECCS will be able to identify new targets in the GI tract or that any of these potential targets or other aspects of our proprietary drug discovery and design platform will yield product candidates that could enter clinical development and, ultimately, be commercially valuable. In addition, as we focus our efforts on the discovery and design of therapies for the treatment of cardiorenal diseases, we may need to further develop our proprietary drug discovery and design platform to enhance its usefulness in the identification, screening, testing, design and development of new product candidates for the treatment of cardiorenal diseases. There can be no assurances that we will be successful in such additional development of our platform or that our platform will yield product candidates for the treatment of renal diseases.

We and our collaborators, CROs and other contractors and consultants depend on information technology systems, and any failure of these systems could harm our business. Security breaches, loss of data, and other disruptions could compromise sensitive information related to our business or prevent us from accessing critical information and expose us to liability, which could adversely affect our business, results of operations and financial condition.

We and our collaborators, CROs, and other contractors and consultants collect and maintain information in digital form that is necessary to conduct our business, and we are increasingly dependent on information technology systems and infrastructure to operate our business. In the ordinary course of our business, we and our collaborators, CROs and other contractors and consultants collect, store and transmit large amounts of confidential information, including intellectual property, proprietary business information and personal information. It is critical that we and our collaborators, CROs and other contractors and consultants do so in a secure manner to maintain the confidentiality and integrity of such confidential information. We have established physical, electronic and organizational measures to safeguard and secure our systems to prevent a data compromise, and rely on commercially available systems, software, tools, and monitoring to provide security for our information technology systems and the processing, transmission and storage of digital information. We have also outsourced elements of our information technology infrastructure, and as a result a number of third-party vendors may or could have access to our confidential information. Our internal information technology systems and infrastructure, and those of our current and any future collaborators, CROs, contractors and consultants and other third parties on which we rely, are vulnerable to damage from computer viruses, malware, natural disasters, terrorism, war, telecommunication and electrical failures, cyber-attacks or cyber-intrusions over the Internet, attachments to emails, persons inside our organization, or persons with access to systems inside our organization.

The risk of a security breach or disruption or data loss, particularly through cyber-attacks or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. In addition, the prevalent use of mobile devices that access confidential information increases the risk of data security breaches, which could lead to the loss of confidential information or other intellectual property. The costs to us to mitigate network security problems, bugs, viruses, worms, malicious software programs and security vulnerabilities could be significant, and while we have implemented security measures to protect our data security and information technology systems, our efforts to address these problems may not be successful, and these problems could result in unexpected interruptions, delays, cessation of service and other harm to our business and our competitive position. If such an event were to occur and cause interruptions in our operations, it could result in a material disruption of our product development programs. For example, the loss of clinical trial data from completed or ongoing or planned clinical trials could result in delays in our regulatory approval efforts and significantly increase our costs to recover or reproduce the data. Moreover, if a computer security breach affects our systems or those of our collaborators, CROs or other contractors, or results in the unauthorized release of personally identifiable information, our reputation could be materially damaged. We would also be exposed to a risk of loss or litigation and potential liability, which could materially adversely affect our business, results of operations and financial condition.

In addition, such a breach may require notification to governmental agencies, the media or individuals pursuant to various federal and state privacy and security laws, if applicable, including the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), as amended by the Health Information Technology for Clinical Health Act of 2009 ("HITECH") and its implementing rules and regulations. Even when HIPAA does not apply, according to the Federal Trade Commission (the "FTC") failing to take appropriate steps to keep consumers' personnel information secure constitutes unfair acts or practices in or affecting commerce in violation of Section 5(a) of the Federal Trade Commission Act (the "FTCA") 15 U.S.C § 45(a). The FTC expects a company's data security measures to be reasonable and appropriate in light of the sensitivity and volume of consumer information it holds, the size and complexity of its business, and the cost of available tools to improve security and reduce vulnerabilities. Individually identifiable health information is considered sensitive data that merits stronger safeguards. The FTC's guidance for appropriately securing consumers' personal information is similar to what is required by the HIPAA Security Rule. We may also be subject to state laws requiring notification of affected individuals and state regulators in the event of a breach of personal information, which is a broader class of information than the health information protected by HIPAA. For example, California recently enacted legislation, the California Consumer Privacy Act ("CCPA") which went into effect January 1, 2020. The CCPA, among other things, creates new data privacy obligations for covered companies and provides new privacy rights to California residents, including the right to opt out of certain disclosures of their information. The CCPA also creates a private right of action with statutory damages for certain data breaches, thereby potentially increasing risks associated with a data breach. Although the law includes limited exceptions, including for "protected health information" maintained by a covered entity or business associate, it may regulate or impact our processing of personal information depending on the context.

We incur significant costs as a result of operating as a public company, and our management will devote substantial time to new compliance initiatives. We may fail to comply with the rules that apply to public companies, including Section 404 of the Sarbanes-Oxley Act of 2002, which could result in sanctions or other penalties that would harm our business.

We incur significant legal, accounting and other expenses as a public company, including costs resulting from public company reporting obligations under the Securities Exchange Act of 1934, as amended (the "Exchange Act") and regulations regarding corporate governance practices. The listing requirements of The Nasdaq Global Market require that we satisfy certain corporate governance requirements relating to director independence, distributing annual and interim reports, stockholder meetings, approvals and voting, soliciting proxies, conflicts of interest and a code of conduct. Our management and other personnel will need to devote a substantial amount of time to ensure that we comply with all of these requirements. Moreover, the reporting requirements, rules and regulations will increase our legal and financial compliance costs and will make some activities more time consuming and costly. Any changes we make to comply with these obligations may not be sufficient to allow us to satisfy our obligations as a public company on a timely basis, or at all. These reporting requirements, rules and regulations, coupled with the increase in potential litigation exposure associated with being a public company, could also make it more difficult for us to attract and retain qualified persons to serve on our board of directors or board committees or to serve as executive officers, or to obtain certain types of insurance, including directors' and officers' insurance, on acceptable terms.

We are subject to Section 404 of The Sarbanes-Oxley Act of 2002 ("Section 404") and the related rules of the Securities and Exchange Commission ("SEC") which require, among other things, our management to report on the effectiveness of our internal control over financial reporting. Our compliance with Section 404 requires that we incur substantial expense and expend significant management efforts.

During the course of our review and testing of our internal controls, we may identify deficiencies and be unable to remediate them before we must provide the required reports. Furthermore, if we have a material weakness in our internal controls over financial reporting, we may not detect errors on a timely basis and our financial statements may be materially misstated. We or our independent registered public accounting firm may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting, which could harm our operating results, cause investors to lose confidence in our reported financial information and cause the trading price of our stock to fall. In addition, as a public company we are required to file accurate and timely quarterly and annual reports with the SEC under the Exchange Act. Any failure to report our financial results on an accurate and timely basis could result in sanctions, lawsuits, delisting of our shares from The Nasdaq Global Market or other adverse consequences that would materially harm our business.

We identified a material weakness in our internal control over financial reporting in the past. If we fail to maintain proper and effective internal controls, our ability to produce accurate and timely financial statements could be impaired, which could harm our operating results, our ability to operate our business and investors' views of us and could have a material adverse effect on the price of our common stock.

In 2019, management and our independent registered public accounting firm identified a control deficiency that constituted a material weakness in our internal control over financial reporting. The material weakness was due to a failure in the design and implementation of controls over the evaluation of the terms of our clinical trial contracts for inclusion into our clinical financial model which estimates clinical trial expenses. Specifically, we had failed to properly interpret an expense in our clinical trial contracts which resulted in the over accrual of our clinical trial expenses during 2018 and the first quarter of 2019.

We developed and implemented a remediation plan for this material weakness which included modifications to the design and implementation of certain internal controls, and the material weakness was remediated as of December 31, 2019. Although we have remediated this material weakness, as attested by our independent registered public accounting firm, we can give no assurance that an additional material weakness or significant deficiency in our internal controls over financial reporting will not be identified in the future. Our failure to implement and maintain effective internal controls over financial reporting could result in errors in our financial statements that could result in a restatement of our financial statements and cause us to fail to meet our reporting obligations. If we cannot in the future favorably assess the effectiveness of our internal controls over financial reporting, investor confidence in the reliability of our financial reports may be adversely affected, which could have a material adverse effect on the trading price of our common stock.

We have formed in the past, and may form in the future, collaboration partnerships, joint ventures and/or licensing arrangements, and we may not realize the benefits of such collaborations.

We have current collaboration partnerships for the commercialization of tenapanor in certain foreign countries, and we currently expect to form additional collaboration partnerships, create joint ventures or enter into additional licensing arrangements with third parties in the United States and abroad that we believe will complement or augment our existing business. In particular, we have formed collaboration partnerships with Kyowa Kirin Co., Ltd. ("KKC") for certain research programs and for commercialization of tenapanor for hyperphosphatemia in Japan; with Shanghai Fosun Pharmaceutical Industrial Development Co. Ltd. ("Fosun Pharma") for commercialization of tenapanor for hyperphosphatemia and IBS-C in China and related territories; and in Canada with Knight Therapeutics, Inc. ("Knight") for commercialization of tenapanor for IBS-C and hyperphosphatemia. We face significant competition in seeking appropriate collaboration partners, and the process to identify an appropriate partner and negotiate appropriate terms is time-consuming and complex. Any delays in identifying suitable additional collaboration partners and entering into agreements to develop our product candidates could also delay the commercialization of our product candidates, which may reduce their competitiveness even if they reach the market. Moreover, we may not be successful in our efforts to establish a collaboration partnership for tenapanor for IBS-C commercialization in the United States or for any future product candidates and programs on terms that are acceptable to us, or at all. With respect to tenapanor for IBS-C in the United States, this may be because third parties may not view tenapanor for the treatment of IBS-C as having sufficient potential to be successfully commercialized. Additionally, despite third party interest in the commercialization of tenapanor for IBS-C in the United States, we may decide that it is not in the best interests of the Company to enter into such a collaboration partnership. If we are unable to establish a collaboration partnership for the commercialization of IBS-C in the United States under acceptable terms, the commercialization of tenapanor for IBS-C could be materially and adversely impacted, which could have a material adverse effect on our business, results of operations, financial condition and prospects. Additionally, we may not be successful in our efforts to establish collaboration partnerships for our other product candidates because our product candidates and programs may be deemed to be at too early of a stage of development for collaborative effort, our research and development pipeline may be viewed as insufficient, and/or third parties may not view such other product candidates and programs as having sufficient potential for commercialization, including the likelihood of an adequate safety and efficacy profile. There is no guarantee that our current collaboration partnerships or any such arrangements we enter into in the future will be successful, or that any collaboration partner will commit sufficient resources to the development, regulatory approval, and commercialization effort for such products, or that such alliances will result in us achieving revenues that justify such transactions.

The ongoing COVID-19 pandemic, or any other outbreak of epidemic diseases, or the perception of their effects, could have a material adverse effect on our business, financial condition, results of operations or cash flows.

Outbreaks of epidemic, pandemic, or contagious diseases, such as the current novel coronavirus ("COVID-19") pandemic or, historically, the Ebola virus, Middle East Respiratory Syndrome, Severe Acute Respiratory Syndrome, or the H1N1 virus, could disrupt our business. Business disruptions could include disruptions or restrictions on our ability to conduct our clinical trials, as planned, travel, as well as temporary closures of the facilities of our collaboration partners, suppliers or contract manufacturers. Any disruption of our clinical trial operations, collaboration partners, suppliers or contract manufacturers could adversely impact our operating results.

While the COVID-19 pandemic did not materially adversely affect our business operations in the quarter ended June 30, 2020, economic and health conditions in the United States and across most of the globe have changed rapidly since the end of the quarter. While at this point, the extent to which the coronavirus outbreak may impact our results is uncertain, it could result in delays in the manufacture of tenapanor, or in the delivery of key intermediates or raw materials required to manufacture tenapanor or delays in clinical development activities by us, or our collaboration partners. It could also materially and negatively impact our ability, either alone, or with a collaboration partner, to successfully commercialize tenapanor, if approved for marketing and sale by the FDA or foreign regulatory authorities, including our ability to educate physicians and patients about the benefits, administration and use of tenapanor.

As a result of the COVID-19 pandemic, we may also experience disruptions that could severely impact our business, preclinical studies and clinical trials, including:

- While our Phase 3 clinical development of tenapanor for the control of serum phosphorus in CKD patients on dialysis is complete, we have ongoing and planned clinical trials for tenapanor that may be delayed as a result of the restrictions placed on access to dialysis centers during the COVID-19 outbreak. Other potential impacts of the COVID-19 pandemic on our various clinical trials include delays or difficulties in any planned clinical site initiation, including difficulties in obtaining Institutional Review Board approvals, recruiting clinical site investigators and clinical site staff, delays or difficulties in enrolling patients, interruption of planned key clinical trial activities, such as clinical trial site data monitoring due to diversion of resources at clinical sites or limitation on travel imposed by federal or state governments.
- We have limited the use of our offices to essential employees and requested that most of our personnel, including all of our administrative employees, work remotely. We have restricted on-site staff to only those personnel and contractors who must perform essential activities that must be completed on-site and limited the number of staff in our research laboratories. The COVID-19 pandemic could disrupt our ability to secure supplies for our facilities and to provide personal protective equipment for our employees. The safety, health and well-being of our workforce is of primary concern and we may need to enact further precautionary measures to help minimize the risk of our employees being exposed to the novel coronavirus.
- Our increased reliance on personnel working from home may negatively impact productivity, or disrupt, delay, or otherwise adversely impact our business. In addition, this could increase our cyber-security risk, create data accessibility concerns, and make us more susceptible to communication disruptions, any of which could adversely impact our business operations or delay necessary interactions with local and federal regulators, ethics committees, manufacturing sites, research or clinical trial sites and important agencies and contractors.
- The FDA and comparable foreign regulatory agencies may experience operational interruptions or delays, which may impact timelines for regulatory submission, trial initiation and regulatory approval.

The COVID-19 outbreak continues to rapidly evolve. The extent to which the outbreak may impact our business, manufacturing, preclinical development activities, preclinical studies and planned clinical trials will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of COVID-19, the duration of the outbreak, travel restrictions and actions to contain the outbreak or treat its impact, such as social distancing and quarantines or lock-downs in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the disease.

We may engage in strategic transactions that could impact our liquidity, increase our expenses and present significant distractions to our management.

We may consider strategic transactions, such as acquisitions of companies, asset purchases, and/or in-licensing of products, product candidates or technologies. In addition, if we are unable to access capital on a timely basis and on terms that are acceptable to us, we may be forced to restructure certain aspects of our business or identify and complete one or more strategic collaborations or other transactions in order to fund the development or commercialization of tenapanor or certain of our product candidates through the use of alternative structures. Additional potential transactions that we may consider include a variety of different business arrangements, including spin-offs, spin outs, collaboration partnerships, joint ventures, restructurings, divestitures, business combinations and investments. Any such transaction may require us to incur non-recurring or other charges, may increase our near- and long-term expenditures and may pose significant integration challenges or disrupt our management or business, which could adversely affect our operations and financial results. For example, these transactions may entail numerous operational and financial risks, including:

- up-front, milestone and royalty payments, equity investments and financial support of new research and development candidates including increase of personnel, all of which may be substantial;
- exposure to unknown liabilities;
- disruption of our business and diversion of our management's time and attention in order to develop acquired products, product candidates or technologies;
- incurrence of substantial debt or dilutive issuances of equity securities;
- higher-than-expected acquisition and integration costs;
- write-downs of assets or goodwill or impairment charges;
- increased amortization expenses;
- difficulty and cost in combining the operations and personnel of any acquired businesses with our operations and personnel;
- impairment of relationships with key suppliers or customers of any acquired businesses due to changes in management and ownership; and
- inability to retain key employees of any acquired businesses.

Accordingly, although there can be no assurance that we will undertake or successfully complete any transactions of the nature described above, any transactions that we do complete may be subject to the foregoing or other risks and could have a material adverse effect on our business, results of operations, financial condition and prospects.

If we seek and obtain approval to commercialize our product candidates outside of the United States, manufacture our product candidates outside of the United States, or otherwise engage in business outside of the United States, a variety of risks associated with international operations could materially adversely affect our business.

We or our collaboration partners may decide to seek marketing approval for certain of our product candidates outside the United States or otherwise engage in business outside the United States, including entering into contractual agreements with third-parties. We currently utilize contract manufacturing organizations located outside of the United States to

manufacture our active drug substance for tenapanor. We are subject to additional risks related to entering these international business markets and relationships, including:

- different regulatory requirements for drug approvals in foreign countries;
- differing United States and foreign drug import and export rules;
- reduced protection for intellectual property rights in foreign countries;
- unexpected changes in tariffs, trade barriers and regulatory requirements;
- different reimbursement systems, and different competitive drugs;
- 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 taxes, including withholding of payroll taxes;
- foreign currency fluctuations, which could result in increased operating expenses and reduced revenues, and other obligations incident to doing business in another country;
- workforce uncertainty in countries where labor unrest is more common than in the United States;
- production shortages resulting from any events affecting raw material supply or manufacturing capabilities abroad;
- potential liability resulting from development work conducted by these distributors; and
- business interruptions resulting from geopolitical actions, including war and terrorism, or natural disasters.

Our business involves the use of hazardous materials and we and third-parties with whom we contract must comply with environmental laws and regulations, which can be expensive and restrict how we do business.

Our research and development activities involve the controlled storage, use and disposal of hazardous materials, including the components of our product candidates and other hazardous compounds. We and manufacturers and suppliers with whom we may contract are subject to laws and regulations governing the use, manufacture, storage, handling and disposal of these hazardous materials. In some cases, these hazardous materials and various wastes resulting from their use are stored at our and our manufacturers' facilities pending their use and disposal. We cannot eliminate the risk of contamination, which could cause an interruption of our commercialization efforts, research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling and disposal of these materials and specified waste products. We cannot guarantee that the safety procedures utilized by third-party manufacturers and suppliers with whom we may contract will comply with the standards prescribed by laws and regulations or will eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of our future compliance. We do not currently carry biological or hazardous waste insurance coverage.

We may be adversely affected by the global economic environment.

Our ability to attract and retain collaboration partners or customers, invest in and grow our business and meet our financial obligations depends on our operating and financial performance, which, in turn, is subject to numerous factors, including the prevailing economic conditions and financial, business and other factors beyond our control, such as the rate of unemployment, the number of uninsured persons in the United States, presidential elections, other political influences and inflationary pressures. Our results of operations could be adversely affected by general conditions in the global economy and in the global financial markets. The 2008 global financial crisis caused extreme volatility and disruptions in the capital and credit markets. We cannot anticipate all the ways in which the global economic climate and global financial market conditions could adversely impact our business in the future.

We are exposed to risks associated with reduced profitability and the potential financial instability of our collaboration partners or customers, many of which may be adversely affected by volatile conditions in the financial markets. For example, unemployment and underemployment, and the resultant loss of insurance, may decrease the demand for healthcare services and pharmaceuticals. If fewer patients are seeking medical care because they do not have insurance coverage, our collaboration partners or customers may experience reductions in revenues, profitability and/or cash flow that could lead them to reduce their support of our programs or financing activities. If collaboration partners or customers are not successful in generating sufficient revenue or are precluded from securing financing, they may not be able to pay, or may delay payment of, accounts receivable that are owed to us. In addition, volatility in the financial markets could cause significant fluctuations in the interest rate and currency markets. We currently do not hedge for these risks. The foregoing events, in turn, could adversely affect our financial condition and liquidity. In addition, if economic challenges in the United States result in widespread and prolonged unemployment, either regionally or on a national basis, or if certain provisions of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, collectively known as the Affordable Care Act, are repealed, a substantial number of people may become uninsured or underinsured. To the extent economic challenges result in fewer individuals pursuing or being able to afford our product candidates once commercialized, our business, results of operations, financial condition and cash flows could be adversely affected.

We may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our corporate headquarters and other facilities are located in the San Francisco Bay Area, which in the past has experienced severe earthquakes. We do not carry earthquake insurance. Earthquakes or other natural disasters could severely disrupt our operations, and have a material adverse effect on our business, results of operations, financial condition and prospects.

If a natural disaster, power outage or other event occurred that prevented us from using all or a significant portion of our headquarters, that damaged critical infrastructure, such as our enterprise financial systems or manufacturing resource planning and enterprise quality systems, or that otherwise disrupted operations, it may be difficult or, in certain cases, impossible for us to continue our business for a substantial period of time. The disaster recovery and business continuity plans we have in place currently are limited and are unlikely to prove adequate in the event of a serious disaster or similar event. We may incur substantial expenses as a result of the limited nature of our disaster recovery and business continuity plans, which, particularly when taken together with our lack of earthquake insurance, could have a material adverse effect on our business.

Risks Related to Government Regulation

The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming and inherently unpredictable. If we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

The research, testing, manufacturing, labeling, approval, selling, import, export, marketing and distribution of drug products are subject to extensive regulation by the FDA and other regulatory authorities in the United States and other countries, which regulations differ from country to country. Neither we nor any of our collaboration partners is permitted

to market any drug product in the United States until we receive marketing approval from the FDA. Obtaining regulatory approval of a NDA can be a lengthy, expensive and uncertain process. In addition, failure to comply with FDA and other applicable United States and foreign regulatory requirements may subject us to administrative or judicially imposed sanctions or other actions, including:

- warning or untitled letters;
- civil and criminal penalties;
- injunctions;
- withdrawal of regulatory approval of products;
- product seizure or detention;
- product recalls;
- total or partial suspension of production; and
- refusal to approve pending NDAs or supplements to approved NDAs.

Prior to obtaining approval to commercialize a drug candidate in the United States or abroad, we or our collaboration partners must demonstrate with substantial evidence from well-controlled clinical trials, and to the satisfaction of the FDA or other foreign regulatory agencies, that such drug candidates are safe and effective for their intended uses. The number of nonclinical studies and clinical trials that will be required for FDA approval varies depending on the drug candidate, the disease or condition that the drug candidate is designed to address, and the regulations applicable to any particular drug candidate. Results from nonclinical studies and clinical trials can be interpreted in different ways. Even if we believe the nonclinical or clinical data for our drug candidates are promising, such data may not be sufficient to support approval by the FDA and other regulatory authorities. Administering drug candidates to humans may produce undesirable side effects, which could interrupt, delay or halt clinical trials and result in the FDA or other regulatory authorities denying approval of a drug candidate for any or all targeted indications.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable, typically takes many years following the commencement of clinical studies and depends upon numerous factors. The FDA and comparable foreign authorities have substantial discretion in the approval process and we may encounter matters with the FDA or such comparable authorities that requires us to expend additional time and resources and delay or prevent the approval of our product candidates. For example, the FDA may require us to conduct additional studies for a drug product either prior to or post-approval, such as additional drug-drug interaction studies or safety or efficacy studies, or it may object to elements of our clinical development program such as the number of subjects in our current clinical trials from the United States. In addition, approval policies, regulations or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions, which may cause delays in the approval or result in a decision not to approve an application for regulatory approval. Despite the time and expense exerted, failure can occur at any stage.

Applications for our product candidates could fail to receive regulatory approval for many reasons, including but not limited to the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our, or our collaboration partners', clinical studies;
- the population studied in the clinical program may not be sufficiently broad or representative to assure safety in the full population for which approval is sought;

- the FDA or comparable foreign regulatory authorities may disagree with the interpretation of data from preclinical studies or clinical studies;

- the data collected from clinical studies of our product candidates may not be sufficient to support the submission of a NDA or other submission or to obtain regulatory approval in the United States or elsewhere;

- we or our collaboration partners may be unable to demonstrate to the FDA or comparable foreign regulatory authorities that a product candidate's risk-benefit ratio for its proposed indication is acceptable;

- the FDA or comparable foreign regulatory authorities may fail to approve the manufacturing processes, test procedures and specifications, or facilities of third-party manufacturers responsible for clinical and commercial supplies; and

- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our clinical data insufficient for approval.

This lengthy approval process, as well as the unpredictability of the results of clinical studies, may result in our failure and/or that of our collaboration partners to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and prospects. Additionally, if the FDA requires that we conduct additional clinical studies, places limitations in our label, delays approval to market our product candidates or limits the use of our products, our business and results of operations may be harmed.

In addition, even if we were to obtain approval, regulatory authorities may approve any of our product candidates for fewer or more limited indications than we request, may not approve the price we intend to charge for our products, may grant approval contingent on the performance of costly post-marketing clinical trials, or may approve a product candidate with a label that does not include the labeling claims necessary or desirable for the successful commercialization of that product candidate. Any of the foregoing scenarios could materially harm the commercial prospects for our product candidates.

Even if we receive regulatory approval for a product candidate, we will be subject to ongoing regulatory obligations and continued regulatory review, which may result in significant additional expense. Additionally, any product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our products.

Even if a drug is approved by the FDA or foreign regulatory authorities, the manufacturing processes, labeling, packaging, distribution, adverse event reporting, storage, advertising, promotion and recordkeeping for the product will be subject to extensive and ongoing regulatory requirements. These requirements include submissions of safety and other post-marketing information and reports, registration, as well as continued compliance with cGMPs and GCP regulations for any clinical trials that we conduct post-approval. As such, we and our third-party contract manufacturers will be subject to continual review and periodic inspections to assess compliance with regulatory requirements. Accordingly, we and others with whom we work must continue to expend time, money, and effort in all areas of regulatory compliance, including manufacturing, production, and quality control. Regulatory authorities may also impose significant restrictions on a product's indicated uses or marketing or impose ongoing requirements for potentially costly post-marketing studies. Furthermore, any new legislation addressing drug safety issues could result in delays or increased costs to assure compliance.

We will also be required to report certain adverse reactions and production problems, if any, to the FDA, and to comply with requirements concerning advertising and promotion for our products. Promotional communications with respect to prescription drugs are subject to a variety of legal and regulatory restrictions and must be consistent with the information in the product's approved label. As such, we may not promote our products for indications or uses for which they do not have FDA approval.

Later discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with our third-party manufacturers or manufacturing processes, or failure to comply with regulatory requirements, may result in, among other things:

- warning or untitled letters, fines or holds on clinical trials;
- restrictions on the marketing or manufacturing of the product, withdrawal of the product from the market or voluntary or mandatory product recalls;
- injunctions or the imposition of civil or criminal penalties;
- suspension or revocation of existing regulatory approvals;
- suspension of any of our ongoing clinical trials;
- refusal to approve pending applications or supplements to approved applications submitted by us;
- restrictions on our or our contract manufacturers' operations; or
- product seizure or detention, or refusal to permit the import or export of products.

Any government investigation of alleged violations of law could require us to expend significant time and resources in response and could generate negative publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to commercialize our product candidates. If regulatory sanctions are applied or if regulatory approval is withdrawn, the value of our company and our operating results will be adversely affected.

In addition, the FDA's policies may change, and additional government regulations may be enacted that could prevent, limit or delay regulatory approval of our product candidates. If we are slow or unable to adapt to changes in existing requirements or the adoption of new requirements or policies, or if we are not able to maintain regulatory compliance, we may lose any marketing approval that we may have obtained, which would adversely affect our business, prospects and ability to achieve or sustain profitability.

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

We and our contract manufacturers are subject to significant regulation with respect to manufacturing our product candidates. The manufacturing facilities on which we rely may not continue to meet regulatory requirements or may not be able to meet supply demands.

All entities involved in the preparation of product candidates for clinical studies or commercial sale, including our existing contract manufacturers for our product candidates are subject to extensive regulation. Components of a finished therapeutic product approved for commercial sale or used in late-stage clinical studies must be manufactured in accordance with cGMP regulations. These regulations govern manufacturing processes and procedures (including record keeping) and the implementation and operation of quality systems to control and assure the quality of investigational products and products approved for sale. Poor control of production processes can lead to the introduction of contaminants or to inadvertent changes in the properties or stability of our product candidates that may not be detectable in final product

testing. We or our contract manufacturers must supply all necessary documentation in support of an NDA or comparable regulatory filing on a timely basis and must adhere to cGMP regulations enforced by the FDA and other regulatory agencies through their facilities inspection programs. The facilities and quality systems of some or all of our third-party contractors must pass a pre-approval inspection for compliance with the applicable regulations as a condition of regulatory approval of our product candidates. In addition, the regulatory authorities may, at any time, audit or inspect a manufacturing facility involved with the preparation of our product candidates or our other potential products or the associated quality systems for compliance with the regulations applicable to the activities being conducted. Although we oversee the contract manufacturers, we cannot control the manufacturing process of, and are completely dependent on, our contract manufacturing partners for compliance with the regulatory requirements. If these facilities do not pass a pre-approval plant inspection, regulatory approval of the products may not be granted or may be substantially delayed until any violations are corrected to the satisfaction of the regulatory authority, if ever. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel.

The regulatory authorities also may, at any time following approval of a product for sale, audit the manufacturing facilities of our third-party contractors. If any such inspection or audit identifies a failure to comply with applicable regulations or if a violation of our product specifications or applicable regulations occurs independent of such an inspection or audit, we or the relevant regulatory authority may require remedial measures that may be costly and/or time consuming for us or a third party to implement, and that may include the temporary or permanent suspension of a clinical study or commercial sales or the temporary or permanent suspension of production or closure of a facility. Any such remedial measures imposed upon us or third parties with whom we contract could materially harm our business.

If we or any of our third-party manufacturers fail to maintain regulatory compliance, the FDA or other applicable regulatory authority can impose regulatory sanctions including, among other things, refusal to approve a pending application for a new drug product, withdrawal of an approval, or suspension of production. As a result, our business, financial condition, and results of operations may be materially harmed.

Additionally, if supply from one approved manufacturer is interrupted, an alternative manufacturer would need to be qualified through an NDA, a supplemental NDA or equivalent foreign regulatory filing, which could result in further delay. The regulatory agencies may also require additional studies if a new manufacturer is relied upon for commercial production. Switching manufacturers may involve substantial costs and is likely to result in a delay in our desired clinical and commercial timelines.

These factors could cause us to incur higher costs and could cause the delay or termination of clinical studies, regulatory submissions, required approvals, or commercialization of our product candidates. Furthermore, if our suppliers fail to meet contractual requirements and we are unable to secure one or more replacement suppliers capable of production at a substantially equivalent cost, our clinical studies may be delayed or we could lose potential revenue.

If we fail to comply or are found to have failed to comply with FDA and other regulations related to the promotion of our products for unapproved uses, we could be subject to criminal penalties, substantial fines or other sanctions and damage awards.

The regulations relating to the promotion of products for unapproved uses are complex and subject to substantial interpretation by the FDA and other government agencies. If tenapanor or our other product candidates receive marketing approval, we and our collaboration partners, if any, will be restricted from marketing the product outside of its approved labeling, also referred to as off-label promotion. However, physicians may nevertheless prescribe an approved product to their patients in a manner that is inconsistent with the approved label, which is an off-label use. We intend to implement compliance and training programs designed to ensure that our sales and marketing practices comply with applicable regulations regarding off-label promotion. Notwithstanding these programs, the FDA or other government agencies may allege or find that our practices constitute prohibited promotion of our product candidates for unapproved uses. We also cannot be sure that our employees will comply with company policies and applicable regulations regarding the promotion of products for unapproved uses.

Over the past several years, a significant number of pharmaceutical and biotechnology companies have been the target of inquiries and investigations by various federal and state regulatory, investigative, prosecutorial and administrative

entities in connection with the promotion of products for unapproved uses and other sales practices, including the Department of Justice and various U.S. Attorneys' Offices, the Office of Inspector General of the Department of Health and Human Services, the FDA, the Federal Trade Commission and various state Attorneys General offices. These investigations have alleged violations of various federal and state laws and regulations, including claims asserting antitrust violations, violations of the FFDCA, the False Claims Act, the Prescription Drug Marketing Act, anti-kickback laws, and other alleged violations in connection with the promotion of products for unapproved uses, pricing and Medicare and/or Medicaid reimbursement. Many of these investigations originate as "qui tam" actions under the False Claims Act. Under the False Claims Act, any individual can bring a claim on behalf of the government alleging that a person or entity has presented a false claim, or caused a false claim to be submitted, to the government for payment. The person bringing a qui tam suit is entitled to a share of any recovery or settlement. Qui tam suits, also commonly referred to as "whistleblower suits," are often brought by current or former employees. In a qui tam suit, the government must decide whether to intervene and prosecute the case. If it declines, the individual may pursue the case alone.

If the FDA or any other governmental agency initiates an enforcement action against us or if we are the subject of a qui tam suit and it is determined that we violated prohibitions relating to the promotion of products for unapproved uses, we could be subject to substantial civil or criminal fines or damage awards and other sanctions such as consent decrees and corporate integrity agreements pursuant to which our activities would be subject to ongoing scrutiny and monitoring to ensure compliance with applicable laws and regulations. Any such fines, awards or other sanctions would have an adverse effect on our revenue, business, financial prospects and reputation.

Tenapanor, which has been approved by the FDA for the treatment of IBS-C in adults, and/or our other product candidates, if approved, may cause or contribute to adverse medical events that we are required to report to regulatory agencies and if we fail to do so we could be subject to sanctions that would materially harm our business.

Some participants in clinical studies of tenapanor have reported adverse effects after being treated with tenapanor, including diarrhea, nausea, flatulence, abdominal discomfort, abdominal pain, abdominal distention and changes in electrolytes. If we are successful in commercializing any products, FDA and foreign regulatory agency regulations require that we report certain information about adverse medical events if those products may have caused or contributed to those adverse events. The timing of our obligation to report would be triggered by the date we become aware of the adverse event as well as the nature of the event. We may fail to report adverse events we become aware of within the prescribed timeframe. We may also fail to appreciate that we have become aware of a reportable adverse event, especially if it is not reported to us as an adverse event or if it is an adverse event that is unexpected or removed in time from the use of our products. If we fail to comply with our reporting obligations, the FDA or a foreign regulatory agency could take action, including criminal prosecution, the imposition of civil monetary penalties, seizure of our products or delay in approval or clearance of future products.

Our employees, independent contractors, principal investigators, CROs, collaboration partners, consultants and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.

We are exposed to the risk that our employees, independent contractors, principal investigators, CROs, collaboration partners, consultants and vendors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or unauthorized activities that violate any of the following: FDA regulations, including those laws that require the reporting of true, complete and accurate financial and other information to the FDA; manufacturing standards; or federal and state healthcare fraud and abuse laws and regulations. Specifically, sales, marketing and business arrangements in the healthcare industry are subject to extensive laws and regulations intended to prevent fraud, kickbacks, self-dealing and other abusive practices. These laws and regulations may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. These activities also include the improper use of information obtained in the course of clinical trials, which could result in regulatory sanctions and serious harm to our reputation. It is not always possible to identify and deter misconduct by employees and other third parties, 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 comply with such laws or regulations. Additionally, we are subject to the risk that a person or government could allege such fraud or other misconduct, even if

none occurred. 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, including the imposition of significant civil, criminal and administrative penalties, damages, monetary fines, disgorgements, possible exclusion from participation in Medicare, Medicaid and other federal healthcare programs, individual imprisonment, other sanctions, contractual damages, reputational harm, diminished profits and future earnings, and curtailment of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Failure to obtain regulatory approvals in foreign jurisdictions would prevent us from marketing our products internationally.

In order to market any product in the EEA (which is composed of the 27 Member States of the European Union plus Norway, Iceland and Liechtenstein), and many other foreign jurisdictions, separate regulatory approvals are required. In the EEA, medicinal products can only be commercialized after obtaining a Marketing Authorization ("MA"). Before the MA is granted, the EMA or the competent authorities of the Member States of the EEA make an assessment of the risk-benefit balance of the product on the basis of scientific criteria concerning its quality, safety and efficacy.

The approval procedures vary among countries and can involve additional clinical testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Clinical trials conducted in one country may not be accepted by regulatory authorities in other countries. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one or more foreign regulatory authorities does not ensure approval by regulatory authorities in other foreign countries 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 others. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not be able to file for regulatory approvals or to do so on a timely basis, and even if we do file we may not receive necessary approvals to commercialize our products in any market.

We and our collaboration partners may be subject to healthcare laws, regulation and enforcement; our failure or the failure of any such collaboration partners to comply with these laws could have a material adverse effect on our results of operations and financial conditions.

Although we do not currently have any products on the market, once we begin commercializing our products, we and our collaboration partners may be subject to additional healthcare statutory and regulatory requirements and enforcement by the federal government and the states and foreign governments in which we conduct our business. The laws that may affect our ability to operate as a commercial organization include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual for, or the purchase, order or recommendation of, any good or service for which payment may be made under federal healthcare programs such as the Medicare and Medicaid programs. A person or entity does not need to have actual knowledge of this statute or specific intent to violate it in order to have committed a violation;

- federal false claims laws which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent. In addition, the government may assert that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the false claims statutes;

- federal criminal laws that prohibit executing a scheme to defraud any healthcare benefit program or making false statements relating to healthcare matters;

- the federal physician sunshine requirements under the Affordable Care Act, which requires manufacturers of drugs, devices, biologics, and medical supplies to report annually to CMS information related to payments and

other transfers of value to physicians, certain other healthcare providers beginning in 2022, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members;

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws which may apply to items or services reimbursed by any third-party payor, including commercial insurers;

- state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the applicable compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources;

- state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or pricing information and marketing expenditures; and

- European and other foreign law equivalents of each of the laws, including reporting requirements detailing interactions with and payments to healthcare providers.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. The risk of our being found in violation of these laws is increased by the fact that many of them have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If our operations are found to be in violation of any of the laws described above or any other governmental laws and regulations that apply to us, we may be subject to penalties, including civil and criminal penalties, damages, fines, the curtailment or restructuring of our operations, the exclusion from participation in federal and state healthcare programs and imprisonment, any of which could adversely affect our ability to market our products and adversely impact our financial results.

Legislative or regulatory healthcare reforms in the United States may make it more difficult and costly for us to obtain regulatory clearance or approval of our product candidates and to produce, market and distribute our products after clearance or approval is obtained.

From time to time, legislation is drafted and introduced in Congress that could significantly change the statutory provisions governing the regulatory clearance or approval, manufacture, and marketing of regulated products or the reimbursement thereof. In addition, FDA regulations and guidance are often revised or reinterpreted by the FDA in ways that may significantly affect our business and our products. Any new regulations or revisions or reinterpretations of existing regulations may impose additional costs or lengthen review times of our product candidates. We cannot determine what effect changes in regulations, statutes, legal interpretation or policies, when and if promulgated, enacted or adopted may have on our business in the future. Such changes could, among other things, require:

- additional clinical trials to be conducted prior to obtaining approval;

- changes to manufacturing methods;

- recall, replacement, or discontinuance of one or more of our products; and

- additional record keeping.

Each of these would likely entail substantial time and cost and could materially harm our business and our financial results. In addition, delays in receipt of or failure to receive regulatory clearances or approvals for any future products would harm our business, financial condition and results of operations.

In addition, the full impact of recent healthcare reform and other changes in the healthcare industry and in healthcare spending is currently unknown, and may adversely affect our business model. In the United States, the Affordable Care Act was enacted in 2010 with a goal of reducing the cost of healthcare and substantially changing the way healthcare is financed by both government and private insurers. The Affordable Care Act, among other things, increased the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extended the rebate program to individuals enrolled in Medicaid managed care organizations, established annual fees and taxes on manufacturers of certain branded prescription drugs, and created a new Medicare Part D coverage gap discount program, in which manufacturers must agree to offer 50% point-of-sale discounts off negotiated prices of applicable brand drugs to eligible beneficiaries during their coverage gap period as a condition for the manufacturer's outpatient drugs to be covered under Medicare Part D. The Bipartisan Budget Act of 2018 increased this discount to 70% beginning in January 2019.

Since its enactment, there have been judicial and Congressional challenges to certain aspects of the Affordable Care Act, as well as efforts by the current Presidential Administration to modify, or repeal all, or certain provisions of, the Affordable Care Act. By way of example, the Tax Cuts and Jobs Act of 2017 includes a provision repealing, the tax-based shared responsibility payment imposed by the ACA on certain individuals who fail to maintain qualifying health coverage for all or part of a year that is commonly referred to as the "individual mandate." On December 14, 2018, a U.S. District Court Judge in the Northern District of Texas, ruled that the individual mandate is a critical and inseverable feature of the ACA, and therefore, because it 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 U.S. Court of Appeals for the 5th Circuit upheld the District Court's decision that the individual mandate was unconstitutional but remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. It is unclear how these decisions, subsequent appeals, and other efforts to challenge, repeal, or replace the ACA will impact the ACA or our business. We cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. We cannot predict the reform initiatives that may be adopted in the future or whether initiatives that have been adopted will be repealed or modified. The continuing efforts of the government, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce costs of healthcare may adversely affect the demand for any drug products for which we may obtain regulatory approval, our ability to set a price that we believe is fair for our products, our ability to obtain coverage and reimbursement approval for a product, our ability to generate revenues and achieve or maintain profitability, and the level of taxes that we are required to pay.

Other legislative changes have been proposed and adopted in the United States since the Affordable Care Act was enacted. These new laws, among other things, included aggregate reductions of Medicare payments of 2% per fiscal year to providers that will remain in effect through 2029 unless additional action is taken by Congress, additional specific reductions in Medicare payments to several types of providers, including hospitals, imaging centers and cancer treatment centers, and an increase in the statute of limitations period for the government to recover overpayments to providers from three to five years. Additionally, individual states have become increasingly active in passing legislation and implementing regulations designed to control pharmaceutical product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access, and to encourage importation from other countries and bulk purchasing. Recently, there has also been heightened governmental scrutiny over the manner in which drug manufacturers set prices for their marketed products, which has resulted in several Congressional inquiries and proposed bills designed to, among other things, bring more transparency to product pricing, review the relationship between pricing and manufacturer patient programs, and reform government program reimbursement methodologies for drug products.

Risks Related to Intellectual Property

We may become subject to claims alleging infringement of third parties' patents or proprietary rights and/or claims seeking to invalidate our patents, which would be costly, time consuming and, if successfully asserted against us, delay or prevent the development and commercialization of tenapanor or our other product candidates, or prevent or delay the continued use of our drug discovery and development platform, including APECCS.

There have been many lawsuits and other proceedings asserting infringement or misappropriation of patents and other intellectual property rights in the pharmaceutical and biotechnology industries. There can be no assurances that we will not be subject to claims alleging that the manufacture, use or sale of tenapanor or any other product candidates, or that the use of our drug discovery and development platform, including APECCS, infringes existing or future third-party patents,

or that such claims, if any, will not be successful. Because patent applications can take many years to issue and may be confidential for 18 months or more after filing, and because pending patent claims can be revised before issuance, there may be applications now pending which may later result in issued patents that may be infringed by the manufacture, use or sale of tenapanor or other product candidates or by the use of APECCS. Moreover, we may face patent infringement claims from non-practicing entities that have no relevant product revenue and against whom our own patent portfolio may thus have no deterrent effect. We may be unaware of one or more issued patents that would be infringed by the manufacture, sale or use of tenapanor or our other product candidates, or by the use of APECCS.

We may be subject to third-party patent infringement claims in the future against us or our that would cause us to incur substantial expenses and, if successful against us, could cause us to pay substantial damages, including treble damages and attorney's fees if we are found to be willfully infringing a third party's patents. We may be required to indemnify future collaboration partners against such claims. We are not aware of any threatened or pending claims related to these matters, but in the future litigation may be necessary to defend against such claims. If a patent infringement suit were brought against us we could be forced to stop or delay research, development, manufacturing or sales of the product or product candidate that is the subject of the suit. In addition, if a patent infringement suit were brought against us regarding the use of aspects of our drug discovery and development platform, we could be forced to stop our use of APECCS or of other aspects of our platform, or we could be forced to modify our processes to avoid infringement, which may not be possible at a reasonable cost, if at all, and which could result in substantial delay in our use of our platform for the discovery of new product candidates or potential targets. As a result of patent infringement claims, or in order to avoid potential claims, we may choose to seek, or be required to seek, a license from the third party and would most likely be required to pay license fees or royalties or both. These licenses may not be available on acceptable terms, or at all. Even if we were able to obtain a license, we may be unable to maintain such licenses and the rights may be nonexclusive, which would give our competitors access to the same intellectual property. Ultimately, we could be prevented from commercializing a product, or forced to redesign it, or to cease our use of APECCS or some other aspect of our drug discovery and development platform or our business operations if, as a result of actual or threatened patent infringement claims, we are unable to enter into licenses on acceptable terms, or unable to maintain such licenses when granted. Even if we are successful in defending against such claims, such litigation can be expensive and time consuming to litigate and would divert management's attention from our core business. Any of these events could harm our business significantly.

In addition to infringement claims against us, if third parties prepare and file patent applications in the United States that also claim technology similar or identical to ours, we may have to participate in interference or derivation proceedings in the United States Patent and Trademark Office (the "USPTO") to determine which party is entitled to a patent on the disputed invention. We may also become involved in similar opposition proceedings in the European Patent Office or similar offices in other jurisdictions regarding our intellectual property rights with respect to our products and technology. Since patent applications are confidential for a period of time after filing, we cannot be certain that we were the first to file any patent application related to our product candidates.

If our intellectual property related to our product candidates is not adequate or if we are not able to protect our trade secrets or our confidential information, we may not be able to compete effectively in our market.

We rely upon a combination of patents, trade secret protection and confidentiality agreements to protect the intellectual property related to our product candidates, our drug discovery and development platform and our development programs. Any disclosure to or misappropriation by third parties of our confidential or proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market.

The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. The patent applications that we own or license may fail to result in issued patents in the United States or in foreign countries. Additionally, our research and development efforts may result in product candidates for which patent protection is limited or not available. Even if patents do successfully issue, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. For example, U.S. patents can be challenged by any person before the new USPTO Patent Trial and Appeals Board at any time before one year after that person is served an infringement complaint based on the patents. Patents granted by the European Patent Office may be similarly opposed by any person within nine months from the publication of the grant. Similar

proceedings are available in other jurisdictions, and in the United States, Europe and other jurisdictions third parties can raise questions of validity with a patent office even before a patent has granted. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property or prevent others from designing around our claims. For example, a third party may develop a competitive product that provides therapeutic benefits similar to one or more of our product candidates but has a sufficiently different composition to fall outside the scope of our patent protection. If the breadth or strength of protection provided by the patents and patent applications we hold or pursue with respect to our product candidates is successfully challenged, then our ability to commercialize such product candidates could be negatively affected, and we may face unexpected competition that could have a material adverse impact on our business. Further, if we encounter delays in our clinical trials, the period of time during which we or our collaboration partners could market tenapanor or other product candidates under patent protection would be reduced.

Even where laws provide protection, costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and the outcome of such litigation would be uncertain. If we or one of our collaboration partners were to initiate legal proceedings against a third party to enforce a patent covering the product candidate, the defendant could counterclaim that our patent is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/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. The outcome following legal assertions of invalidity and unenforceability is unpredictable. With respect to validity, for example, we cannot be certain that there is no invalidating prior art, of which we and the patent examiner were unaware during prosecution. If a defendant were to prevail on a legal assertion of invalidity and/or unenforceability against our intellectual property related to a product candidate, we would lose at least part, and perhaps all, of the patent protection on such product candidate. Such a loss of patent protection would have a material adverse impact on our business. Moreover, our competitors could counterclaim that we infringe their intellectual property, and some of our competitors have substantially greater intellectual property portfolios than we do.

We also rely on trade secret protection and confidentiality agreements to protect proprietary know-how that may not be patentable, processes for which patents may be difficult to obtain and/or enforce and any other elements of our drug discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. Although we require all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how, information or technology, to assign their inventions to us, and endeavor to execute confidentiality agreements with all such parties, we cannot be certain that we have executed such agreements with all parties who may have helped to develop our intellectual property or who had access to our proprietary information, nor can we be certain that our agreements will not be breached by such consultants, advisors or third parties, or by our former employees. The breach of such agreements by individuals or entities who are actively involved in the discovery and design of our potential drug candidates, or in the development of our discovery and design platform, including APECCS, could require us to pursue legal action to protect our trade secrets and confidential information, which would be expensive, and the outcome of which would be unpredictable. If we are not successful in prohibiting the continued breach of such agreements, our business could be negatively impacted. We cannot guarantee that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques.

Further, the laws of some foreign countries do not protect proprietary rights to the same extent or in the same manner as the laws of the United States. As a result, we may encounter significant problems in protecting and defending our intellectual property both in the United States and abroad. If we are unable to prevent material disclosure of the intellectual property related to our technologies to third parties, we will not be able to establish or maintain a competitive advantage in our market, which could materially adversely affect our business, results of operations and financial condition.

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

Following the approval by the FDA for our NDA to market tenapanor for IBS-C, we became eligible to seek and sought patent term restoration under the Hatch-Waxman Act for one of the U.S. patents covering our approved product or the use thereof. The Hatch-Waxman Act allows a maximum of one patent to be extended per FDA approved product. Patent term extension also may be available in certain foreign countries upon regulatory approval of our product candidates. Despite seeking patent term extension for tenapanor or other product candidates, we may not be granted patent term extension either in the United States or in any foreign country because of, for example, 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 patent term extension or restoration, or the term of any such extension is less than we request, the period during which we will have the right to exclusively market our product will be shortened and our competitors may obtain approval of competing products following our patent expiration, and our revenue could be reduced, possibly materially.

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

The USPTO and various foreign patent agencies require compliance with a number of procedural, documentary, fee payment and other provisions to maintain patent applications and issued patents. Noncompliance with these requirements can result in abandonment or lapse of a patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, competitors might be able to enter the market earlier than would otherwise have been the case.

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

The laws of some foreign countries do not protect intellectual property rights to the same extent as the laws of the United States. Many companies have encountered significant problems in protecting and defending intellectual property rights in certain foreign jurisdictions. The legal systems of some countries, particularly developing countries, do not favor the enforcement of patents and other intellectual property protection, especially those relating to life sciences. This could make it difficult for us to stop the infringement of our patents or the misappropriation of our other intellectual property rights. For example, many foreign countries have compulsory licensing laws under which a patent owner must grant licenses to third parties.

Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business. Furthermore, while we intend to protect our intellectual property rights in our expected significant markets, we cannot ensure that we will be able to initiate or maintain similar efforts in all jurisdictions in which we may wish to market our products. Accordingly, our efforts to protect our intellectual property rights in such countries may be inadequate. In addition, changes in the law and legal decisions by courts in the United States and foreign countries may affect our ability to obtain and enforce adequate intellectual property protection for our technology.

We may be subject to claims that we or our employees have misappropriated the intellectual property, including know-how or trade secrets, of a third party, or claiming ownership of what we regard as our own intellectual property.

Many of our employees, consultants and contractors were previously employed at or engaged by other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Some of these employees, consultants and contractors, executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment. Although we try to ensure that our employees, consultants and contractors do not use the intellectual

property and other proprietary information or know-how or trade secrets of others in their work for us, and do not perform work for us that is in conflict with their obligations to another employer or any other entity, we may be subject to claims that we or these employees, consultants and contractors have used or disclosed such intellectual property, including know-how, trade secrets or other proprietary information. In addition, an employee, advisor or consultant who performs work for us may have obligations to a third party that are in conflict with their obligations to us, and as a result such third party may claim an ownership interest in the intellectual property arising out of work performed for us. We are not aware of any threatened or pending claims related to these matters, but in the future litigation may be necessary to defend against such claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, or access to consultants and contractors. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

In addition, while we typically require 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, which may result in claims by or against us related to the ownership of such intellectual property. If we fail in prosecuting or defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights. 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 scientific personnel.

Risks Related to Our Common Stock

Our stock price may be volatile and our stockholders may not be able to resell shares of our common stock at or above the price they paid.

The trading price of our common stock is highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include those discussed in this “Risk Factors” section and others such as:

- results from, or any delays in, clinical trial programs relating to our product candidates;
- the success of our efforts to establish a collaboration partnership for the commercialization of tenapanor for IBS-C in the United States;
- our ability, alone or with collaboration partners, to commercialize or obtain regulatory approval for tenapanor, or delays in commercializing or obtaining regulatory approval;
- announcements of regulatory approval, results of regulatory inspections of our facilities or those of our contract manufacturing organizations, or specific label restrictions or patient populations for tenapanor’s use, or changes or delays in the regulatory review process;
- announcements relating to our current or future collaboration partnerships;
- announcements of therapeutic innovations or new products by us or our competitors;
- adverse actions taken by regulatory agencies with respect to our product label, our clinical trials, manufacturing supply chain or sales and marketing activities;
- changes or developments in laws or regulations applicable to our product candidates;
- the success of our testing and clinical trials;

- failure to meet any of our projected timelines or goals with regard to the clinical development of any of our product candidates;
- the success of our efforts to acquire or license or discover additional product candidates;
- any intellectual property infringement actions in which we may become involved;
- the success of our efforts to obtain adequate intellectual property protection for our product candidates;
- announcements concerning our competitors or the pharmaceutical industry in general;
- achievement of expected product sales and profitability;
- manufacture, supply or distribution shortages;
- actual or anticipated fluctuations in our operating results;
- FDA or other U.S. or foreign regulatory actions affecting us or our industry or other healthcare reform measures in the United States;
- changes in financial estimates or recommendations by securities analysts;
- trading volume of our common stock;
- sales of our common stock by us, our executive officers and directors or our stockholders in the future;
- sales of debt securities and sales or licensing of assets;
- general economic and market conditions and overall fluctuations in the United States equity markets; and
- the loss of any of our key scientific or management personnel.

In addition, the stock markets in general, and the markets for pharmaceutical, biopharmaceutical and biotechnology stocks in particular, have experienced extreme volatility that may have been unrelated to the operating performance of the issuer. These broad market fluctuations may adversely affect the trading price or liquidity of our common stock. In the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the issuer. If any of our stockholders were to bring such a lawsuit against us, we could incur substantial costs defending the lawsuit and the attention of our management would be diverted from the operation of our business, which could seriously harm our financial position. Any adverse determination in litigation could also subject us to significant liabilities.

Our principal stockholders own a significant percentage of our stock and, together with our management, will be able to exert significant control over matters subject to stockholder approval.

Based on the number of shares outstanding as of June 30, 2020, our officers, directors and stockholders who hold at least 5% of our stock together beneficially own approximately 44.3% of our outstanding common stock. If these officers, directors, and principal stockholders or a group of our principal stockholders act together, they will be able to exert a significant degree of influence over our management and affairs and control matters requiring stockholder approval, including the election of directors, amendments to our organizational documents, and approval of any merger, sale of assets or other business combination transactions. The interests of this concentration of ownership may not always coincide with our interests or the interests of other stockholders. For instance, officers, directors and principal stockholders, acting

together, could cause us to enter into transactions or agreements that we would not otherwise consider. Similarly, this concentration of ownership may have the effect of delaying or preventing a change in control of our company otherwise favored by our other stockholders. As of June 30, 2020, entities affiliated with New Enterprise Associates, or NEA, a venture capital fund, collectively beneficially owned approximately 15.3% of our common stock, including shares that NEA has the right to acquire within 60 days of June 30, 2020 upon exercise of warrants held by NEA.

If we sell shares of our common stock in future financings, stockholders may experience immediate dilution and, as a result, our stock price may decline.

We may from time to time issue additional shares of common stock at a discount from the current trading price of our common stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares of our common stock sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or common stock. If we issue common stock or securities convertible into common stock, our common stockholders would experience additional dilution and, as a result, our stock price may decline.

Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.

If our existing stockholders 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. As of June 30, 2020, we had 89,140,563 shares of common stock outstanding. Of those shares, approximately 37.3 million were held by current directors, executive officers and stockholders owning 5% or more of our outstanding common stock.

As of June 30, 2020, approximately 0.9 million shares of common stock issuable upon vesting of outstanding restricted stock units and approximately 9.3 million shares of common stock issuable upon exercise of outstanding options were eligible for sale in the public market to the extent permitted by the provisions of the applicable vesting schedules, and Rule 144 and Rule 701 under the Securities Act. If these additional shares of common stock are issued and sold, or if it is perceived that they will be sold, in the public market, the trading price of our common stock could decline.

Provisions in our charter documents and under Delaware law could discourage a takeover that stockholders may consider favorable and may lead to entrenchment of management.

Our amended and restated certificate of incorporation and amended and restated bylaws contain provisions that could significantly reduce the value of our shares to a potential acquirer or delay or prevent changes in control or changes in our management without the consent of our board of directors. The provisions in our charter documents include the following:

- a classified board of directors with three-year staggered terms, which may delay the ability of stockholders to change the membership of a majority of our board of directors;
- no cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- the exclusive right of our board of directors to elect a director to fill a vacancy created by the expansion of the board of directors or the resignation, death or removal of a director, which prevents stockholders from being able to fill vacancies on our board of directors;
- the required approval of at least two-thirds of the shares entitled to vote to remove a director for cause, and the prohibition on removal of directors without cause;
- the ability of our board of directors to authorize the issuance of shares of preferred stock and to determine the price and other terms of those shares, including preferences and voting rights, without stockholder approval, which could be used to significantly dilute the ownership of a hostile acquirer;

- the ability of our board of directors to alter our bylaws without obtaining stockholder approval;

- the required approval of at least two-thirds of the shares entitled to vote at an election of directors to adopt, amend or repeal our bylaws or repeal the provisions of our amended and restated certificate of incorporation regarding the election and removal of directors;

- a prohibition on stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;

- the requirement that a special meeting of stockholders may be called only by the chairman of the board of directors, the chief executive officer, the president or the board of directors, which may delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and

- advance notice procedures that stockholders must comply with in order to nominate candidates to our board of directors or to propose matters to be acted upon at a stockholders' meeting, which may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect the acquirer's own slate of directors or otherwise attempting to obtain control of us.

In addition, these provisions would apply even if we were to receive an offer that some stockholders may consider beneficial.

We are also subject to the anti-takeover provisions contained in Section 203 of the Delaware General Corporation Law. Under Section 203, a corporation may not, in general, engage in a business combination with any holder of 15% or more of its capital stock unless the holder has held the stock for three years or, among other exceptions, the board of directors has approved the transaction.

Claims for indemnification by our directors and officers may reduce our available funds to satisfy successful third-party claims against us and may reduce the amount of money available to us.

Our amended and restated certificate of incorporation and amended and restated bylaws provide that we will indemnify our directors and officers, in each case to the fullest extent permitted by Delaware law.

In addition, as permitted by Section 145 of the Delaware General Corporation Law, our amended and restated bylaws and our indemnification agreements that we have entered into with our directors and officers provide that:

- We will indemnify our directors and officers for serving us in those capacities or for serving other business enterprises at our request, to the fullest extent permitted by Delaware law. Delaware law provides that a corporation may indemnify such person if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of the registrant and, with respect to any criminal proceeding, had no reasonable cause to believe such person's conduct was unlawful.

- We may, in our discretion, indemnify employees and agents in those circumstances where indemnification is permitted by applicable law.

- We are required to advance expenses, as incurred, to our directors and officers in connection with defending a proceeding, except that such directors or officers shall undertake to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

- We will not be obligated pursuant to our amended and restated bylaws to indemnify a person with respect to proceedings initiated by that person against us or our other indemnitees, except with respect to proceedings authorized by our board of directors or brought to enforce a right to indemnification.

- The rights conferred in our amended and restated bylaws are not exclusive, and we are authorized to enter into indemnification agreements with our directors, officers, employees and agents and to obtain insurance to indemnify such persons.

- We may not retroactively amend our amended and restated bylaw provisions to reduce our indemnification obligations to directors, officers, employees and agents.

We do not currently intend to pay dividends on our common stock, and, consequently, our stockholders' ability to achieve a return on their investment will depend on appreciation in the price of our common stock.

We do not currently intend to pay any cash dividends on our common stock for the foreseeable future. We currently intend to invest our future earnings, if any, to fund our growth. Additionally, the terms of our loan and security agreements could restrict our ability to pay dividends. Therefore, our stockholders are not likely to receive any dividends on our common stock for the foreseeable future. Since we do not intend to pay dividends, our stockholders' ability to receive a return on their investment will depend on any future appreciation in the market value of our common stock. There is no guarantee that our common stock will appreciate or even maintain the price at which our holders have purchased it.

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

Effective May 16, 2018, we entered into a loan and security agreement pursuant to which the Lenders agreed to provide us a $50.0 million term loan facility. Covenants in the loan and security agreement limit our ability to pay dividends or make other distributions. For additional information refer to "NOTE 5. BORROWINGS" in the notes to our unaudited condensed financial statements in Part I, Item 1, *Notes to Condensed Financial Statements*, of this Quarterly Report on Form 10 Q.

Unregistered Sales of Equity Securities

None.

Use of Proceeds

Not applicable.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

(a) Patheon Manufacturing Services Agreement

On May 18, 2020, we entered into a multi-year manufacturing services agreement (the "Patheon MSA") with Patheon Pharmaceuticals Inc. ("Patheon"). Under the Patheon MSA, Patheon has agreed to manufacture and supply tenapanor in oral tablet form ("Product") to us for sale and distribution, if and when approved for sale in each such territory, by us, or our collaboration partners, in the European Union, the United States, Canada, Japan, and China (the

"Territory"). We may purchase Product from other manufacturers but are obligated to purchase from Patheon a certain minimum percent of our overall requirements. So long as we remain in compliance with the terms of the Agreement, Patheon will provide certain exclusivity rights as more fully described in the Patheon MSA.

The term of the Patheon MSA expires December 31 of the sixth year after the first commercial sale of Product by us or any of our affiliates. Thereafter, the Patheon MSA will automatically renew after the initial term for successive terms unless either we or Patheon gives written notice of intent to terminate the Patheon MSA a certain time before the end of the then current term.

The Patheon MSA may be terminated (i) by either party for the other party's uncured material breach, (ii) by either party for an event of force majeure that it cannot reasonably mitigate, (iii) by us upon prior written notice if any authority takes action or raises an objection permanently preventing us from selling the Product in the Territory, (iv) by us on prior written notice if we no longer intend to order services for a Product, (v) with us on prior written notice if there have been more than a specified amount of supply failures in a specified period, (vi) by us if Patheon is unable to comply with a product change control request or if a regulatory authority notifies us or Patheon that there is a significant uncured regulatory deficiency related to the performance of the services at Patheon's manufacturing site, (vii) by Patheon if payment in full of overdue and undisputed invoices is not received within a certain specified time, or (viii) by Patheon if we assign the Patheon MSA to a competitor of Patheon as more fully described in the Patheon MSA.

The Patheon MSA contains, among other provisions, certain warranties by us and Patheon, grants certain limited license rights related to either party's intellectual property in connection with the manufacturing and supply of Product, provides for certain indemnification rights in favor of both parties and includes confidentiality provisions.

(b) None.

ITEM 6. Exhibits

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
10.1#	Offer Letter, dated April 27, 2020, by and between Ardelyx, Inc. and Susan Rodriguez				X
10.2#	Change in Control Severance Agreement, dated June 2, 2020, by and between Ardelyx, Inc. and Susan Rodriquez				X
10.3#	Offer Letter, dated June 2, 2020, by and between Ardelyx, Inc. and Justin Renz				X
10.4#	Change in Control Severance Agreement, dated June 8, 2020, by and between Ardelyx, Inc. and Justin Renz				X
10.5††	Manufacturing Services Agreement, dated May 18, 2020, between Ardelyx, Inc., and Patheon Pharmaceuticals Inc.				X
31.1	Certification of Chief Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
31.2	Certification of Chief Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				X
32.1	Certification of Chief Executive Officer and Chief Financial Officer Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				X
101	The following financial statements, formatted in Inline Extensible Business Reporting Language (XBRL): (i) Condensed Balance Sheets as of June 30, 2020 and December 31, 2019, (ii) Condensed Statements of Operations and Comprehensive Loss for the three and six months ended June 30, 2020 and 2019, (iii) Condensed Statements of Cash Flows for the six months ended June 30, 2020 and 2019, and (iv) Notes to Unaudited Condensed Financial Statements.				X
104	Cover Page Interactive Data File, formatted in Inline XBRL and contained in Exhibit 101.				

Indicated management contract or compensatory plan.

†† Portions of the exhibit, marked by brackets, have been omitted because the omitted information (i) is not material and (ii) would likely cause competitive harm if publicly disclosed.

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.

Ardelyx, Inc.

Date: August 6, 2020

By: /s/ Justin Renz

Justin Renz
Chief Financial Officer
(Chief Accounting and Principal Financial Officer)

Exhibit 10.1

34175 Ardenwood Blvd
Fremont, CA 94555
(510) 745-1700 – Tele
(510) 745-0493 – Fax
www.ardelyx.com

April 27, 2020

Susan Rodriguez
Chicago, IL

Dear Susan:

On behalf of Ardelyx (the "Company"), I am pleased to offer you employment in the exempt position of Chief Commercial Officer reporting to the Chief Executive Officer, responsible for Commercial, Business Development and Alliance Management. This letter sets out the terms of Ardelyx's offer of employment, which is contingent upon the completion of reference checks to Ardelyx's satisfaction. If you accept this offer, you will be required to execute the Company's standard form of employee non-disclosure and assignment of inventions agreement. In addition, you and the Company will enter into a Change in Control Severance Agreement that will further define some of the provisions set forth in this offer letter (the "Severance Agreement").

Your first day of full-time employment with Ardelyx is currently expected to be on or before May 18, 2020. Your full time starting base salary will be $18,333.34 semi-monthly, which is equivalent to $440,000.00 per year, less applicable tax and other withholdings in accordance with the Company's normal payroll procedure. You will also be eligible to receive an annual bonus of up to forty percent (40%) of your base salary, with the amount of the bonus determined by the Board of Directors based the performance of the Company. Your awarded bonus for 2020 will not be pro-rated.

Following your first day of employment, you will be granted an option to purchase shares of Company common stock under a Company equity incentive plan which stock option shall have an accounting grant date fair value of $1.25M. Your option will be exercisable at a per share exercise price equal to the fair market value of Ardelyx stock on your option grant date. Your option will vest over a period of 4 years, with 25% of the shares vesting at the end of your first year of employment, and the remainder vesting monthly over the following three years and will be subject to the terms and conditions of the Company's equity incentive plan and standard form of stock option agreement, which you will be required to sign as a condition of receiving the option.

In addition, on your first day of employment, you will be granted a Restricted Stock Unit (RSU). The RSU will be for 20,000 shares of common stock of the Company and will vest in full upon the acceptance for filing by the Food and Drug Administration of a New Drug Application ("NDA") for tenapanor for the treatment of hyperphosphatemia; provided that if the NDA is not accepted on or before December 31, 2020, the RSU shall be terminated for no consideration. The RSU granted to you will be subject to the terms and conditions of the Company's equity incentive plan and standard form of full value award, which you will be required to sign as a condition of receiving the RSU. The Company's standard terms of the full value award requires an automatic sell to cover applicable withholding taxes prior to the settlement of any vested RSU.

You will be eligible to participate in various Company equity and benefit plans, including group health insurance, 401(k), and the Employee Stock Purchase Plan. You will earn three weeks of vacation each year. You will be eligible for salary increases and additional equity grants in accordance with the Company's practice. Your salary increase and equity grant for 2021 will not be pro-rated.

If this offer of employment is accepted, your employment with the Company will be "at will." This means it is for no specified term and may be terminated by you or the Company at any time, with or without cause or advance notice. In addition, the Company reserves the right to modify your compensation, position, duties or reporting relationship to meet business needs and to decide on appropriate discipline. The Severance Agreement will provide, subject to the terms and conditions thereof, for (i) twelve month salary continuation and the payment of healthcare continuation costs for twelves months, if you terminate your employment for good reason or you are terminated without cause, in either case, outside of a change of control period, and (ii) a lump sum payment equal to 100% of the sum of twelve months of your base salary and your target annual bonus for the year of termination; the payment of healthcare continuation costs for 12 months; and the vesting of 100% of your unvested stock options and RSUs, if you terminate your employment for good reason or you are terminated without cause, in either case during a change of control period.

Please sign and date this letter on the spaces provided below to acknowledge your acceptance of the terms of this agreement and return it to me prior to or on 10:00 am EST, April 27, 2020 at which time this offer shall expire

Susan, it has been a real pleasure meeting you and all of us here at Ardelyx concur that you are an excellent fit with our team, and we look forward to working with you at Ardelyx.

Sincerely,

Ardelyx, Inc.

By /s/ Mike Raab
Mike Raab
President and Chief Executive Officer

I agree to and accept employment with Ardelyx on the terms and conditions set forth in this agreement. I understand and agree that my employment with the Company is at-will.

Date: April 29, 2020

/s/ Susan Rodriguez
Susan Rodriguez

Tentative Start Date: _____

Exhibit 10.2

ARDELYX, INC.

CHANGE IN CONTROL SEVERANCE AGREEMENT

This Change in Control Severance Agreement (the "Agreement") is made and entered into by and between Susan Rodriguez (the "Executive") and Ardelyx, Inc. (the "Company"), effective as May 18, 2020 (the "Effective Date").

R E C I T A L S

A. It is expected that the Company from time to time will consider the possibility of an acquisition by another company or other change in control. The Board of Directors of the Company (the "Board") recognizes that such consideration as well as the possibility of an involuntary termination or reduction in responsibility can be a distraction to Executive and can cause Executive to consider alternative employment opportunities. The Board has determined that it is in the best interests of the Company and its stockholders to assure that the Company will have the continued dedication and objectivity of Executive, notwithstanding the possibility, threat or occurrence of such an event.

B. The Board believes that it is in the best interests of the Company and its stockholders to provide Executive with an incentive to continue Executive's employment and to motivate Executive to maximize the value of the Company upon a Change in Control (as defined below) for the benefit of its stockholders.

C. The Board believes that it is imperative to provide Executive with severance benefits upon certain terminations of Executive's service to the Company that enhance Executive's financial security and provide incentive and encouragement to Executive to remain with the Company notwithstanding the possibility of such an event.

D. The Board believes that it is in the best interests of the Company and its stockholders to provide Executive with certain transition payments as an incentive to join the Company.

E.. Certain capitalized terms used in this Agreement are defined in Section 8 below.

The parties hereto agree as follows:

1. Term of Agreement. This Agreement shall become effective as of the Effective Date and terminate upon the date that all obligations of the parties hereto with respect to this Agreement have been satisfied.

2. At-Will Employment. The Company and Executive acknowledge that Executive's employment is and shall continue to be "at-will," as defined under applicable law. If Executive's

employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, awards or compensation other than as provided by this Agreement.

3. Covered Termination Other Than During a Change in Control Period. If Executive experiences a Covered Termination other than during a Change in Control Period, and if Executive delivers to the Company a general release of all claims against the Company and its affiliates in a form acceptable to the Company (a "Release of Claims") that becomes effective and irrevocable within sixty (60) days, or such shorter period of time specified by the Company, following such Covered Termination, then in addition to any accrued but unpaid salary, bonus, vacation and expense reimbursement payable in accordance with applicable law, the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to nine (9) months of Executive's Base Salary payable in substantially equal installments in accordance with the Company's normal payroll policies, less applicable withholdings, with such installments to commence as soon as administratively practicable following the date the Release of Claims is not subject to revocation and, in any event, within sixty (60) days following the date of the Covered Termination.

(b) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), the Company shall directly pay, or reimburse Executive for, the premium for Executive and Executive's covered dependents through the earlier of (i) the first (1st) anniversary of the date of Executive's termination of employment and (ii) the date Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's plan(s). Notwithstanding the foregoing, (i) if any plan pursuant to which such benefits are provided is not, or ceases prior to the expiration of the period of continuation coverage to be, exempt from the application of Section 409A of the Code under Treasury Regulation Section 1.409A-1(a)(5), or (ii) the Company is otherwise unable to continue to cover Executive under its group health plans without penalty under applicable law (including without limitation, Section 2716 of the Public Health Service Act), then, in either case, an amount equal to each remaining Company subsidy shall thereafter be paid to Executive in substantially equal monthly installments. After the Company ceases to pay premiums pursuant to this Section 4 (b), Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance the provisions of COBRA.

4. Covered Termination During a Change in Control Period. If Executive experiences a Covered Termination during a Change in Control Period, and if Executive delivers to the Company a Release of Claims that becomes effective and irrevocable within sixty (60) days, or such shorter period of time specified by the Company, following such Covered Termination, then in addition to any accrued but unpaid salary, bonus, vacation and expense reimbursement payable in accordance with applicable law, the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to one hundred percent of the sum of: (i) Executive's Base Salary and (ii) Executive's target annual bonus for the fiscal year of Executive's termination, in each case, at the rate in effect immediately

prior to Executive's termination of employment payable in a cash lump sum, less applicable withholdings, as soon as administratively practicable following the date the Release of Claims is not subject to revocation and, in any event, within sixty (60) days following the date of the Covered Termination.

(b) Equity Awards. Each outstanding equity award, including, without limitation, each stock option and restricted stock award, held by Executive shall automatically become vested and, if applicable, exercisable and any forfeiture restrictions or rights of repurchase thereon shall immediately lapse, in each case, with respect to one hundred percent (100%) of the shares subject thereto. To the extent vested after giving effect to the acceleration provided in the preceding sentence, each stock option held by Executive shall remain exercisable until the earlier of the original expiration date for such stock option or the first anniversary of Executive's Covered Termination.

(c) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of COBRA, the Company shall directly pay, or reimburse Executive for, the premium for Executive and Executive's covered dependents through the earlier of (i) the first (1st) anniversary of the date of Executive's termination of employment and (ii) the date Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's plan(s). Notwithstanding the foregoing, (i) if any plan pursuant to which such benefits are provided is not, or ceases prior to the expiration of the period of continuation coverage to be, exempt from the application of Section 409A of the Code under Treasury Regulation Section 1.409A-1(a)(5), or (ii) the Company is otherwise unable to continue to cover Executive under its group health plans without penalty under applicable law (including without limitation, Section 2716 of the Public Health Service Act), then, in either case, an amount equal to each remaining Company subsidy shall thereafter be paid to Executive in substantially equal monthly installments. After the Company ceases to pay premiums pursuant to this Section 5(c), Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance the provisions of COBRA.

5. Other Terminations. If Executive's service with the Company is terminated by the Company or by Executive for any or no reason other than as a Covered Termination, then Executive shall not be entitled to any benefits hereunder other than accrued but unpaid salary, bonus, vacation and expense reimbursement in accordance with applicable law and to elect any continued healthcare coverage as may be required under COBRA or similar state law.

6. Limitation on Payments. Notwithstanding anything in this Agreement to the contrary, if any payment or distribution Executive would receive pursuant to this Agreement or otherwise ("Payment") would (a) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (b) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall either be (i) delivered in full, or (ii) delivered as to such lesser extent which would result in no portion of such Payment being subject to the Excise Tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the Excise Tax, results in the receipt by Executive on an after-tax basis, of the largest payment, notwithstanding that all or some portion the Payment may be taxable under

Section 4999 of the Code. The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder. The accounting firm shall provide its calculations to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive. Any reduction in payments and/or benefits pursuant to this Section 7 will occur in the following order: (1) reduction of cash payments; (2) cancellation of accelerated vesting of equity awards other than stock options; (3) cancellation of accelerated vesting of stock options; and (4) reduction of other benefits payable to Executive.

7. Definition of Terms. The following terms referred to in this Agreement shall have the following meanings:

(a) Base Salary. "Base Salary" means Executive's annual base salary in effect immediately prior to Executive's termination (disregarding any reduction in base salary that would give rise to Executive's right to a Voluntary Resignation for Good Reason).

(b) Cause. "Cause" means (i) Executive's theft, dishonesty or falsification of any employment or Company records that is non-trivial in nature; (ii) Executive's malicious or reckless disclosure of the Company's confidential or proprietary information or any material breach by Executive of his or her obligations under the Confidential Information Agreement (as defined below); (iii) the conviction of the Executive of a felony (excluding motor vehicle violations) or the commission of gross negligence or willful misconduct, where a majority of the non-employee members of the Board reasonably determines that such act or misconduct has (A) seriously undermined the ability of the Board or management of the Company to entrust Executive with important matters or otherwise work effectively with Executive, (B) substantially contributed to the Company's loss of significant revenues or business opportunities, or (C) significantly and detrimentally affected the business or reputation of the Company or any of its subsidiaries; and/or (iv) the willful failure or refusal by Executive to follow the reasonable and lawful directives of the Board or Executive's direct supervisor, provided such willful failure or refusal continues after Executive's receipt of reasonable notice in writing of such failure or refusal and a reasonable opportunity of not less than 30 days to correct the problem. For the purpose of this Agreement, no act, or failure to act, shall be considered "willful" unless undertaken by Executive with an absence of good faith that this act, or failure to act, was in the best interests of the Company.

(c) Change in Control. "Change in Control" shall have the meaning set forth in the Company's 2014 Equity Incentive Award Plan, as it may be amended from time to time, provided that such event must also constitute a "change in control event" as defined in Treasury Regulation Section 1.409A-3(i)(5).

(d) Change in Control Period. "Change in Control Period" means the period of time beginning three (3) months prior to and ending twelve (12) months following a Change in Control.

(e) Covered Termination. "Covered Termination" means (a) an Involuntary Termination Without Cause or (b) a Voluntary Resignation for Good Reason, provided that such termination or resignation constitutes a Separation from Service.

(f) Good Reason Condition. "Good Reason Condition" means that any of the following are undertaken without Executive's express written consent: (i) a material diminution in Executive's authority, duties, or responsibilities which substantially reduces the nature or character of Executive's position with the Company; (ii**)** a material reduction by the Company of Executive's base salary as in effect immediately prior to such reduction; (iii**)** a relocation of Executive's principal office to a location more than fifty (50) miles from the location of Executive's principal office as of immediately prior to such relocation, except for required travel by Executive on the Company's business or (iv) any material breach by the Company of any provision of Executive's employment agreement or offer letter agreement which the Company does not cure within 30 days following written notice thereof from Executive.

(g) Involuntary Termination Without Cause. "Involuntary Termination Without Cause" means Executive's dismissal or discharge by the Company other than for Cause. The termination of Executive's employment as a result of Executive's death or inability to perform the essential functions of his job due to disability will not be deemed to be an Involuntary Termination Without Cause.

(h) Separation from Service. "Separation from Service" means Executive's termination of employment or service constitutes a "separation from service" within the meaning of Treasury Regulation Section 1.409A-1(h).

(i) Voluntary Resignation for Good Reason. "Voluntary Resignation for Good Reason" means Executive's resignation as a result of a Good Reason Condition in accordance with this subsection (i). In order for a resignation to constitute a Voluntary Resignation for Good Reason, Executive must provide written notice to the Company of the existence of the Good Reason Condition within thirty (30) days of the initial existence of such Good Reason Condition. Upon receipt of such notice of the Good Reason Condition, the Company will be provided with a period of thirty (30) days during which it may remedy the Good Reason Condition and not be required to provide for the payments and benefits described in Sections 4 or 5 as a result of such proposed resignation due to the Good Reason Condition specified in the notice. If the Good Reason Condition is not remedied within the period specified in the preceding sentence, Executive may resign for Good Reason based on the Good Reason Condition specified in the notice, provided that such resignation must occur within sixty (60) days after the initial existence of such Good Reason Condition.

8. Successors.

(a) Company's Successors. Any successor to the Company (whether direct or indirect and whether by purchase, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets shall assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence

of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which executes and delivers the assumption agreement described in this Section 9 (a) or which becomes bound by the terms of this Agreement by operation of law.

(b) Executive's Successors. The terms of this Agreement and all rights of Executive hereunder shall inure to the benefit of, and be enforceable by, Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

9. Notices. Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or one day following mailing via Federal Express or similar overnight courier service. In the case of Executive, mailed notices shall be addressed to Executive at Executive's home address that the Company has on file for Executive. In the case of the Company, mailed notices shall be addressed to its primary office location, and all notices shall be directed to the attention of its Vice President, General Counsel.

10. Confidentiality; Non-Solicitation.

(a) Confidentiality. While Executive is employed by the Company, and thereafter, Executive shall not directly or indirectly disclose or make available to any person, firm, corporation, association or other entity for any reason or purpose whatsoever, any Confidential Information (as defined below). Upon termination of Executive's employment with the Company, all Confidential Information in Executive's possession that is in written or other tangible form (together with all copies or duplicates thereof, including computer files) shall be returned to the Company and shall not be retained by Executive or furnished to any third party, in any form except as provided herein; *provided*, *however*, that Executive shall not be obligated to treat as confidential, or return to the Company copies of any Confidential Information that (i) was publicly known at the time of disclosure to Executive, (ii) becomes publicly known or available thereafter other than by any means in violation of this Agreement or any other duty owed to the Company by any person or entity, or (iii) is lawfully disclosed to Executive by a third party. For purposes of this Agreement, the term "Confidential Information" shall mean information disclosed to Executive or known by Executive as a consequence of or through his or her relationship with the Company, about the customers, employees, business methods, public relations methods, organization, procedures or finances, including, without limitation, information of or relating to customer lists, of the Company and its affiliates. In addition, Executive shall continue to be subject to the Proprietary Information and Inventions Assignment Agreement entered into between Executive and the Company (the "Confidential Information Agreement").

(b) Non-Solicitation. In addition to Executive's obligations under the Confidential Information Agreement, Executive shall not for a period of two (2) years following Executive's termination of employment for any reason, either on Executive's own account or jointly with or as a manager, agent, officer, employee, consultant, partner, joint venturer, owner or stockholder or otherwise on behalf of any other person, firm or corporation, directly or indirectly solicit or attempt to solicit away from the Company any of its officers or employees or offer employment to any person who is an officer or employee of the Company; *provided*, *however*, that a general

advertisement to which an employee of the Company responds shall in no event be deemed to result in a breach of this Section 11(b). Executive also agrees not to harass or disparage the Company or its employees, clients, directors or agents or divert or attempt to divert any actual or potential business of the Company.

(c) Survival of Provisions. The provisions of this Section 11 shall survive the termination or expiration of the applicable Executive's employment with the Company and shall be fully enforceable thereafter. If it is determined by a court of competent jurisdiction in any state that any restriction in this Section 11 is excessive in duration or scope or is unreasonable or unenforceable under the laws of that state, it is the intention of the parties that such restriction may be modified or amended by the court to render it enforceable to the maximum extent permitted by the law of that state.

11. Dispute Resolution. To ensure the timely and economical resolution of disputes that arise in connection with this Agreement, Executive and the Company agree that any and all disputes, claims, or causes of action arising from or relating to the enforcement, breach, performance or interpretation of this Agreement, Executive's employment, or the termination of Executive's employment, shall be resolved to the fullest extent permitted by law by final, binding and confidential arbitration, by a single arbitrator, in Alameda County, California, conducted by Judicial Arbitration and Mediation Services, Inc. ("JAMS") under the applicable JAMS employment rules. **By agreeing to this arbitration procedure, both Executive and the Company waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding**. The arbitrator shall: (i) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (ii) issue a written arbitration decision, to include the arbitrator's essential findings and conclusions and a statement of the award. The arbitrator shall be authorized to award any or all remedies that Executive or the Company would be entitled to seek in a court of law. The Company shall pay all JAMS' arbitration fees in excess of the amount of court fees that would be required if the dispute were decided in a court of law. Nothing in this Agreement is intended to prevent either Executive or the Company from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Notwithstanding the foregoing, Executive and the Company each have the right to resolve any issue or dispute over intellectual property rights by Court action instead of arbitration.

12. Miscellaneous Provisions.

(a) Section 409A.

(i) Separation from Service. Notwithstanding any provision to the contrary in this Agreement, no amount deemed deferred compensation subject to Section 409A of the Code shall be payable pursuant to Section 4 unless Executive's termination of employment constitutes a Separation from Service and, except as provided under Section 13 (a)(ii) of this Agreement, any such amount shall not be paid, or in the case of installments, commence payment, until the sixtieth (60th) day following Executive's Separation from Service. Any installment payments that would have been made to Executive during the sixty (60) day period immediately following Executive's Separation from Service but for the preceding sentence shall be paid to

Executive on the sixtieth (60th) day following Executive's Separation from Service and the remaining payments shall be made as provided in this Agreement.

(ii) Specified Employee. Notwithstanding any provision to the contrary in this Agreement, if Executive is deemed at the time of his separation from service to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i) of the Code, to the extent delayed commencement of any portion of the benefits to which Executive is entitled under this Agreement is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) of the Code, such portion of Executive's benefits shall not be provided to Executive prior to the earlier of (a) the expiration of the six (6)-month period measured from the date of the Executive's Separation from Service or (b) the date of Executive's death. Upon the first business day following the expiration of the applicable Code Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section 13(a)(ii) shall be paid in a lump sum to Executive, and any remaining payments due under this Agreement shall be paid as otherwise provided herein.

(iii) Expense Reimbursements. To the extent that any reimbursements payable pursuant to this Agreement are subject to the provisions of Section 409A of the Code, any such reimbursements payable to Executive pursuant to this Agreement shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, and Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(iv) Installments. For purposes of Section 409A of the Code (including, without limitation, for purposes of Treasury Regulation Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement shall be treated as a right to receive a series of separate payments and, accordingly, each such installment payment shall at all times be considered a separate and distinct payment.

(b) Waiver. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by Executive and by an authorized officer of the Company (other than Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) Whole Agreement. This Agreement and the Confidential Information Agreement represent the entire understanding of the parties hereto with respect to the subject matter hereof and supersede all prior arrangements and understandings regarding same.

(d) Choice of Law. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of California.

(e) Severability. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(f) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

(*Signature page follows*)

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year set forth below.

ARDELYX, INC.

By: /s/ Mike Raab
Title: CEO
Date: June 2, 2020

EXECUTIVE

/s/ Susan Rodriguez
Susan Rodriguez

Date: June 2, 2020

34175 Ardenwood Blvd
Fremont, CA 94555
(510) 745-1700 – Tele
(510) 745-0493 – Fax
www.ardelyx.com

June 2, 2020

Justin Renz
48 Walnut Street
Milton, MA 02186

Dear Justin:

On behalf of Ardelyx (the "Company"), I am pleased to offer you employment in the exempt position of Chief Financial Officer reporting to the Chief Executive Officer. This letter sets out the terms of Ardelyx's offer of employment, which is contingent upon the completion of reference checks to Ardelyx's satisfaction. If you accept this offer, your employment will be subject to the terms of the Company's standard form of Proprietary Information and Inventions Assignment agreement. In addition, you and the Company will enter into a Change in Control Severance Agreement that will further define some of the provisions set forth in this offer letter (the "Severance Agreement").

Your first day of full-time employment with Ardelyx is currently expected to be June 8, 2020. Your full time starting base salary will be $17,916.67 semi-monthly, which is equivalent to $430,000.00 per year, less applicable tax and other withholdings in accordance with the Company's normal payroll procedure. You will also be eligible to receive an annual bonus of up to forty percent (40%) of your base salary, with the amount of the bonus determined by the Board of Directors based upon the performance of the Company. Your awarded bonus for 2020 will be pro-rated for the number of months that you were employed at the Company during 2020.

You will also receive a sign-on cash bonus equal to $10,000.00, less applicable tax and other withholdings. The sign-on cash bonus will be paid to you in your first paycheck on June 15, 2020.

Following your first day of employment, you will be granted an option to purchase shares of Company common stock under the Company's 2016 Employment Commencement Incentive Plan (the "Incentive Plan"), which stock option shall have an accounting grant date fair value of one million dollars ($1,000,000). Your option will be exercisable at a per share exercise price equal to the fair market value of Ardelyx stock on your option grant date. Your option will vest over a period of 4 years, with 25% of the shares vesting at the end of your first year of employment, and the remainder vesting monthly over the following three years and will be subject to the terms and conditions of the Company's equity incentive plan and standard form of stock option agreement, which you will be required to sign as a condition of receiving the option.

In addition, on your first day of employment, you will be granted a Restricted Stock Unit (RSU). The RSU will be for 10,000 shares of common stock of the Company and will vest in full upon the acceptance for filing by the Food and Drug Administration of a New Drug Application ("NDA") for tenapanor for the treatment of hyperphosphatemia; provided that if the NDA is not accepted on or before December 31, 2020, the RSU shall be terminated for no consideration. The RSU granted to you will be subject to the terms and conditions of the Company's Incentive Plan and the approved standard form of full value award, which you will be

required to sign as a condition of receiving the RSU. The Company's standard terms of the full value award requires an automatic sell to cover applicable withholding taxes prior to the settlement of any vested RSU.

You will be eligible to participate in various Company equity and benefit plans, including group health insurance, 401(k), and the Employee Stock Purchase Plan. You will earn three weeks of vacation each year. You will be eligible for salary increases and additional equity grants in accordance with the Company's practice. Your salary increase and equity grant for 2021 will not be pro-rated.

If this offer of employment is accepted, your employment with the Company will be "at will." This means it is for no specified term and may be terminated by you or the Company at any time, with or without cause or advance notice. In addition, the Company reserves the right to modify your compensation, position, duties or reporting relationship to meet business needs and to decide on appropriate discipline.

Please sign and date this letter on the spaces provided below to acknowledge your acceptance of the terms of this agreement and return it to me prior to or on 10:00 am EST, June 3, 2020 at which time this offer shall expire

Justin, it has been a real pleasure meeting you and all of us here at Ardelyx concur that you are an excellent fit with our team, and we look forward to working with you at Ardelyx.

Sincerely,

Ardelyx, Inc.

By /s/ Mike Raab
Mike Raab
President and Chief Executive Officer

I agree to and accept employment with Ardelyx on the terms and conditions set forth in this agreement. I understand and agree that my employment with the Company is at-will.

Date: June 2, 2020

/s/ Justin Renz
Justin Renz

Start Date: June 8, 2020

Exhibit 10.4

ARDELYX, INC.

CHANGE IN CONTROL SEVERANCE AGREEMENT

This Change in Control Severance Agreement (the "Agreement") is made and entered into by and between Justin Renz (the "Executive") and Ardelyx, Inc. (the "Company"), effective as June 8, 2020 (the "Effective Date").

R E C I T A L S

A. It is expected that the Company from time to time will consider the possibility of an acquisition by another company or other change in control. The Board of Directors of the Company (the "Board") recognizes that such consideration as well as the possibility of an involuntary termination or reduction in responsibility can be a distraction to Executive and can cause Executive to consider alternative employment opportunities. The Board has determined that it is in the best interests of the Company and its stockholders to assure that the Company will have the continued dedication and objectivity of Executive, notwithstanding the possibility, threat or occurrence of such an event.

B. The Board believes that it is in the best interests of the Company and its stockholders to provide Executive with an incentive to continue Executive's employment and to motivate Executive to maximize the value of the Company upon a Change in Control (as defined below) for the benefit of its stockholders.

C. The Board believes that it is imperative to provide Executive with severance benefits upon certain terminations of Executive's service to the Company that enhance Executive's financial security and provide incentive and encouragement to Executive to remain with the Company notwithstanding the possibility of such an event.

D. The Board believes that it is in the best interests of the Company and its stockholders to provide Executive with certain transition payments as an incentive to join the Company.

E.. Certain capitalized terms used in this Agreement are defined in Section 8 below.

The parties hereto agree as follows:

1. Term of Agreement. This Agreement shall become effective as of the Effective Date and terminate upon the date that all obligations of the parties hereto with respect to this Agreement have been satisfied.

2. At-Will Employment. The Company and Executive acknowledge that Executive's employment is and shall continue to be "at-will," as defined under applicable law. If Executive's

employment terminates for any reason, Executive shall not be entitled to any payments, benefits, damages, awards or compensation other than as provided by this Agreement.

3. Covered Termination Other Than During a Change in Control Period. If Executive experiences a Covered Termination other than during a Change in Control Period, and if Executive delivers to the Company a general release of all claims against the Company and its affiliates in a form acceptable to the Company (a "Release of Claims") that becomes effective and irrevocable within sixty (60) days, or such shorter period of time specified by the Company, following such Covered Termination, then in addition to any accrued but unpaid salary, bonus, vacation and expense reimbursement payable in accordance with applicable law, the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to nine (9) months of Executive's Base Salary payable in substantially equal installments in accordance with the Company's normal payroll policies, less applicable withholdings, with such installments to commence as soon as administratively practicable following the date the Release of Claims is not subject to revocation and, in any event, within sixty (60) days following the date of the Covered Termination.

(b) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended ("COBRA"), the Company shall directly pay, or reimburse Executive for, the premium for Executive and Executive's covered dependents through the earlier of (i) the first (1st) anniversary of the date of Executive's termination of employment and (ii) the date Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's plan(s). Notwithstanding the foregoing, (i) if any plan pursuant to which such benefits are provided is not, or ceases prior to the expiration of the period of continuation coverage to be, exempt from the application of Section 409A of the Code under Treasury Regulation Section 1.409A-1(a)(5), or (ii) the Company is otherwise unable to continue to cover Executive under its group health plans without penalty under applicable law (including without limitation, Section 2716 of the Public Health Service Act), then, in either case, an amount equal to each remaining Company subsidy shall thereafter be paid to Executive in substantially equal monthly installments. After the Company ceases to pay premiums pursuant to this Section 4 (b), Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance the provisions of COBRA.

4. Covered Termination During a Change in Control Period. If Executive experiences a Covered Termination during a Change in Control Period, and if Executive delivers to the Company a Release of Claims that becomes effective and irrevocable within sixty (60) days, or such shorter period of time specified by the Company, following such Covered Termination, then in addition to any accrued but unpaid salary, bonus, vacation and expense reimbursement payable in accordance with applicable law, the Company shall provide Executive with the following:

(a) Severance. Executive shall be entitled to receive an amount equal to one hundred percent of the sum of: (i) Executive's Base Salary and (ii) Executive's target annual bonus for the fiscal year of Executive's termination, in each case, at the rate in effect immediately

prior to Executive's termination of employment payable in a cash lump sum, less applicable withholdings, as soon as administratively practicable following the date the Release of Claims is not subject to revocation and, in any event, within sixty (60) days following the date of the Covered Termination.

(b) Equity Awards. Each outstanding equity award, including, without limitation, each stock option and restricted stock award, held by Executive shall automatically become vested and, if applicable, exercisable and any forfeiture restrictions or rights of repurchase thereon shall immediately lapse, in each case, with respect to one hundred percent (100%) of the shares subject thereto. To the extent vested after giving effect to the acceleration provided in the preceding sentence, each stock option held by Executive shall remain exercisable until the earlier of the original expiration date for such stock option or the first anniversary of Executive's Covered Termination.

(c) Continued Healthcare. If Executive elects to receive continued healthcare coverage pursuant to the provisions of COBRA, the Company shall directly pay, or reimburse Executive for, the premium for Executive and Executive's covered dependents through the earlier of (i) the first (1st) anniversary of the date of Executive's termination of employment and (ii) the date Executive and Executive's covered dependents, if any, become eligible for healthcare coverage under another employer's plan(s). Notwithstanding the foregoing, (i) if any plan pursuant to which such benefits are provided is not, or ceases prior to the expiration of the period of continuation coverage to be, exempt from the application of Section 409A of the Code under Treasury Regulation Section 1.409A-1(a)(5), or (ii) the Company is otherwise unable to continue to cover Executive under its group health plans without penalty under applicable law (including without limitation, Section 2716 of the Public Health Service Act), then, in either case, an amount equal to each remaining Company subsidy shall thereafter be paid to Executive in substantially equal monthly installments. After the Company ceases to pay premiums pursuant to this Section 5(c), Executive may, if eligible, elect to continue healthcare coverage at Executive's expense in accordance the provisions of COBRA.

5. Other Terminations. If Executive's service with the Company is terminated by the Company or by Executive for any or no reason other than as a Covered Termination, then Executive shall not be entitled to any benefits hereunder other than accrued but unpaid salary, bonus, vacation and expense reimbursement in accordance with applicable law and to elect any continued healthcare coverage as may be required under COBRA or similar state law.

6. Limitation on Payments. Notwithstanding anything in this Agreement to the contrary, if any payment or distribution Executive would receive pursuant to this Agreement or otherwise ("Payment") would (a) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (b) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then such Payment shall either be (i) delivered in full, or (ii) delivered as to such lesser extent which would result in no portion of such Payment being subject to the Excise Tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and the Excise Tax, results in the receipt by Executive on an after-tax basis, of the largest payment, notwithstanding that all or some portion the Payment may be taxable under

Section 4999 of the Code. The accounting firm engaged by the Company for general audit purposes as of the day prior to the effective date of the Change in Control shall perform the foregoing calculations. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder. The accounting firm shall provide its calculations to the Company and Executive within fifteen (15) calendar days after the date on which Executive's right to a Payment is triggered (if requested at that time by the Company or Executive) or such other time as requested by the Company or Executive. Any good faith determinations of the accounting firm made hereunder shall be final, binding and conclusive upon the Company and Executive. Any reduction in payments and/or benefits pursuant to this Section 7 will occur in the following order: (1) reduction of cash payments; (2) cancellation of accelerated vesting of equity awards other than stock options; (3) cancellation of accelerated vesting of stock options; and (4) reduction of other benefits payable to Executive.

7. Definition of Terms. The following terms referred to in this Agreement shall have the following meanings:

(a) Base Salary. "Base Salary" means Executive's annual base salary in effect immediately prior to Executive's termination (disregarding any reduction in base salary that would give rise to Executive's right to a Voluntary Resignation for Good Reason).

(b) Cause. "Cause" means (i) Executive's theft, dishonesty or falsification of any employment or Company records that is non-trivial in nature; (ii) Executive's malicious or reckless disclosure of the Company's confidential or proprietary information or any material breach by Executive of his or her obligations under the Confidential Information Agreement (as defined below); (iii) the conviction of the Executive of a felony (excluding motor vehicle violations) or the commission of gross negligence or willful misconduct, where a majority of the non-employee members of the Board reasonably determines that such act or misconduct has (A) seriously undermined the ability of the Board or management of the Company to entrust Executive with important matters or otherwise work effectively with Executive, (B) substantially contributed to the Company's loss of significant revenues or business opportunities, or (C) significantly and detrimentally affected the business or reputation of the Company or any of its subsidiaries; and/or (iv) the willful failure or refusal by Executive to follow the reasonable and lawful directives of the Board or Executive's direct supervisor, provided such willful failure or refusal continues after Executive's receipt of reasonable notice in writing of such failure or refusal and a reasonable opportunity of not less than 30 days to correct the problem. For the purpose of this Agreement, no act, or failure to act, shall be considered "willful" unless undertaken by Executive with an absence of good faith that this act, or failure to act, was in the best interests of the Company.

(c) Change in Control. "Change in Control" shall have the meaning set forth in the Company's 2014 Equity Incentive Award Plan, as it may be amended from time to time, provided that such event must also constitute a "change in control event" as defined in Treasury Regulation Section 1.409A-3(i)(5).

(d) Change in Control Period. "Change in Control Period" means the period of time beginning three (3) months prior to and ending twelve (12) months following a Change in Control.

(e) Covered Termination. "Covered Termination" means (a) an Involuntary Termination Without Cause or (b) a Voluntary Resignation for Good Reason, provided that such termination or resignation constitutes a Separation from Service.

(f) Good Reason Condition. "Good Reason Condition" means that any of the following are undertaken without Executive's express written consent: (i) a material diminution in Executive's authority, duties, or responsibilities which substantially reduces the nature or character of Executive's position with the Company; (ii**)** a material reduction by the Company of Executive's base salary as in effect immediately prior to such reduction; (iii**)** a relocation of Executive's principal office to a location more than fifty (50) miles from the location of Executive's principal office as of immediately prior to such relocation, except for required travel by Executive on the Company's business or (iv) any material breach by the Company of any provision of Executive's employment agreement or offer letter agreement which the Company does not cure within 30 days following written notice thereof from Executive.

(g) Involuntary Termination Without Cause. "Involuntary Termination Without Cause" means Executive's dismissal or discharge by the Company other than for Cause. The termination of Executive's employment as a result of Executive's death or inability to perform the essential functions of his job due to disability will not be deemed to be an Involuntary Termination Without Cause.

(h) Separation from Service. "Separation from Service" means Executive's termination of employment or service constitutes a "separation from service" within the meaning of Treasury Regulation Section 1.409A-1(h).

(i) Voluntary Resignation for Good Reason. "Voluntary Resignation for Good Reason" means Executive's resignation as a result of a Good Reason Condition in accordance with this subsection (i). In order for a resignation to constitute a Voluntary Resignation for Good Reason, Executive must provide written notice to the Company of the existence of the Good Reason Condition within thirty (30) days of the initial existence of such Good Reason Condition. Upon receipt of such notice of the Good Reason Condition, the Company will be provided with a period of thirty (30) days during which it may remedy the Good Reason Condition and not be required to provide for the payments and benefits described in Sections 4 or 5 as a result of such proposed resignation due to the Good Reason Condition specified in the notice. If the Good Reason Condition is not remedied within the period specified in the preceding sentence, Executive may resign for Good Reason based on the Good Reason Condition specified in the notice, provided that such resignation must occur within sixty (60) days after the initial existence of such Good Reason Condition.

8. Successors.

(a) Company's Successors. Any successor to the Company (whether direct or indirect and whether by purchase, merger, consolidation, liquidation or otherwise) to all or substantially all of the Company's business and/or assets shall assume the obligations under this Agreement and agree expressly to perform the obligations under this Agreement in the same manner and to the same extent as the Company would be required to perform such obligations in the absence

of a succession. For all purposes under this Agreement, the term "Company" shall include any successor to the Company's business and/or assets which executes and delivers the assumption agreement described in this Section 9 (a) or which becomes bound by the terms of this Agreement by operation of law.

(b) Executive's Successors. The terms of this Agreement and all rights of Executive hereunder shall inure to the benefit of, and be enforceable by, Executive's personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees and legatees.

9. Notices. Notices and all other communications contemplated by this Agreement shall be in writing and shall be deemed to have been duly given when personally delivered or one day following mailing via Federal Express or similar overnight courier service. In the case of Executive, mailed notices shall be addressed to Executive at Executive's home address that the Company has on file for Executive. In the case of the Company, mailed notices shall be addressed to its primary office location, and all notices shall be directed to the attention of its Vice President, General Counsel.

10. Confidentiality; Non-Solicitation.

(a) Confidentiality. While Executive is employed by the Company, and thereafter, Executive shall not directly or indirectly disclose or make available to any person, firm, corporation, association or other entity for any reason or purpose whatsoever, any Confidential Information (as defined below). Upon termination of Executive's employment with the Company, all Confidential Information in Executive's possession that is in written or other tangible form (together with all copies or duplicates thereof, including computer files) shall be returned to the Company and shall not be retained by Executive or furnished to any third party, in any form except as provided herein; *provided*, *however*, that Executive shall not be obligated to treat as confidential, or return to the Company copies of any Confidential Information that (i) was publicly known at the time of disclosure to Executive, (ii) becomes publicly known or available thereafter other than by any means in violation of this Agreement or any other duty owed to the Company by any person or entity, or (iii) is lawfully disclosed to Executive by a third party. For purposes of this Agreement, the term "Confidential Information" shall mean information disclosed to Executive or known by Executive as a consequence of or through his or her relationship with the Company, about the customers, employees, business methods, public relations methods, organization, procedures or finances, including, without limitation, information of or relating to customer lists, of the Company and its affiliates. In addition, Executive shall continue to be subject to the Proprietary Information and Inventions Assignment Agreement entered into between Executive and the Company (the "Confidential Information Agreement").

(b) Non-Solicitation. In addition to Executive's obligations under the Confidential Information Agreement, Executive shall not for a period of two (2) years following Executive's termination of employment for any reason, either on Executive's own account or jointly with or as a manager, agent, officer, employee, consultant, partner, joint venturer, owner or stockholder or otherwise on behalf of any other person, firm or corporation, directly or indirectly solicit or attempt to solicit away from the Company any of its officers or employees or offer employment to any person who is an officer or employee of the Company; *provided, however*, that a general

advertisement to which an employee of the Company responds shall in no event be deemed to result in a breach of this Section 11(b). Executive also agrees not to harass or disparage the Company or its employees, clients, directors or agents or divert or attempt to divert any actual or potential business of the Company.

(c) Survival of Provisions. The provisions of this Section 11 shall survive the termination or expiration of the applicable Executive's employment with the Company and shall be fully enforceable thereafter. If it is determined by a court of competent jurisdiction in any state that any restriction in this Section 11 is excessive in duration or scope or is unreasonable or unenforceable under the laws of that state, it is the intention of the parties that such restriction may be modified or amended by the court to render it enforceable to the maximum extent permitted by the law of that state.

11. Dispute Resolution. To ensure the timely and economical resolution of disputes that arise in connection with this Agreement, Executive and the Company agree that any and all disputes, claims, or causes of action arising from or relating to the enforcement, breach, performance or interpretation of this Agreement, Executive's employment, or the termination of Executive's employment, shall be resolved to the fullest extent permitted by law by final, binding and confidential arbitration, by a single arbitrator, in Alameda County, California, conducted by Judicial Arbitration and Mediation Services, Inc. ("JAMS") under the applicable JAMS employment rules. **By agreeing to this arbitration procedure, both Executive and the Company waive the right to resolve any such dispute through a trial by jury or judge or administrative proceeding**. The arbitrator shall: (i) have the authority to compel adequate discovery for the resolution of the dispute and to award such relief as would otherwise be permitted by law; and (ii) issue a written arbitration decision, to include the arbitrator's essential findings and conclusions and a statement of the award. The arbitrator shall be authorized to award any or all remedies that Executive or the Company would be entitled to seek in a court of law. The Company shall pay all JAMS' arbitration fees in excess of the amount of court fees that would be required if the dispute were decided in a court of law. Nothing in this Agreement is intended to prevent either Executive or the Company from obtaining injunctive relief in court to prevent irreparable harm pending the conclusion of any such arbitration. Notwithstanding the foregoing, Executive and the Company each have the right to resolve any issue or dispute over intellectual property rights by Court action instead of arbitration.

12. Miscellaneous Provisions.

(a) Section 409A.

(i) Separation from Service. Notwithstanding any provision to the contrary in this Agreement, no amount deemed deferred compensation subject to Section 409A of the Code shall be payable pursuant to Section 4 unless Executive's termination of employment constitutes a Separation from Service and, except as provided under Section 13 (a)(ii) of this Agreement, any such amount shall not be paid, or in the case of installments, commence payment, until the sixtieth (60th) day following Executive's Separation from Service. Any installment payments that would have been made to Executive during the sixty (60) day period immediately following Executive's Separation from Service but for the preceding sentence shall be paid to

Executive on the sixtieth (60th) day following Executive's Separation from Service and the remaining payments shall be made as provided in this Agreement.

(ii) Specified Employee. Notwithstanding any provision to the contrary in this Agreement, if Executive is deemed at the time of his separation from service to be a "specified employee" for purposes of Section 409A(a)(2)(B)(i) of the Code, to the extent delayed commencement of any portion of the benefits to which Executive is entitled under this Agreement is required in order to avoid a prohibited distribution under Section 409A(a)(2)(B)(i) of the Code, such portion of Executive's benefits shall not be provided to Executive prior to the earlier of (a) the expiration of the six (6)-month period measured from the date of the Executive's Separation from Service or (b) the date of Executive's death. Upon the first business day following the expiration of the applicable Code Section 409A(a)(2)(B)(i) period, all payments deferred pursuant to this Section 13(a)(ii) shall be paid in a lump sum to Executive, and any remaining payments due under this Agreement shall be paid as otherwise provided herein.

(iii) Expense Reimbursements. To the extent that any reimbursements payable pursuant to this Agreement are subject to the provisions of Section 409A of the Code, any such reimbursements payable to Executive pursuant to this Agreement shall be paid to Executive no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed in one year shall not affect the amount eligible for reimbursement in any subsequent year, and Executive's right to reimbursement under this Agreement will not be subject to liquidation or exchange for another benefit.

(iv) Installments. For purposes of Section 409A of the Code (including, without limitation, for purposes of Treasury Regulation Section 1.409A-2(b)(2)(iii)), Executive's right to receive any installment payments under this Agreement shall be treated as a right to receive a series of separate payments and, accordingly, each such installment payment shall at all times be considered a separate and distinct payment.

(b) Waiver. No provision of this Agreement shall be modified, waived or discharged unless the modification, waiver or discharge is agreed to in writing and signed by Executive and by an authorized officer of the Company (other than Executive). No waiver by either party of any breach of, or of compliance with, any condition or provision of this Agreement by the other party shall be considered a waiver of any other condition or provision or of the same condition or provision at another time.

(c) Whole Agreement. This Agreement and the Confidential Information Agreement represent the entire understanding of the parties hereto with respect to the subject matter hereof and supersede all prior arrangements and understandings regarding same.

(d) Choice of Law. The validity, interpretation, construction and performance of this Agreement shall be governed by the laws of the State of California.

(e) Severability. The invalidity or unenforceability of any provision or provisions of this Agreement shall not affect the validity or enforceability of any other provision hereof, which shall remain in full force and effect.

(f) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which together will constitute one and the same instrument.

(*Signature page follows*)

IN WITNESS WHEREOF, each of the parties has executed this Agreement, in the case of the Company by its duly authorized officer, as of the day and year set forth below.

ARDELYX, INC.

By: /s/ Mike Raab
Title: CEO
Date: June 8, 2020

EXECUTIVE

/s/ Justin Renz
Justin Renz

Date: June 1, 2020

[***] Certain information in this document has been excluded pursuant to Regulation S-K, Item 601(b)(10). Such excluded information is not material and would likely cause competitive harm to the registrant if publicly disclosed.

Manufacturing Services Agreement

Effective Date: May 18, 2020

PARTIES

PATHEON PHARMACEUTICALS INC.

a corporation existing under the laws of the State of Delaware, with its principal place of business at 2110 East Galbraith Road, Cincinnati, OH 45237 ("**Patheon**"),

- and -

ARDELYX, INC.

a corporation existing under the laws of the State of Delaware, with its principal place of business at 34175 Ardenwood Boulevard, Fremont, CA 94555 ("**Client**").

Table of Contents

With effect from the date stated at the start of this Agreement (the “Effective Date”), the parties have agreed to the following terms:

1. Interpretation

1.1 Definitions.

The following terms will, unless the context otherwise requires, have the respective meanings set out below and grammatical variations of these terms will have corresponding meanings:

“**Adverse Supply Event**” has the meaning specified in Section 2.4;

"**Affiliate**" means:

(a) a business entity which owns, directly or indirectly, a controlling interest in a party; or

(b) a business entity which is controlled by a party, either directly or indirectly; or

(c) a business entity, the controlling interest of which is directly or indirectly common to the majority ownership of a party;

For this definition, "control" means the lawful right to determine (by ownership of shares or otherwise) the election of the majority of directors (or equivalent managers) of a business entity;

“**API**” means the active material Tenapanor (references to “Active Materials” or “Active Pharmaceutical Ingredient” in this Agreement will mean “API”);

"**API Credit Value**" means the value of the API on an actual cost per [***] basis ([***]);

"**Applicable Laws**" means (i) [***]; and (ii) [***];

"**Authority**" means any governmental or regulatory authority, department, securities exchange, body or agency or any court, tribunal, bureau, commission or other similar body, whether foreign, federal, state, provincial, county or municipal, with competent jurisdiction over a party, the Manufacturing Services, or the Product (or its use);

"**Business Day**" means a day other than a Saturday, Sunday or a day that is a statutory holiday in Patheon’s resident jurisdiction, Client’s resident jurisdiction, or the jurisdiction where the Manufacturing Site is located;

"**cGMPs**" means, as applicable, current good manufacturing practices as described in:

(a) Parts 210 and 211 of Title 21 of the United States' Code of Federal Regulations;

(b) Commission Directive (EU) 2017/1572 (art. 2); and

(c) Division 2 of Part C of the Food and Drug Regulations (Canada);

together with current final industry-accepted Health Canada, FDA and EMA guidance documents pertaining to manufacturing and quality control practice, all as updated, amended and revised from time to time;

"**Client Intellectual Property**" means Intellectual Property generated, acquired or derived by: (i) [***] or (ii) [***];

"**Client-Supplied Components**" means those Components supplied or to be supplied by or on behalf of Client;

"**Components**" means, collectively, all packaging components, raw materials, ingredients, and other materials (including labels, product inserts and other labelling for the Products) required to manufacture or package Product in accordance with the Processing Instructions, other than the API;

"**Confidential Information**" has the meaning specified in Section 11.1;

"**DEA**" means the Drug Enforcement Administration of the United States Department of Justice;

"**Deficient Product**" has the meaning specified in Section 6.1(a)(i);

"**Delivery Date**" means in relation to each batch of Product the scheduled date by which the Product will be released by Patheon's quality department (by confirmation or certification, as agreed in the Quality Agreement) and made available for shipment, and as confirmed by Patheon upon receipt of a Firm Order;

"**Development Agreement**" means, collectively, the Master Agreement for Pharmaceutical Development Services between Patheon and Client dated January 12, 2016 (the "**Master Agreement**") and any related Project Proposals issued under the Master Agreement;

"**Development Services**" means any pharmaceutical research or development service for the Product, including the manufacture of Product validation batches, performed by Patheon for Client before or after the Effective Date and throughout the Term under the Development Agreement;

"**Disclosing Party**" has the meaning specified in Section 11.1;

"**Documentary Product Claim**" has the meaning specified in Section 6.1(b)(ii);

"**EMA**" means the European Medicines Agency;

"**FDA**" means the United States Food and Drug Administration;

"**FFDCA**" means the United States Federal Food, Drug, and Cosmetic Act, 21 USC §§ 301 et seq.;

"**Firm Order**" has the meaning specified in Section 5.1(d);

"**Health Canada**" means the department of the Canadian Government known as Health Canada and includes, among other relevant branches, the Therapeutic Products Directorate and the Health Products and Food Branch Inspectorate;

"**Indemnitee**" has the meaning specified in Section 10.5;

"**Indemnitor**" has the meaning specified in Section 10.5;

“**Initial Product Term**” has the meaning specified in Section 8.1;

"**Intellectual Property**" includes, without limitation, rights in patents, patent applications, formulae, trademarks, trademark applications, trade-names, Inventions, copyrights, industrial designs, trade secrets, and know how;

"**Invention**" any innovation, improvement, development, discovery, computer program, device, trade secret, method, process, technique or the like, whether or not written or otherwise fixed in any form or medium, regardless of the media on which it is contained and whether or not patentable or copyrightable;

"**Inventory**" means, at a point in time, all inventories of Components and work-in-process under Patheon’s care or control used for the manufacture or packaging of Product;

“**Latent Defect Claim**” has the meaning specified in Section 6.1(b)(iii);

"**Laws**" means all laws (including common law), statutes, ordinances, regulations, rules, by-laws, judgments, decrees or orders of any Authority;

"**Licensees**" means any person to whom Client has entered into a license agreement for the marketing, sale or distribution of Product in any Territory;

“**Long Term Forecast**” has the meaning specified in Section 5.1(a);

"**Manufacturing Records**" means, for a shipment of Product, the following documents: the batch records, certificate of analysis, certificate of conformity, and the BSE/TSE certificate;

"**Manufacturing Scale Up**" means the purchase, installation and validation of equipment and the undertaking of such other capital improvements required to enable Patheon to manufacture Product in batches greater than [***];

"**Manufacturing Services**" means the manufacturing, quality control, quality assurance, stability testing, packaging, and related services for the manufacture of Product for distribution in the Territory;

"**Manufacturing Site**" means the facility located at [***] where the Manufacturing Services will be performed;

“**Minimum [***] Requirement**” has the meaning specified in Section 2.2(a);

"**Minimum Order Quantity**" means, for each manufacturing campaign ordered, the minimum number of tablets or batches of Product that Client must purchase, as set out in Appendix 1;

"**Notice of Termination**" has the meaning specified in Section 8.2(a);

“**Obsolete Stock**” has the meaning specified in Section 5.2(b);

“**Patheon Competitor**” means a company that derives greater than 50% of its revenues from performing contract pharmaceutical or biopharmaceutical development or contract commercial manufacturing services;

"**Patheon Intellectual Property**" means Intellectual Property that does not constitute Client Intellectual Property and is (i) [***], or (ii) [***];

"**Price**" means the fees to be charged by Patheon for:

(a) the Product as set out in Appendix 1; and

(b) the cost of Components (other than Client-Supplied Components) as set out in Appendix 1; and

(c) any separate cost items and other fees for services requested by Client and specifically excluded from the cost of the Product, as may be subject to an additional written work order or written agreement that is expressly made subject to the terms and conditions of this Agreement;

"**Processing Instructions**" means the agreed file, for the applicable strength of Product, which contains documents relating to the Product, including, without limitation:

(a) quality control testing methods for API and Components;

(b) master batch, production and control records, manufacturing instructions, directions, and processes;

(c) any storage requirements for the API, Components, or Product;

(d) all environmental, health and safety information for the Product including material safety data sheets; and

(e) the finished Product quality control testing methods, packaging instructions and shipping requirements for the Product;

"**Product**" means the product listed in Appendix 1, in each case manufactured and packaged in accordance with the Processing Instructions and the Specifications;

"**Product Change Control Request**" has the meaning specified in Section 3.3;

"**Product Claim**" has the meaning specified in Section 6.1(b)(i);

"**Quality Agreement**" means a separate agreement that sets out the quality assurance standards for the Manufacturing Services;

"**Recall**" has the meaning specified in Section 6.2(a);

"**Recipient**" has the meaning specified in Section 11.1;

"**Regulatory Approval**" has the meaning specified in Section 7.6(a);

"**Regulatory Authority**" means the FDA, EMA, and Health Canada and any other foreign regulatory agencies competent to grant marketing approvals for pharmaceutical or biopharmaceutical products, including the Products, in the Territory;

"**Representatives**" means, a party's directors, officers, employees, advisers, agents, consultants, subcontractors, service partners or professional advisors;

"**Rolling Forecast**" has the meaning specified in Section 5.1(b);

"**Specifications**" means the requirements and standards for the Product as set forth in Appendix F to the Quality Agreement, under "Supplier Release Specifications" where indicated;

"**Supply Failure**" has the meaning specified in Section 6.1(d);

"**Term**" means the Initial Term and any and all renewal terms applicable under Section 8.1;

"**Territory**" means the Europe Union, the United States, Canada, Japan, and China;

"Third Party Subcontractors" has the meaning specified in Section 2.6;

"**Third Party Rights**" means the Intellectual Property of any third party; and

"**Year**" means in the first year of this Agreement, the time from the Effective Date up to and including December 31 of the same calendar year, and after that will mean a calendar year, except for in the case of the calendar year in which this Agreement is terminated or expires, in which case the Year will be the date beginning on January 1 of that Year and ending on the date of the effective termination of this Agreement.

1.2 Interpretation.

The division of this Agreement into Sections, Subsections, and Appendices, and the insertion of headings, are for convenience of reference only and will not affect the interpretation of this Agreement. Unless otherwise indicated, any reference in this Agreement to a Section or Appendix refers to the specified Section or Appendix to this Agreement. In this Agreement, the term "**this Agreement**" and similar expressions refer to this Agreement as a whole and not to any particular part, Section or Appendix of this Agreement. Except as otherwise expressly stated or unless the context otherwise requires, all references to the singular will include the plural and vice versa. All monetary amounts stated in this Agreement are in United States Dollars ($).

2. Patheon's Manufacturing Services

2.1 Manufacturing Services.

Patheon will perform the Manufacturing Services and supply Product manufactured in accordance with the Processing Instructions and the Specifications for the Price and in accordance with the Quality Agreement. Subject to the preceding sentence, Patheon will convert API and Components into Product, and provide supportive Manufacturing Services such as quality assurance (for example quality controls, analytical testing, and stability programs), primary and secondary packaging if set out in the Specifications, and any other related Manufacturing Services as agreed between the parties in writing.

2.2 Minimum [***] Requirement.

(a) Subject to Sections 6.1(c) and 6.1(d), during the Term, Client will purchase at least [***] of its requirements for the Products in any Year from Patheon [***] of Product ordered under this Agreement [***] (the "**Minimum [***] Requirement**). Client may meet the Minimum [***] Requirement regardless of the strength or SKU of Product by purchasing sufficient quantities of only certain strengths or SKUs of Product from Patheon if in fact the Product purchased from Patheon is [***] of all strengths and SKUs of Product purchased by Client from all sources. Absent Manufacturing Scale-Up, the Minimum [***] Requirement will be based on Product manufactured in [***] and [***] batches or in other batch sizes as may be agreed to by the parties in writing from time to time.

(b) Client will notify Patheon in writing if it elects to conduct Manufacturing Scale-Up at Patheon. Client and Patheon will negotiate in good faith a commencement date for the Manufacturing Scale-Up based on the Long Term Forecast and Rolling Forecast in effect from time to time. In addition, Patheon agrees to use reasonable commercial efforts to complete the Manufacturing Scale-Up as soon as reasonably practicable upon Client's request.

(c) Any Products [***], will count as Client purchases of Product for purposes of meeting the Minimum [***] Requirement. However, the Minimum [***] Requirement will be calculated solely as [***] and Client will have no liability for ensuring that any of its Affiliates, partners or licensees purchase any Product manufactured by Patheon.

2.3 Exclusivity.

So long as Client is otherwise in substantial compliance with the terms of this Agreement, including any Rolling Forecast requirements, Patheon will not at any time during the Term develop or manufacture (a) [***] or (b) [***], in each case for [***], including without limitation, for [***], without the express written consent of Client, unless: (i) [***], and (ii) [***]. Patheon acknowledges and agrees that Client may grant or withhold its consent in its sole discretion.

2.4 No Volume Guarantee.

Notwithstanding Section 2.2, Patheon acknowledges that Client is not guaranteeing any volume of Product will be ordered by Client and that the volume of Product ordered will be dictated by market demands.

2.5 No Sole Source.

Subject to Section 2.2, nothing in this Agreement will prohibit Client from purchasing Product from a third party, entering into any contract with any third party for the supply of Products, manufacturing its own Products, or qualifying additional facilities for supply of Products.

2.6 Subcontracting.

Patheon may subcontract the Manufacturing Services to any of its Affiliates, as agreed by the parties in writing. Patheon will remain exclusively liable to Client for any breach of this Agreement or negligence by its Affiliates in the course of performing: (i) subcontracted Manufacturing Services; or (ii) obligations under the Quality Agreement. Patheon may also arrange for qualified non-Affiliate subcontractors to perform specific services arising under this Agreement with the written consent of Client (this consent being in the sole discretion of Client) ("**Third Party Subcontractors**"). Patheon will be liable

to Client for the breach of this Agreement or the Quality Agreement or failure by any Third Party Subcontractor to perform any part of the subcontracted services as if Patheon had breached, performed or failed to perform the subcontracted services directly. But Patheon's liability for Third Party Subcontractors will remain subject to all limitations on Patheon's liability as set out in this Agreement. Patheon will have no liability arising from the performance of services by Third Party Subcontractors (i) [***] or (ii) [***].

2.7 Facilities.

Patheon, at no cost to Client, will qualify (and thereafter will maintain qualification of) the Manufacturing Site as required under Applicable Laws. Patheon will not change the Manufacturing Site without first obtaining Client's written consent. If any changes are proposed by Patheon and agreed by Client regarding the Manufacturing Site at which the Manufacturing Services are to be performed, Patheon will be responsible for the costs of any validation activities required for this change. Patheon will not undertake or permit any modifications to the Manufacturing Site that materially affect the performance of the Manufacturing Services or implement any changes in the processes, procedures or equipment used to manufacture the Product without Client's prior written consent.

3. Client's Obligations

3.1 Payment.

Client will pay Patheon the applicable Price in accordance with Sections 4 and 5. All cost items that are not included in the Price (as specified in Appendix 1) are subject to additional fees to be paid by Client as agreed to by the parties in writing.

3.2 Processing Instructions.

Before the start of commercial manufacturing of Product under this Agreement, Client will give Patheon a copy of the Processing Instructions, which must be accompanied by the applicable API, Component and Product Specifications (which may or may not precisely match the specifications approved by the applicable Regulatory Authority). If the Product does not meet the Specifications but meets the specifications filed with the Regulatory Authority, the parties will meet to discuss options for the non-conforming Product to be sold, but Client will be under no obligation to accept this Product under Section 5.4.

3.3 Change Control Requests.

Client and Patheon will cooperate on any requested changes to the Processing Instructions, Specifications or accompanying documents (a "**Product Change Control Request**") in accordance with the change control process set forth in the Quality Agreement. Upon acceptance of the Product Change Control Request, Patheon will give Client a signed and dated receipt indicating Patheon's acceptance. At Patheon's request, Client will provide evidence of the executed original documents submitted by or on behalf of Client to the Regulatory Authority. Patheon will respond promptly to any Product Change Control Request and use commercially reasonable, good faith efforts to agree to the terms of the requested changes in a timely manner (including any changes in Price). Patheon agrees that any changes mandated by a Regulatory Authority will be considered and acted upon expeditiously and with due diligence. Client will be responsible for all reasonable and approved costs associated with any agreed Product Change

Control Request. No revisions to the Processing Instructions or Specifications will be submitted to any Regulatory Agency unless approved by both Patheon and Client in writing.

3.4 API and Components.

(a) Client will at its sole cost and expense deliver the API and any Client-Supplied Components to the Manufacturing Site [***]. Client's obligation will include obtaining the release of the API and any Client-Supplied Components from the applicable customs agency and Regulatory Authority. Unless otherwise agreed in writing, Client or Client's designated broker will be the "**Importer**" or "**Importer of Record**" (or equivalent, as understood under Applicable Laws to Client) for API, Client-Supplied Components, drug products and intermediates imported to the Manufacturing Site, and Client is responsible for compliance with Applicable Laws to Client (and the cost of compliance) relating to that role. For API or Client-Supplied Components which may be subject to import or export to or from the United States, Client agrees that its vendors and carriers will comply with applicable requirements of the U.S. Customs and Border Protection Service and the Customs Trade Partnership Against Terrorism.

(b) Unless otherwise agreed in writing between the parties, the API and any Client-Supplied Components, together with any associated certificates of analysis, must be delivered by the Client to the Manufacturing Site at least [***] days before the scheduled manufacture date for Product covered by a Firm Order in sufficient quantity to enable Patheon to manufacture the agreed quantities of Product for that Firm Order. Patheon will store the quantity of API reasonably necessary for all Firm Orders free of charge. For purposes of this Agreement, the quantity of API delivered to Patheon will be considered reasonable if it can be used for the manufacture of any outstanding Firm Orders. Additional amounts of API whose storage is requested by Client may be subject to a fee of $[***] per month per pallet. If Client fails to deliver the API or Client-Supplied Components within the agreed time period and, making commercially reasonable efforts, Patheon is unable to manufacture all or part of the Product on the scheduled date and is unable to replace the lost manufacturing capacity with another Patheon client, the Firm Order will be considered cancelled by Client and Section 5.1(e) will apply.

(c) Patheon will control the unloading of API and Client-Supplied Components arriving at the Manufacturing Site and Client will comply and ensure that its carrier complies with all related directions of Patheon. The API and Client-Supplied Components will be held by Patheon on behalf of Client as set out in this Agreement, any safety data sheets, safe handling instructions and health and environmental information associated therewith. The API and Client-Supplied Components will at all times remain the property of Client. Any API and Client-Supplied Components received by Patheon will only be used by Patheon to perform the Manufacturing Services.

(d) Client will ensure that: (i) all delivered API meets the Specifications for that API; and (ii) all shipments of API are accompanied by the required documentation as specified in the applicable Quality Agreement. Patheon will collect samples of API and deliver them to a third party designated by Client for testing in accordance with the Processing Instructions.

(e) If Client asks Patheon to qualify an additional supplier for the API or any Component, the parties must agree on the scope of work to be performed by Patheon and the additional fees to be paid by Client. For any API or any Component, this work at a minimum will include: (i) laboratory

testing to confirm the API or Component meets existing Specifications; (ii) manufacture of an experimental batch of Product that will be placed on three months accelerated stability; and (iii) manufacture of full-scale validation batches that will be placed on concurrent stability (one batch may be the registration batch if manufactured at full scale).

(f) Unless otherwise mutually agreed, Patheon will provide Client with monthly written inventory reports of API, Components (including Client-Supplied Components), Products and intermediates, in each case in the form generated by Patheon's electronic inventory management platform, as well as monthly written cycle count reports. Patheon will promptly advise Client if it encounters API or Component supply problems, including delays or delivery of non-conforming API or Components from a Client designated additional supplier. The parties will cooperate to reduce or eliminate any supply problems from these additional suppliers. Client will qualify or certify (as appropriate) any and all new Client designated additional suppliers at its expense and will provide Patheon with copies of the relevant annual reports. If Patheon agrees to certify or qualify a Client designated additional supplier on behalf of Client, it will do so for an additional fee payable by Client.

3.5 Packaging and Artwork.

The provisions of Sections 3.5(a)-(d) below will only apply if Client requires that Patheon undertake any secondary packaging and/or labelling services.

(a) Client will be responsible for the cost of artwork development and approval of all artwork. Client will be responsible for changes to labels, Product inserts, and other packaging for the Product, including obtaining all required approvals. Client will be responsible for the cost of labelling obsolescence as contemplated in Section 5.2. Patheon's name will not appear on the label or anywhere else on the Product unless: (i) required by any Applicable Laws; or (ii) Patheon consents in writing to the use of its name. At least [***] days prior to the anticipated Delivery Date of Product for which new or modified artwork is required, Client will provide at no cost to Patheon and in accordance with the applicable Specifications, final artwork in electronic format for all packaging Components to be used in the manufacture of the Product. Client will be responsible for the accuracy of all information contained on all labels and compliance of all labels with Applicable Laws.

(b) For the packaging of Product, Patheon will make arrangements for and implement the imprinting of lot numbers and expiration dates on the packaging of each Product shipped. These lot numbers and expiration dates will be affixed on the Product packaging and on the shipping carton of each Product as is required by cGMPs, Applicable Laws and consistent with the Specifications. If applicable, electronic on-line verification of lot number/expiration date and serialization will be performed by Patheon. If Patheon places an internal lot number on a Product package and/or shipping carton that is different from the Client lot number referenced in any purchase order for that batch of Product, Patheon will provide a cross-reference for the Client lot number on all documents associated with that batch of Product.

(c) If applicable, Patheon will make arrangements for the imprinting of the product identifier (i.e. global trade identification number and serial number) on the packaging of each Product shipped. The product identifier and serial number will be affixed on the Product packaging and on the shipping carton of each Product as required cGMPs, Applicable Laws and consistent

with the Specifications. Electronic on-line verification of the product identifier and serial number will be performed by Patheon.

(d) If applicable, Patheon will make arrangements for the imprinting of the data carrier (i.e. 2D Data Matrix or barcode) on the packaging of each Product shipped. The data carrier will encode the lot number, expiration date, product identifier and serial number. The data carriers will be affixed on the Product packaging and on the shipping carton of each Product as required by cGMPs, Applicable Laws and consistent with the Specifications. Electronic verification of the data carrier will be performed by Patheon.

4. Price and Price Adjustments

4.1 First Year Pricing.

The Price for each Product will be listed in Appendix 1 and may be adjusted under this Section 4.

4.2 Annual Price Adjustments.

Patheon may adjust the Price effective January 1st of each Year following the first full Year for inflation in accordance with Appendix 4. For all Price adjustments under this Section 4.2, Patheon will deliver to Client on or about October 1 but no later than December 1 of each Year (unless otherwise agreed in writing) a letter stating the adjusted Pricing to be effective for Product to be delivered on or after January 1 of the next Year [***]. If Patheon makes or has made an adjustment to the Price arising from an extraordinary increase in Component cost under Section 4.3(a) below during the past Year, only the remaining portion of the Price (i.e., an amount equal to the Price minus the cost of Component) may be adjusted for inflation in accordance with Appendix 4. Any omitted adjustment in a Year does not waive Patheon's right to apply that adjustment cumulatively with the next permitted adjustment.

4.3 Price Adjustments at any Time.

(a) Extraordinary Increases in Component Costs. If the cost of a Component increases by at least [***] since the last annual adjustment as a result of market factors outside of Patheon's control, then Patheon will be entitled to adjust the Price to reflect the increased cost of the Component. The revised Price will become effective with the [***]. For a Price adjustment under this Section 4.3(a), Patheon will deliver to Client revised Pricing tables.

(b) Changes. The Prices may be adjusted at any time by Patheon upon written notice to Client if Client requests any change to the scope of the Manufacturing Services as defined by the agreed upon Processing Instructions, the Regulatory Approvals, the Quality Agreement and any assumptions, inclusions, exclusions and other parameters set out in Appendix 1. In such case the parties (using a "**Change of Scope**" agreement, or similar, setting out the agreed activities and costs of implementation) will agree upon the change to the scope of the Manufacturing Services and any adjustments to the Prices that are necessitated by the changes.

4.4 Efforts to Achieve Price Reductions.

During the Term, Patheon and Client agree to jointly develop a program aimed at achieving continuous improvement in the quality of the Product and reducing manufacturing costs (which may include, inter alia, refinement of manufacturing processes or procedures, identification of new vendors or changes in the pricing or availability of third party materials), but this program will not involve capital or other extraordinary costs being incurred by any party without the prior written consent of the other party. All cost reductions resulting from this program will be [***] with an adjustment to the Price that reflects [***] of the costs savings that will be applicable January 1 of the next Year.

5. Purchasing Product

5.1 Orders and Forecasts.

(a) Long Term Forecast. On or before January 1 of each Year, Client will give Patheon a non-binding written forecast of Client's volume requirements for the Product for each of the next [***] Years ("**Long Term Forecast**") for discussion purposes only. The parties will use the Long Term Forecasts solely for the purpose of discussing commencement of the Manufacturing Scale Up and identifying any capacity constraints that may affect any party's ability to perform its obligations under this Agreement.

(b) Rolling Forecast. Within 30 days after the Effective Date, Client will give Patheon a written forecast of the volume of Product that Client expects to order in each of the next [***] months (the "**Rolling Forecast**"). Client will provide an updated Rolling Forecast on or before the tenth day of each month, but: (i) Client will not make any changes to any months of the Rolling Forecast for which a purchase order has been issued by Client (i.e. the first [***] months of the Rolling Forecast; these months being subject to a Firm Order) and (ii) Client may not reduce the quantities for the first [***] chronological months of the previous Rolling Forecast not previously subject to a Firm Order by more than [***], except if a reduction of [***] will result in the quantity being reduced to a quantity that is less than the Minimum Order Quantity, in which case Client may reduce the monthly forecast quantity to [***]. Each updated Rolling Forecast supersedes all previous Rolling Forecasts, other than for those months in the Rolling Forecast that are the subject of Firm Orders. The parties acknowledge that any validation batches to be manufactured under the Development Agreement will be scheduled under the Development Agreement and may not be reflected in the Rolling Forecast.

(c) Orders. On or before the [***] day of each month, Client will issue a new purchase order for any required Product. Each purchase order must, subject to Section 5.1(a), specify order quantities consistent with the then current Rolling Forecast, meet the Minimum Order Quantity and specify the purchase order number, quantities by Product type, and requested Delivery Dates for the Product (which must occur at least [***] days after the first day of the next month). All purchase orders for Product submitted by Client during the Term will be subject to this Agreement even if the purchase order does not expressly make reference to this Agreement.

(d) Acceptance of Purchase Orders. Patheon will accept any purchase order properly submitted by Client in accordance with this Agreement, including the Delivery Dates stipulated in the relevant purchase order. Patheon may not reject a purchase order unless for reasons constituting Force Majeure or the failure of the order to comply with the provisions of this Agreement. A purchase order submitted by Client and not properly rejected by Patheon within ten Business Days will be binding on the parties (a "**Firm Order**"), except that either party may

request to change any Delivery Date beyond [***] days after the delivery of the relevant purchase order. The parties will negotiate in good faith and agree on any requested alternative Delivery Date. If the parties cannot agree, the original Delivery Date set out in the relevant Firm Order submitted by Client and confirmed by Patheon will apply.

(e) Cancellation or Postponement. Patheon will determine the manufacturing schedule of all Product covered by Firm Orders. If Client cancels or reduces a Firm Order, or wishes to postpone the applicable Delivery Date (other than in accordance with Section 5.1(d)) and Patheon is unable to replace the lost manufacturing capacity with another Patheon client after having used commercially reasonable efforts to replace the lost manufacturing capacity, and Client does not replace Firm Order with an order for another Client Product in the same manufacturing suite, Client will remain liable to pay Patheon [***] of the Price for the Firm Order.

(f) Controlled Substance Quota Requirements (if applicable). Client will give Patheon the information set out below for obtaining any required DEA or equivalent agency quotas ("**Quota**") needed to perform the Manufacturing Services. Patheon will be responsible for routine management of Quota information in accordance with Applicable Laws. The parties will cooperate to communicate the information and to assist each other in Regulatory Authority information requirements related to the Product as follows: (i) by April 1 of each Year for the Product, Client will provide to Patheon the next Year's annual Quota requirements for the Product; (ii) by August 1 of each Year, Client will provide to Patheon any changes to the next Year's Quota requirements; (iii) Client will pro-actively communicate any changes to the Quota requirements for the then-current Year in sufficient time to allow Patheon to file and finalize Regulatory Authority filings supporting the changes; (iv) upon Patheon receiving the necessary forecast information from Client in order to request additional Quota, Patheon will submit to the applicable Regulatory Authority, on a timely basis, all filings necessary to obtain Quotas for API and will use commercially reasonable efforts to secure sufficient Quota from the applicable Regulatory Authority so as to achieve Delivery Dates for Product as set out in applicable purchase orders and forecasts submitted to Patheon by Client or its designee; and (v) Patheon will not be responsible for any Regulatory Authority's refusal or failure to grant sufficient Quota for reasons beyond the reasonable control of Patheon (including where Client fails to provide the required information in accordance with this Section 5.1(e)).

5.2 Obsolete Stock.

(a) Client understands and acknowledges that Patheon will rely on purchase orders, Firm Orders, and the Rolling Forecast in ordering the Components (other than Client-Supplied Components) required to meet anticipated Firm Orders. Patheon may purchase the Components in sufficient volumes, and reasonably in advance of the expected use of the Component (taking into account lead times), to meet the production requirements for Products covered by anticipated Firm Orders or to meet the production requirements of any longer period agreed to by the parties. Patheon will handle and store the Components in accordance with this Agreement, any safety data sheets, safe handling instructions and health and environmental information associated therewith and customary industry standards. If any Components have a shelf life or other expiry dating, Patheon will use the Components in manufacturing Product on a first-in, first-out basis.

(b) Client will reimburse Patheon for the cost of Components ordered by Patheon in relation to Firm Orders or as otherwise agreed under Section (a) that are not used in the Manufacturing

Services and cannot be used by Patheon for other customers despite Patheon's commercially reasonable efforts to do so. The reimbursement will become due and will be invoiced by Patheon within [***] months after the forecasted month for which the purchases have been made if Patheon has been unable to use the Components for other customers, or if the Components have expired or are rendered obsolete due to changes in Processing Instructions, cGMP, artwork or Applicable Laws during the period (collectively, "**Obsolete Stock**"). This reimbursement will include Patheon's cost to purchase the Obsolete Stock (plus a [***]) and if Client does not take possession thereof, the cost of its destruction. If any non-expired Components are used in Products subsequently manufactured for Client or in third party products manufactured by Patheon, Client will receive credit for any costs of those Components previously paid to Patheon by Client (this amount to include the previously assessed [***]).

5.3 Storage.

If: (i) Client fails to take possession or arrange for the destruction of Obsolete Stock within [***] days of receipt of written notice from Patheon identifying the Obsolete Stock; or (ii) Product is not collected by Client within [***] days of the Delivery Date notified by Patheon, Client will pay Patheon $[***] per pallet, per month after that for storing the Obsolete Stock, equipment or Product. Storage fees for Obsolete Stock or Product which contain controlled substances or require refrigeration will be charged at $[***] per pallet per month. Storage fees are subject to a one pallet minimum charge per month. Patheon may ship Product held by it longer than [***] days to Client at Client's expense on [***] days' written notice to Client. Upon expiry of the [***] day storage period stated above, Client will assume all risk of loss or damage to materials and Client will be responsible for having appropriate insurance coverage in place for this risk.

5.4 Invoices and Payment.

For shipments of Product, Patheon will issue invoices to Client on or after the date Client has accepted the Product following a review of the Manufacturing Records associated with the shipment of Product and other documentation required for release in Appendix G of the Quality Agreement. This review will not exceed [***]. Patheon will issue and deliver its invoice for the relevant delivery of Product on the Delivery Date for the Product by email to [***]. For other services agreed by Patheon and Client not included in the Manufacturing Services, Patheon will issue invoices on completion of these services. Patheon will also submit to Client, with each shipment of Product, a duplicate copy of the invoice covering the shipment. Invoices will be sent by email to the email address given by Client to Patheon in writing. Each invoice will, to the extent applicable, identify Client's Manufacturing Services purchase order number, Product numbers, names and quantities, unit price, freight charges, and the total amount to be paid by Client. Client will pay all invoices within [***] days of the date of the invoice. If any portion of an invoice is disputed, Client will pay Patheon for the undisputed amount and the parties will use good faith efforts to reconcile the disputed amount as soon as practicable. Interest on undisputed past due accounts will accrue at [***] per month. Patheon may, on giving [***] days' written notice to Client, suspend all Manufacturing Services, including release and shipment of Product, until all undisputed past due invoices have been paid in full. Patheon will have no liability to Client for losses caused by this suspension, including without limitation, losses due to delayed Product delivery or Product shortages.

5.5 Delivery and Shipping.

Prior to Patheon release of Product, Patheon will deliver to Client all release documents set forth in Appendix G of the Quality Agreement. Client will have [***] to review these documents prior to Patheon's release. Delivery of Product and any other materials will be [***] from Patheon's Manufacturing Site on the relevant Delivery Date. Client is responsible for taking delivery of Product at Patheon's Manufacturing Site with its carrier of choice. Subject to Section 8.3, risk of loss or of damage to Product and title to Product will remain with Patheon until [***] at which time title and risk of loss or damage will transfer to Client. But if Client fails to collect Product within [***] days after it has been released for shipment by Patheon on the relevant Delivery Date, Client will assume title and all risk of loss or damage to the released Product. Patheon may, in accordance with Client's instructions and as agent for Client, at Client's risk, arrange for shipping (to Client or any third party nominated by Client) to be paid by Client. Client will arrange for insurance and will select the freight carrier used by Patheon to ship Product and may monitor Patheon's shipping and freight activity under this Agreement.

6. Product Claims and Recalls

6.1 Product Claims.

(a) Rejection. Client may reject any manufactured Product that it reasonably considers (by reference to the results of the agreed release testing or otherwise) to be deficient based on Manufacturing Records provided by Patheon or the inspection or testing of delivered Product by or on behalf of the Client.

(b) Product Claims.

(i) Client may claim a remedy (a "**Product Claim**") for any portion of any batch of Product for which Patheon did not perform the Manufacturing Services in accordance with the agreed Processing Instructions, cGMPs, or Applicable Laws or where the representations and warranties in Sections 9.3(a) or 9.3(b) as they pertain to the Product are not true or accurate ("**Deficient Product**").

(ii) Client will inspect the Manufacturing Records delivered to Client for the Product manufactured by Patheon, upon receipt in accordance with its internal quality control procedures and will give Patheon written notice of all Product Claims that are identifiable based on the Manufacturing Records (a "**Documentary Product Claim**") within [***] after receipt thereof. If Client fails to provide a Product Claim that is a Documentary Product Claim within the applicable [***] day period, then the Product will be considered to have been accepted by Client on the [***] day after delivery of the Product to Client. Patheon will have no liability for any Documentary Product Claim for which it has not received notice within the applicable [***] day period.

(iii) For all other Product Claims (e.g., those Product Claims where the Deficient Product is only identifiable based on visible inspection or testing) (each claim, a "**Latent Defect Claim**"), Client will in all cases give written notice within [***] days of discovery of the facts, matters or circumstances indicating the existence of a Latent Defect Claim and, in the case of unsold Product only, this notice will not be after the expiration date of the Product. If Client fails to provide a Latent Defect Claim within the applicable [***] day period, then the Product will be considered to have been accepted by Client. Patheon will have no liability for any deficiency for which it has not received notice within the applicable [***] day period.

(c) Determination of Deficiency. Upon receipt of a Product Claim, Patheon will have [***] days to advise Client by notice in writing whether it disagrees with the contents of the Product Claim. If the parties fail to agree within ten days after Patheon's notice to Client as to whether any Product identified in the Product Claim is Deficient Product, the parties will investigate the matter in accordance with the Quality Agreement.

(d) Supply Failure. If there is a Supply Failure, Client may in its sole discretion do one or more of the following: (i) [***], (ii) [***], (iii) [***], (iv) [***]. In addition to the foregoing rights, if Client elects (c)(iii) as a remedy in relation to a Supply Failure only, for each unit of Product that is not delivered in accordance with this Agreement on a Delivery Date, Patheon will [***]. Any [***] under this Agreement by Client to Patheon. A "**Supply Failure**" will mean any failure by Patheon to deliver to Client or its designee at least [***] of the quantity of Products under an accepted purchase order within [***] days of the scheduled Delivery Date if the failure is not the result of an Adverse Supply Event. A Supply Failure may result from both undelivered Product and delivered Product that is Deficient Product. [***] or more Supply Failures within any [***] month period will result in automatic suspension of the Minimum [***] Requirement until Patheon has performed [***] consecutive months without Supply Failure, after which the Minimum [***] Requirement will be reduced to [***]. The remedies contained in this Section 6.1(c) for a Supply Failure will be in addition to the rights of indemnification contained in Section 10.3 and any other rights and remedies available under this Agreement to Client.

(e) Adverse Supply Events. If there is an Adverse Supply Event that Patheon does not remediate so that it can perform the Manufacturing Services in accordance with the Processing Instructions and manufacture Product in accordance with this Agreement within [***] days after the occurrence of the Adverse Supply Event, Client may in its sole discretion do one or more of the following: (i) [***], (ii) [***], or (iii) [***]. An "**Adverse Supply Event**" will mean one or more of the following: (i) [***], (ii) [***], (iii) [***], or (iv) [***]. The existence of an Adverse Supply Event will not exonerate or otherwise relieve Patheon of any liability for breach of any independent obligation contained in this Agreement or the Quality Agreement.

6.2 Product Recalls and Returns.

(a) Records and Notice. The parties will each maintain records necessary to permit a Recall of any Product delivered to Client or customers of Client. Each party will promptly notify the other of any information which might affect the marketability, safety or effectiveness of the Product or which might result in the Recall or seizure of the Product in accordance with the Quality Agreement. The decision to initiate a Recall or to take some other corrective action, if any, will be made and implemented by Client. "**Recall**" will mean any action: (i) by Client to recover title to or possession of quantities of the Product sold or shipped to third parties (including, without limitation, the voluntary withdrawal of Product from the market); (ii) by any Regulatory Authority to detain or destroy any of the Product; or (iii) by either party to refrain from selling or shipping quantities of the Product to third parties which would be subject to a Recall if sold or shipped.

(b) Recalls. If: (i) any Regulatory Authority issues a directive, order or, following the issuance of a safety warning or alert about a Product, a written request that any Product be Recalled; (ii) a court of competent jurisdiction orders a Recall; or (iii) Client determines that any Product should be Recalled or that a "**Dear Doctor**" letter is required relating the restrictions on the use of any Product, then Patheon will co-operate as reasonably required by Client, having regard to all Applicable Laws.

(c) Recalled Product. To the extent that a Recall results from, or arises from Deficient Product, Patheon will be responsible for the reasonable documented out-of-pocket costs and expenses of the Recall and will use commercially reasonable efforts to replace the Deficient Product with replacement Products or, at Client's option, credit Client for future Product orders for the full amount paid by Client for the Deficient Product, including the shipping, storage and insurance expenses thereof. Client may adjust its Rolling Forecast as reasonably required by Client to account for the Recall and its impact on forecasted market demands. [***].

6.3 Disposition of Deficient Product.

Client will not dispose of any damaged, returned, or Deficient Product for which it intends to assert a Product Claim against Patheon without Patheon's prior written authorization to do so. Patheon may instruct Client to return the Products to Patheon. Patheon will bear the cost of return and disposition of any Deficient Products.

7. Co-operation and Regulatory Affairs

7.1 Governance.

Each party will without delay upon execution of this Agreement appoint one of its employees to be a relationship manager responsible for liaison between the parties. The relationship managers will meet on a frequency agreed between the parties to review the current status of the business relationship, including, but not limited to, review of key performance indicators such as API delivery, on-time delivery, right first time, and attainment of the Minimum [***] Requirement, and manage any issues that have arisen.

7.2 Governmental Agencies.

Subject to any restrictions in the Quality Agreement, each party may communicate with any Regulatory Authority responsible for granting Regulatory Approval for the Product and any other relevant Authority regarding the Product if, in the opinion of that party's counsel, the communication is necessary to comply with the terms of this Agreement or the requirements of the Authority or Applicable Laws. Otherwise, the parties will consult each other in relation to regulatory communications relating to the Product in accordance with the Quality Agreement.

7.3 Governmental Inspections and Requests.

Patheon will promptly advise Client if an authorized agent of any Regulatory Authority intends to inspect a Manufacturing Site related to the Manufacturing Services or the Product. Patheon will promptly furnish Client a copy of any report or notice issued by the Regulatory Authority (including, without limitation, any Form 483s or warning letters) (redacted to the extent containing information that is not relevant to the Manufacturing Services or the Product). To the extent the inspection is announced, Patheon will promptly inform the Client and permit the Client's agents and representatives to be present at the Manufacturing Site on the date and time of the Regulatory Authority inspection. If any documents related to the Manufacturing Services or the Product are requested by, or delivered to, any Regulatory Authority, Patheon will promptly notify Client, give Client a reasonable opportunity to comment on Patheon's proposed response, accommodate all Client's reasonable comments, and provide to Client copies of all documents submitted

to the Regulatory Authority (redacted to the extent containing information that is not relevant to the Manufacturing Services or the Product).

7.4 Records.

Patheon will keep complete and accurate books, records, test and laboratory data, reports and other information relating to the manufacture, testing, and shipping of the Product (including, without limitation, all manufacturing and packaging batch records), and retain samples of the Product as are necessary to comply with manufacturing regulatory requirements applicable to Patheon, Applicable Laws, cGMP and the Quality Agreement. Copies of the records and samples will be retained as and for the period specified in the Quality Agreement. Patheon reserves the right to destroy or return to Client, at Client's sole expense, any document or samples for which the retention period has expired if Client fails to arrange for destruction or return within 30 days of receipt of notice from Patheon.

7.5 Audits.

Subject to the limits agreed in the Quality Agreement but in any event [***] ([***]) in any trailing [***]-month period and more frequently if there are material quality or compliance issues concerning the Manufacturing Services or the Products, Patheon will give Client and its Licensees reasonable access at agreed times to the areas of the Manufacturing Site in which the Product is manufactured, stored, handled, or shipped and to the personnel that regularly performs these activities to permit Client to verify that the Manufacturing Services are being performed in accordance with the Processing Instructions, the Specifications, cGMPs, and Applicable Laws. If Client wishes to audit Patheon beyond the agreed limits, except where the audit is required due to Patheon's material breach or otherwise for cause, Client will pay to Patheon a fee of $[***] for each additional audit day and $[***] per audit day for each additional auditor. Under no circumstances will: (a) Client have a right of access to Patheon's financial records; or (b) any Patheon Competitor be permitted access to the Manufacturing Site. Patheon will ensure that all its Third Party Subcontractors permit Client and its Licensees similar audit rights to those set forth in this Section 7.5.

7.6 Regulatory Filings.

(a) Regulatory Authority Documentation. Client will provide copies of all relevant documents relating to Regulatory Authority approval for the commercial manufacture of the Product ("**Regulatory Approval**") to Patheon on request and as required under the Quality Agreement. Patheon will review and verify the accuracy of these documents in accordance with the Quality Agreement. Client is not entitled to submit Regulatory Approvals specifically referring to Patheon or its Affiliates or the Manufacturing Services until approved by Patheon (this approval not to be unreasonably withheld or delayed).

(b) Deficiencies. If, in Patheon's sole discretion, acting reasonably, Patheon determines that any regulatory information pertaining to the Manufacturing Services or the Manufacturing Site given by Client is inaccurate or deficient in any manner whatsoever (the "**Deficiencies**"), Patheon will notify Client promptly in writing of the Deficiencies. The parties will each use reasonable commercial efforts and act in good faith to have the Deficiencies resolved prior to the date of filing of the relevant application and in any event before any pre-approval inspection or before the Product is placed on the market if a pre-approval inspection is not performed.

(c) Pharmacovigilance. Patheon and Client will use reasonable commercial efforts to negotiate in good faith a process and procedure for sharing adverse event information received by Patheon. Patheon will provide Client with any information received by it regarding any adverse events in connection to the use of the Product within two Business Days from receipt.

(d) No Patheon Responsibility. Patheon will provide to Client, its Affiliates and Licensees with reasonable assistance as Client may request in order to assist with obtaining Regulatory Approval for Products, subject to reimbursement of Patheon's reasonable expenses or third party expenses incurred in connection therewith. Except as otherwise agreed in the Quality Agreement or the Pharmacovigilance Agreement, Patheon will not assume any responsibility for: (a) the submission, accuracy or cost of any application for Regulatory Approval or related documentation (or the success of those applications); (b) any activity that is required by Applicable Laws for Regulatory Approval (including pharmacovigilance and complaints handling, and preparation and submission of any regular quality or other update); or (c) any dealings with the relevant Regulatory Authority on behalf of Client for Regulatory Approval. If a Regulatory Authority, or other Authority, requires Patheon to incur fees, costs or activities in relation to the Product which Patheon reasonably considers unexpected and extraordinary, then Patheon will notify Client in writing and the parties will discuss in good faith appropriate mutually acceptable actions, including fee/cost sharing, or termination of all or any part of this Agreement. Patheon will be not be obliged to undertake these activities or to pay for the fees or costs until the parties reach agreement on scope and fees for Patheon's assistance.

7.7 Release.

Nothing in this Agreement will remove or limit the authority of the relevant quality function (as specified by the Quality Agreement) to determine whether the Product will be released for sale or distribution.

7.8 Withdrawal on Completion.

No later than 90 days following completion or permanent cessation of the Manufacturing Services at the applicable Manufacturing Site, Client will: (a) ensure that any regulatory filings relating to the Product are withdrawn or amended to remove all references to the Manufacturing Site and, as applicable, Patheon or its Affiliates and their facilities (except in an historic context); and (b) provide to Patheon written confirmation of its compliance with this Section 7.8. If this time is not sufficient to meet the requirements of certain Regulatory Authorities, despite Client's commercially reasonable efforts, then Patheon agrees to extend the period based on the written reassurances of Client.

8. Term and Termination

8.1 Initial Term.

This Agreement will become effective as of the Effective Date and will continue until December 31 of the sixth Year after the first commercial sale of Product by Client or any of its Affiliates, partners or Licensees (the "**Initial Term**"), unless terminated earlier by one of the parties in accordance with this Agreement. Thereafter, this Agreement will automatically renew after the Initial Term for successive terms of [***] unless either party gives written notice to the other party of its intention to

terminate this Agreement at least [***] months prior to the end of the then current term of this Agreement.

8.2 Termination for Cause.

(a) Either party may terminate this Agreement upon written notice (a "**Notice of Termination**") where the other party has failed to remedy a material breach of this Agreement within 60 days (the "**Remediation Period**") following receipt of a written notice of the breach from the aggrieved party that expressly states that it is a 'notice of breach' under this Section 8.2(a) (a "**Breach Notice**"). Each party will ensure that any Breach Notice delivery by it to the other party will not contain any reference to a Notice of Termination or otherwise express any intent to terminate this Agreement whether in the Breach Notice or otherwise until that party may properly submit a Notice of Termination in accordance with this Section 8.2(a). The aggrieved party's right to terminate this Agreement under this Section 8.2(a) may only be exercised for 60 days following the expiry of the Remediation Period (where the breach has not been remedied) and if the termination right is not exercised during this period then the aggrieved party will be considered to have waived the breach described in the Breach Notice.

(b) Client may terminate this Agreement upon 30 days' prior written notice if any Authority takes any action, or raises any objection, that permanently prevents Client from selling the Product in the Territory.

(c) Client may terminate this Agreement upon 180 days' prior written notice if it intends to no longer order Manufacturing Services for a Product due to the Product's discontinuance in the Territory.

(d) Client may terminate this Agreement upon 90 days' prior written notice if there have been more than [***] Supply Failures in any trailing [***] month period or more than [***] Supply Failures in any trailing [***] month;

(e) Client may terminate this Agreement if Patheon is unable to comply with a Product Change Control Request within 90 days of receipt thereof or if a Regulatory Authority notifies Patheon or Client that there is a significant regulatory deficiency related to the performance of the Manufacturing Services at the Manufacturing Site and the deficiency is not remedied to the satisfaction of the Regulatory Authority within 90 days of the notice;

(f) Patheon may terminate this Agreement if payment in full of overdue, undisputed invoices is not received within 30 days following the date of suspension of Manufacturing Services by Patheon under Section 5.4.

(g) Patheon may terminate this Agreement upon six months' prior written notice if Client assigns under Section 13.4 any of its rights under this Agreement to an assignee that is a Patheon Competitor;

(h) Each party may terminate this Agreement under Section 13.5 (Force Majeure) in accordance with the terms thereof.

8.3 Obligations on Termination.

If this Agreement is completed, expires, or is terminated in whole or in part for any reason, then:

(a) If either Party terminates under Section 8.2, Client's Minimum [***] Requirement will expire upon delivery of the termination notice and Client will have no obligation to [***];

(b) Client will take delivery of and pay for all undelivered Products that are manufactured or packaged in accordance with this Agreement under a Firm Order, at the Price in effect at the time the Firm Order was released;

(c) Client will purchase all Inventory that was purchased (or will be purchased under existing unfulfilled orders for Components), maintained or produced by Patheon in contemplation of filling Firm Orders or in accordance with Section 5.2, at Patheon's cost (including all documented costs incurred by Patheon for the purchase of the Inventory);

(d) Client, at its own expense, will remove from the Manufacturing Site, within [***] days following the completion, termination, or expiration of this Agreement, all unused API and Client-Supplied Components, all applicable Inventory (whether current or obsolete), supplies, undelivered Product, chattels, equipment or other moveable property owned by Client and located at the Manufacturing Site or that is otherwise under Patheon's care and control ("**Client Property**"). If Client fails to remove Client Property within the [***] day period, Client will pay Patheon $[***] per pallet, per month, one pallet minimum (except that Client will pay $[***] per pallet, per month, one pallet minimum, for any of Client Property that contains controlled substances, requires refrigeration or other special storage requirements) after that for storing Client Property and will assume any third party storage charges invoiced to Patheon regarding Client Property (which Patheon may incur at its discretion). Patheon may ship Client Property to Client or to an external warehouse at Client's risk and expense. Patheon will invoice Client for these storage charges as set out in Section 5.3 of this Agreement. If Client fails to remove Client Property within [***] days following the completion, termination, or expiration of this Agreement, Client will assume all risk of loss or damage to the stored Client Property and it will be Client's responsibility to have appropriate insurance coverage in place for this risk. If Client asks Patheon to destroy any Client Property, Client will be responsible for the cost of destruction; and

(e) any completion, termination or expiration of this Agreement will not affect any prior outstanding obligations or payments due nor will it prejudice any other rights or remedies that the parties may have under this Agreement. Completion, termination or expiration of this for any reason will not affect the obligations and responsibilities of the parties under Sections 6, 7, 8.3, 9.3, 9.5 and 10 through 13, all of which survive any completion, termination or expiration, as well as any other provisions that are by implication or otherwise intended to survive any completion, termination or expiration. Where Patheon has agreed to provide stability services beyond the final supply of Product, the relevant provisions of this Agreement related to stability services will survive for the agreed duration of those stability services.

8.4 Technology Transfer.

Following termination of this Agreement for any reason, or at Client's request at any time with six months' advance notice, Patheon will provide assistance to transfer part or all of Client's manufacturing process, know-how and analytical testing methodology for the Product to Client or its alternative manufacturer ("**Technology Transfer**") to assist Client or its alternative manufacturer to manufacture the Product. Patheon will also disclose to Client and thoroughly document any Patheon Intellectual Property that is reasonably required to manufacture the Product. Client will be responsible for all reasonable and

documented out-of-pocket costs incurred by Patheon in connection to the Technology Transfer. Patheon may charge Client at an hourly rate of $[***] or as otherwise agreed to by the parties for its reasonable and documented labor costs incurred in connection to the Technology Transfer.

9. Representations, Warranties and Covenants

9.1 Authority.

Each party covenants, represents, and warrants that it has the full right and authority to enter into this Agreement and that it is not aware of any impediment that would inhibit its ability to perform its obligations under this Agreement.

9.2 Client Warranties.

(a) Non-Infringement. Except to the extent attributable to Patheon's breach of this Agreement or the Development Agreement, or to Patheon's use of reagents, processes, techniques or equipment not supplied by Client, Client covenants, represents, and warrants that:

(i) it may lawfully disclose the Processing Instructions and Specifications to Patheon for use in accordance with this Agreement;

(ii) any processes and techniques transferred to Patheon and used by Patheon in performing the Manufacturing Services (A) is Client's or its Affiliates property or validly licensed to Client or its Affiliates from a third party, (B) may be lawfully used as directed by Client under this Agreement, and (C) does not infringe and will not infringe any Third Party Rights;

(iii) the performance of the Manufacturing Services by Patheon or the supply of any Product by Patheon as may be required to perform its obligations under this Agreement does not and will not infringe any Third Party Rights; and

(iv) there are no actions or other legal proceedings involving Client or its Affiliates that concerns the infringement of Third Party Rights related to any of the Processing Instructions or Specifications, or any of the API or Client-Supplied Components, or the sale, use, or other disposition of Product made in accordance with the Processing Instructions.

(b) Quality and Compliance. Client covenants, represents, and warrants that:

(i) the Processing Instructions and Specifications for the Product conforms to all applicable cGMPs and Applicable Laws; and

(ii) following Regulatory Approval, the Product, if labelled and manufactured in accordance with the Processing Instructions and in compliance with applicable cGMPs, the Specifications and Applicable Laws to Client and Product, may be lawfully sold and distributed in the Territory; and

(iii) on receipt by Patheon, the API will conform to the specifications for the API that Client has given to Patheon and that the API will be adequately contained, packaged, and labelled in

accordance with Applicable Laws and will conform to the affirmations of fact on the container.

(c) it will promptly notify Patheon if at any time during the Term if it becomes aware that any of the representations and warranties in subsections (a) and (b) are untrue.

9.3 Patheon Warranties.

Patheon covenants, represents, and warrants that:

(a) the Products upon delivery to Client or its designee will: (i) have been manufactured in accordance with this Agreement, and all cGMPs and Applicable Laws, (ii) meet the Specifications, and (iii) have not been adulterated, misbranded or mislabelled within the meaning of the FFDCA or equivalent laws in Canada, Japan or China (except to the extent as attributable to the API or any Client-Supplied Components where the deficiencies could not reasonably have been detected by Patheon when properly performing the Processing Instructions);

(b) it will perform the Manufacturing Services in accordance with this Agreement, the Processing Instructions, cGMPs, and Applicable Laws;

(c) it will at all times use commercially reasonable measures to protect API, Product and Components in its possession or control from theft, damage, loss or misuse;

(d) any Patheon Intellectual Property used by Patheon to perform the Manufacturing Services (i) is Patheon's or its Affiliate's unencumbered property, (ii) may be lawfully used by Patheon, and (iii) does not infringe and will not infringe any Third Party Rights;

(e) it will not in the performance of its obligations under this Agreement use the services of any person who is debarred or suspended under 21 U.S.C. §335(a) or (b);

(f) it does not currently have, and it will not hire, as an officer or an employee any person who has been convicted of a felony under the laws of the United States for conduct relating to the regulation of any drug product under the United States Federal Food, Drug, and Cosmetic Act; and

(g) it will promptly notify Client if at any time during the Term if it becomes aware that any of the representations and warranties in subsections (a) through (e) are untrue.

9.4 Permits.

(a) Client will be solely responsible for obtaining or maintaining, on a timely basis, any permits or other regulatory approvals for the distribution, marketing and sale of the Product as manufactured and labelled under the Processing Instructions and the Specifications, including, without limitation, all marketing and post-marketing approvals, and any specific approvals referred to in the Quality Agreement.

(b) Patheon will maintain at all relevant times when performing the Manufacturing Services all required governmental permits, licenses, approval, and authorities, including, without limitation the permits, licenses, qualifications and approvals contemplated in Section 2.7.

9.5 No Warranty.

NEITHER PARTY MAKES ANY WARRANTY, REPRESENTATION OR CONDITION OF ANY KIND, EITHER EXPRESSED OR IMPLIED, BY FACT OR LAW, OTHER THAN THOSE EXPRESSLY SET OUT IN THIS AGREEMENT AND THE QUALITY AGREEMENT. PATHEON MAKES NO WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY WARRANTY OR CONDITION OF MERCHANTABILITY FOR THE PRODUCT.

10. Liability and Remedies

10.1 Consequential and Other Damages. -

Excluding (i) [***], (ii) [***], or (iii) [***], under no circumstances whatsoever will either party be liable to the other in contract, tort, negligence, indemnity, breach of statutory duty, or otherwise for: (i) any (direct or indirect) penalty, loss of profits, of anticipated savings, of business, of goodwill, or of use of the Product or costs of any substitute services; or (ii) any reliance damages, including but not limited to [***]; or (iii) for any other liability, damage, costs, penalty, or expense of any kind incurred by the other party of an indirect or consequential nature, regardless of any notice of the possibility of these damages.

10.2 Limitation of Liability.

(a) Remedies for Deficient Product. If Client makes a Product Claim under Section 6.1 and the parties agree the Product is Deficient Product, or the Product is determined to be Deficient Product under Section 6, Patheon will promptly, at Client's election, either:

(i) replace the Product at Patheon's cost ([***]) if Patheon is able to manufacture the replacement Product at the Manufacturing Site and contingent upon the receipt from Client of all API and Client-Supplied Components required for the manufacture of the replacement Product (Patheon will reimburse Client for the actual cost of the Client-Supplied Components); or

(ii) refund [***] of the Price paid for the Deficient Product and reimburse Client for the actual cost of Client-Supplied Components, shipment, storage and insurance expenses ([***]).

Except for the indemnity set out in Section 10.3, and any claim for expenses related to a Recall under Section 6.2(c), the remedies described in this Section 10.2 will be Client's sole remedy in contract, tort, negligence, equity or otherwise, for Deficient Product.

The remedy under this Section 10.2, if applicable (including in the case of Recall), will apply only to the extent that the affected Deficient Product has not been consumed by the end user.

(b) API and Client-Supplied Components. API loss is addressed in Appendix 3, including with respect to Deficient Product. Except as expressly set out in Appendix 3 for API and in Section

10.2(a) for Client-Supplied Components, [***]. Patheon's maximum annual aggregate liability for loss of or damage to the API or Client-Supplied Components will not exceed [***] or [***] of [***] under this Agreement during the previous Year (or, in the case of the first Year, the [***]). This limitation of liability will not apply to the extent the loss of API or Client-Supplied Components was caused by Patheon's gross negligence or wilful misconduct.

(c) Maximum Liability. In any Year, Patheon's maximum aggregate liability to Client under or in connection with this Agreement (however arising, including contract, tort, negligence, breach of statutory duty, liquidated damages for a Failure to Supply, liability for loss or damage to API or Client-Supplied Components, or otherwise) will not exceed [***] (i) [***] or [***] under this Agreement during the previous Year (or, in the case of the first Year, [***]). The limitation on liability in this Section 10.2(c) will not apply to the specific remedies under Section 10.2(a) for Deficient Product (replace or refund), [***].

(d) Death, Personal Injury and Fraudulent Misrepresentation. Nothing contained in this Agreement will act to exclude or limit either party's liability for personal injury or death caused by the negligence of either party or fraudulent misrepresentation.

10.3 Patheon Indemnity.

Patheon agrees to defend and indemnify Client, its officers and employees, against all losses, damages, costs, claims, demands, subpoenas, judgments and liability to, from and in favour of third parties (other than Affiliates) for any claim to the extent the claim is the result of a breach of any of Patheon's representations, warranties, covenants or obligations contained in this Agreement or the Quality Agreement, or (ii) Patheon's negligence or wilful misconduct in performing this Agreement or the Quality Agreement except to the extent that the losses, damages, costs, claims, demands, subpoenas, judgments, and liability are due to the negligence or wrongful acts of Client, its officers, employees, or Affiliates.

10.4 Client Indemnity.

Client agrees to defend and indemnify Patheon, its officers and employees, against all losses, damages, costs, claims, demands, subpoenas, judgments and liability to, from and in favour of third parties (other than Affiliates) for any claim to the extent the claim is the result of (i) a breach of any of Client's representations, warranties, covenants or obligations contained in this Agreement or the Quality Agreement, or (ii) Client's negligence or wilful misconduct in performing this Agreement or the Quality Agreement, except to the extent that the losses, damages, costs, claims, demands, subpoenas, judgments, and liability are due to the negligence or wrongful acts of Patheon, its officers, employees, or Affiliates.

10.5 Indemnity Procedure.

A party (the "**Indemnitee**") that intends to claim indemnification under Section 10.3 or 10.4 will notify the other party (the "**Indemnitor**") promptly in writing of any action, claim or liability for which the Indemnitee believes it is entitled to claim indemnification, but the failure to give timely notice to the Indemnitor will not release the Indemnitor from any liability to the Indemnitee except to the extent the Indemnitor is actually prejudiced thereby. The Indemnitor will have the right, by notice to the Indemnitee, to assume the defense of the action or claim within 15 days after the Indemnitor's receipt of notice of the action or claim with counsel of the Indemnitor's choice and at the sole cost of the Indemnitor. If the Indemnitor assumes the defense, the Indemnitee may participate therein through counsel of its choice, but at the sole cost of the

Indemnitee. The party not assuming the defense of the claim will give reasonable assistance to the party assuming the defense, and all reasonable out-of-pocket costs of this assistance will be for the account of the Indemnitor. No claim will be settled other than by the party defending the claim, and then only with the consent of the other party which will not be unreasonably withheld or delayed. But the Indemnitee will have no obligation to consent to any settlement of any action or claim which imposes on the Indemnitee any liability or obligation which cannot be assumed and performed in full by the Indemnitor, and the Indemnitee will have no right to withhold its consent to any settlement of any action or claim if the settlement involves only the payment of money by the Indemnitor or its insurer.

10.6 Validation Batches.

Where Product validation batches are manufactured by Patheon under the Development Agreement and then released by Patheon for commercial sale or distribution by Client, the performance of the Development Services including the manufacture of the Product validation batches will be governed by the terms of the Development Agreement and will not be subject to the terms and conditions of this Agreement. The terms of this Agreement will apply to the Product after release by Patheon.

11. Confidentiality

11.1 Confidential Information.

"**Client's Confidential Information**" means any information disclosed by or on behalf of Client to Patheon or its Affiliates or agents (and their respective officers, directors, employees and agents) (each of the foregoing together "**Patheon's Representatives**") (whether disclosed in oral, written, electronic or visual form), before or after the Effective Date and throughout the Term, to the extent the information relates to Client, the Products or the substantive terms or performance of this Agreement or the Quality Agreement and any information derived by Patheon or Patheon's Representatives or otherwise coming to their respective attention while performing the Manufacturing Services or any other obligation contained in this Agreement, or the Quality Agreement to the extent related to the Client, the Products or the Manufacturing Services including, without limitation, information relating to the Client's patent and trademark applications, process designs, process models, drawings, plans, designs, data, databases and extracts therefrom, formulae, methods, know-how and other intellectual property, its clients and its clients' confidential information, finances, marketing, trade secrets, products and processes and all price quotations, manufacturing or professional services proposals, information relating to composition, proprietary technology, and all other information relating to manufacturing capabilities and operations. In addition, the batch release documentation and all analyses, compilations, studies, reports or other documents prepared by or on behalf of Patheon or Patheon's Representatives containing Confidential Information will be considered Client's Confidential Information. Samples or materials provided under this Agreement as well as any and all information derived from the approved analysis of the samples or materials will also constitute Client's Confidential Information. As between Patheon and Client, Client has title and exclusive ownership of Client's Confidential Information.

"**Confidential Information**" means either Client's Confidential Information or Patheon's Confidential Information, as the context requires.

"**Patheon's Confidential Information**" means any information disclosed by Patheon, contained in or otherwise agreed to by Patheon and Client in or in connection to this Agreement, any Product Agreement,

the Quality Agreement or the Pharmacovigilance Agreement and any information disclosed by or on behalf of Patheon to Client or its Affiliates or agents (and their respective officers, directors, employees and agents) (each of the foregoing together "**Client's Representatives**") (whether disclosed in oral written, electronic or visual form),including, without limitation, information relating to the Patheon's patent and trademark applications, process designs, process models, drawings, plans, designs, data, databases and extracts therefrom, formulae, methods, know-how and other intellectual property, its clients and its clients' confidential information, finances, marketing, trade secrets, products and processes and all price quotations, manufacturing or professional services proposals, information relating to composition, proprietary technology, and all other information relating to its manufacturing capabilities and operations, before or after the Effective Date and throughout the Term, in each case to the extent the information relates to Patheon or Patheon's Representatives or any Manufacturing Sites and is not Client's Confidential Information. As between Patheon and Client, Patheon has title and exclusive ownership of Patheon's Confidential Information.

For the purposes of this Section 11, a party receiving or otherwise in possession of Confidential Information of the other party (including through its Representatives) is a "**Recipient**", and a party disclosing or otherwise having proprietary rights of Confidential Information under this Agreement (including through its Representatives) is the "**Disclosing Party**".

11.2 Use of Confidential Information.

The Recipient will use the Confidential Information solely for the purpose of meeting its obligations and exercising its rights under this Agreement. Except as set forth in this Agreement, Recipient will keep the Confidential Information strictly confidential and will not disclose the Confidential Information in any manner whatsoever, in whole or in part, other than to those of its Representatives who (i) have a need to know the Confidential Information for the purpose of this Agreement; (ii) have been advised of the confidential nature of the Confidential Information and (iii) have obligations of confidentiality and non-use to the Recipient no less restrictive than those of this Agreement. Recipient will protect the Confidential Information disclosed to it by using reasonable precautions to prevent the unauthorized disclosure, dissemination or use of the Confidential Information, which precautions will not be less than those exercised by Recipient for its own confidential or proprietary Confidential Information of a similar nature. Each party, in its capacity as a Recipient, will be liable for the acts and failures to act by its respective Representatives for the improper use, disclosure, distribution, protection or handling of the Confidential Information of the Disclosing Party as the actions or failures were committed directly by the Recipient.

11.3 Exclusions.

The obligations of confidentiality in this Section 11 will not apply to the extent that Confidential Information:

(a) is or becomes publicly known through no breach of this Agreement or fault of the Recipient or its Representatives;

(b) is lawfully in the Recipient's possession at the time of disclosure by the Disclosing Party outside the context of the Manufacturing Services or the Development Services and other than as a result of the Recipient's breach of any legal, contractual, or fiduciary obligation or duty;

(c) is or becomes known to the Recipient on a non-confidential basis through disclosure by sources, other than the Disclosing Party or its Representatives, having the legal right to disclose the Confidential Information of the Disclosing Party if the other source is not known (after reasonable due inquiry) by the Recipient to be bound by any obligations (contractual, legal, fiduciary, or otherwise) of confidentiality to the Disclosing Party for the Confidential Information;

(d) is independently developed by the Recipient outside the context of the Manufacturing Services or the Development Services and without use of or reference to the Disclosing Party's Confidential Information as evidenced by Recipient's written records; or

(e) is expressly authorized for release by the written authorization of the Disclosing Party.

Any combination of information which comprises part of the Confidential Information is not exempt from the obligations of confidentiality merely because individual parts of that Confidential Information are covered by exceptions in this Section 11.3, unless the combination itself is covered by any of those exceptions.

11.4 Photographs and Recordings.

Neither party will take any photographs or videos of the interior of the other party's facilities, equipment or processes, nor use any other audio or visual recording equipment (such as camera phones) while at the other party's facilities, without that party's express written consent.

11.5 Permitted Disclosure.

Notwithstanding any other provision of this Agreement, the Recipient may disclose Confidential Information of the Disclosing Party to the extent required, as advised by counsel, in response to a valid order of a court or other governmental body or as required by law, regulation or stock exchange rule applicable to it. But, to the extent lawful, the Recipient will advise the Disclosing Party in advance of the disclosure and limit the required disclosure to the extent practicable and permissible by the order, law, regulation or stock exchange rule and any other applicable law, will reasonably cooperate with the Disclosing Party, if requested, in seeking an appropriate protective order or other remedy, and will otherwise continue to perform its obligations under this Section 11 with respect to information so disclosed. If any public disclosure is required by law, the parties will consult concerning the form of announcement prior to the public disclosure being made.

11.6 Return of Confidential Information.

Upon the written request of the Disclosing Party, the Recipient will promptly return or otherwise deliver the Confidential Information of the Disclosing Party to the Disclosing Party or, if the Disclosing Party directs, destroy all Confidential Information of the Disclosing Party that is in tangible form including any copies, summaries, compilations, analyses or other notes derived from the Confidential Information, except for one copy which may be maintained by the Recipient in the sole and exclusive custody of its legal department to be held for the sole purpose of assessing compliance with the terms of this Agreement. The retained copy will remain subject to all confidentiality provisions contained in this Agreement. Client will not unreasonably require the return of Confidential Information that is necessary or useful to perform the

Manufacturing Services. Patheon will not unreasonably require the return of Confidential Information that is necessary or useful to exercise its rights under this Agreement.

11.7 Remedies.

The parties acknowledge that monetary damages will not be sufficient to remedy a breach by either party of this Section 11 and therefore agree that the non-breaching party will be entitled to specific performance, injunctive or other equitable relief in any court of competent jurisdiction (notwithstanding Section 13.15) to prevent breaches of this Section 11 and to specifically enforce Section 11 in addition to any other remedies available at law or in equity. These remedies will not be the exclusive remedies for breach of this Section 11 but will be in addition to any and all other remedies available at law or in equity. Each party agrees to waive any bond requirement as a condition to the grant of any equitable relief.

11.8 Survival.

The obligations contained in this Section 11 will survive any termination of this Agreement for seven years from the last day of the Term.

12. Intellectual Property

12.1 Inventions.

(a) For the term of this Agreement, Client grants to Patheon a [***]. This license does not extend to Client's Affiliates, Licensees or any third party absent a license granted by Client to the third party, or other separate written consent by Client in each case.

(b) All Client Intellectual Property will be the exclusive property of Client.

(c) All Patheon Intellectual Property will be the exclusive property of Patheon. Unless Patheon identifies in advance any specific Patheon Intellectual Property that will be subject to a separate licensing agreement between the parties, Patheon grants to Client a [***].

(d) Each party will be solely responsible for the costs of filing, prosecution, and maintenance of patents and patent applications on its own Inventions.

(e) Each party will give the other party written notice, as promptly as practicable, of all Inventions that comprise either the Client Intellectual Property or the Patheon Intellectual Property, in each case developed by Patheon while performing any Manufacturing Services or Development Services.

12.2 Intellectual Property.

Except as expressly set out in Section 12.1 or otherwise in this Agreement, neither party has, nor will it acquire, any interest in any of the other party's Intellectual Property unless otherwise expressly agreed to in writing. Neither party will use any Intellectual Property of the other party, except as specifically authorized by the other party in writing or as required for the performance of its obligations or exercise of its rights under this Agreement. Client may use the Patheon Intellectual Property and Patheon Confidential

Information licensed to Client under Section 12.1(c) in the manufacture of the Product, whether internally or by one or more third parties.

13. Miscellaneous

13.1 Insurance.

Each party will maintain commercial general liability insurance, including blanket contractual liability insurance covering the obligations of that party under this Agreement through the term of this Agreement and for a period of three years after that. This insurance will have policy limits of not less than: (i) [***] for each occurrence for personal injury or property damage liability; and (ii) [***] in the aggregate per annum for product and completed operations liability. If requested each party will give the other a certificate of insurance evidencing the above and showing the name of the issuing company, the policy number, the effective date, the expiration date, and the limits of liability. The insurance certificate will further provide for a minimum of 30 days' written notice to the insured of a cancellation of, or material change in, the insurance. If a party is unable to maintain the insurance policies required under this Agreement through no fault of its own, then the party will without delay notify the other party in writing and the parties will in good faith negotiate appropriate amendments to the insurance provision of this Agreement in order to provide adequate assurances.

13.2 No Agency or Partnership.

The parties are independent contractors and this Agreement does not create between the parties any other relationship such as, by way of example only, that of employer and employee, principal and agent, joint-venturers, co-partners, or any similar relationship, the existence of which is expressly denied by the parties.

13.3 No Waiver.

Neither party's failure to require the other party to comply with any provision of this Agreement will be considered a waiver of the provision or any other provision of this Agreement, with the exception of Sections 6.1 and 8.2(a) of this Agreement.

13.4 Assignment.

(a) Patheon may not assign this Agreement or any of its associated rights or obligations thereunder without the written consent of Client. Notwithstanding the foregoing, Patheon may assign this Agreement (i) to any of its Affiliates or (ii) to a successor to or purchaser of all or substantially all of its business, if (I) performance of activities hereunder remains at the Manufacturing Site, (II) the FDA registration number for the Manufacturing Site does not change and (III) the assignee executes an agreement with Client whereby it agrees to be bound by the obligations of this Agreement owed to Client. Any assignment in violation of this Agreement will be void.

(b) Subject to Section 8.2(d), Client may assign this Agreement or any of its associated rights or obligations thereunder (in whole or in part) without approval from Patheon to (each of the following a "**Permitted Assignee**"): (i) a successor to all of Client's business or purchaser of all or substantially all of Client's assets or business related to the Product, (ii) any licensee or

partner of Client where the licensee or partner has been granted the rights to market, distribute or sell the Product in the Territory (or any part thereof), or (iii) to an Affiliate. Promptly upon the assignment to a Permitted Assignee, the Client will give Patheon written notice of the assignment and copies of all instruments of assignment, and any Permitted Assignee will covenant in writing with Patheon to be bound by the terms of this Agreement to the extent assigned to the Permitted Assignee. Client may not assign this Agreement or any of its associated rights or obligations thereunder to any person other than a Permitted Assignee without the written consent of Patheon.

(c) Any assignment in violation of this Section 13.4 will be considered void.

13.5 Force Majeure.

Neither party will be liable for the failure to perform its obligations under this Agreement if the failure is caused by an event beyond that party's reasonable control, including, but not limited to, strikes or other labor disturbances, lockouts, riots, quarantines, communicable disease outbreaks, wars, acts of terrorism, cyber-attacks, fires, floods, storms, interruption of or delay in transportation, defective equipment, lack of or inability to obtain fuel, power or components, or compliance with any order, regulation, or enforcement decision of any Authority (a "**Force Majeure Event**"). A party claiming a right to excused performance under this Section 13.5 will immediately notify the other party in writing of the extent of its inability to perform, which notice will specify the event beyond its reasonable control that prevents the performance, and will use commercially reasonable efforts to mitigate the contingency and recommence its performance of the obligation as soon as commercially practicable. If a Force Majeure Event causes a partial but not complete inability to perform its obligations under this Agreement, that Party will perform to the maximum extent it is able to, if a Force Majeure Event results in a partial reduction in manufacturing capacity at a Manufacturing Site, (a) to the extent reasonably practical, Patheon will supply Client proportionately with Patheon's other customers and (b) Client may obtain the balance of Product required from any one or more third persons or produce the Product itself without any liability for violation of Section 2.2. Neither party will be entitled to rely on a Force Majeure Event to relieve it from an obligation to pay money (including any interest for delayed payment) which would otherwise be due and payable under this Agreement. If a Force Majeure Event is not resolved within 120 days, the other party may terminate this Agreement on written notice.

13.6 Additional Product and Services.

Additional Product may be added to this Agreement by amendment. If Client requests services other than those expressly set out in this Agreement (such as qualification of a new packaging configuration or shipping studies, or validation of alternative batch sizes), or any cost items that are specifically excluded from the Price, Patheon will provide a written quote of the fee for the additional services and Client will advise Patheon whether it wishes to have the additional services performed by Patheon. The scope of work and fees will be agreed in writing by the parties.

13.7 Notices.

Any notice, approval, instruction or other written communication required or permitted under this Agreement will be sufficient if made or given to the other party by personal delivery or confirmed receipt email or by sending the same by first class mail, postage prepaid to the respective addresses or email addresses set out below:

If to Client:

Ardelyx, Inc.
[***]
Attention: [***]
Email address: [***]

With a copy to: [***]
Email address: [***]

If to Patheon:

Patheon Pharmaceuticals Inc.
[***]
Attention: [***]
Email address: [***]

or to any other addresses or email addresses given to the other party in accordance with the terms of this Section 13.7. Notices or written communications made or given by personal delivery, or email will be considered to have been sufficiently made or given when sent (receipt acknowledged), or if mailed, five days after being deposited in the United States, Canada, or European Union mail, postage prepaid or upon receipt (supported by reasonable written evidence), whichever is sooner.

13.8 Severability.

If any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, that determination will not impair or affect the validity, legality, or enforceability of the remaining provisions, because each provision is separate, severable, and distinct.

13.9 Entire Agreement.

This Agreement, together with its Appendices and the Quality Agreement constitutes the full, complete, final and integrated agreement between the parties relating to the subject matter of the Agreement and supersedes all previous written or oral negotiations, commitments, representations, agreements, transactions, or understandings concerning the subject matter of this Agreement. The basis of the parties' agreement is set out expressly and they have not been induced by or relied on any statement or representation that is not set out in this Agreement. Any modification, amendment, or supplement to this Agreement must be in writing and signed by authorized representatives of both parties. In case of conflict, this Agreement will prevail over the Quality Agreement (except that the Quality Agreement will prevail in relation to quality matters).

13.10 Other Terms.

No terms, provisions or conditions of any purchase order or other business form or written authorization used by the parties will have any effect on the rights, duties, or obligations of the parties under or otherwise modify this Agreement regardless of any failure of a party to object to the terms, provisions, or conditions unless the document specifically refers to this Agreement and is signed by both parties.

13.11 No Third Party Benefit or Right.

Nothing in this Agreement will confer or be construed as conferring on any third party any benefit or the right to enforce any express or implied term of this Agreement (except that Patheon Affiliates acting as subcontractors under this Agreement may enforce Sections 10.1 and 10.2 and Client Licensees may enforce their rights under Section 7.5). The rights of the parties to terminate, rescind or agree any variation, waiver or settlement under this Agreement are not subject to the consent of any other person.

13.12 Execution in Counterparts.

This Agreement may be executed in two or more counterparts, by original or electronic (including "**pdf**") signature, each of which will be considered an original, but all of which together will constitute one and the same instrument.

13.13 Use of Name.

Neither party may use the other party's name, trademarks or logo or any variations of them, alone or with any other word or words, without the prior written consent of the other party, unless required in connection to a Regulatory Approval or any communications with a Regulatory Authority.

13.14 Taxes.

Any payment to Patheon under this Agreement is exclusive of value added taxes, turnover, taxes, or similar taxes.

13.15 Governing Law and Jurisdiction.

This Agreement and any dispute or claim (including non-contractual disputes or claims) arising out of or in connection with it or its subject matter or formation are governed by the laws of the State of New York, United States of America, without regard to any conflicts-of-law principle that directs the application to another jurisdiction's law. Both parties hereby submit to the exclusive jurisdiction of: (i) the Supreme Court of the State of New York, New York County or (ii) the United States District Court for the Southern District of New York, for purposes of any lawsuit, action or other proceeding arising out of this Agreement. Each party agrees to commence any action, suit or proceeding either in the United States District Court for the Southern District of New York or, if the lawsuit, action or other proceeding may not be brought in that court for jurisdictional reasons, in the Supreme Court of the State of New York, New York County. Each party agrees that service of any process, summons, notice or document by United States registered mail or recognized international courier service to the party's respective address set forth in Section 13.7 of this Agreement will be effective service of process for any lawsuit, action or other proceeding in New York for any matters to which it has submitted to jurisdiction in this Agreement. Each party irrevocably and unconditionally waives any objection to the venue of any lawsuit, actions or other proceeding arising out of this Agreement or the transactions contemplated hereby in any of the foregoing courts. The parties further expressly agree that the UN Convention on Contracts for the International Sale of Goods will not apply to this Agreement.

13.16 Dispute Resolution.

Disputes between the parties under this Agreement will be resolved as set forth in Appendix 2.

[*signature page follows*]

This Agreement is signed by the authorized representatives of the parties on the dates shown below and will take effect from the Effective Date.

PATHEON PHARMACEUTICALS INC.	ARDELYX, INC.
By: /s/ Amanda Bosse	By: /s/ Jeff Jacobs
Name: Amanda Bosse	Name: Jeff Jacobs
Title: President, DPD NA	Title: C.S.O.
Date: 18 May 2020	Date: 5/18/2020

APPENDIX 1 – Commercial Supply Pricing

Omitted pursuant to Regulation S-K, Item 601(a)(5).

[***]

APPENDIX 2 – Dispute Resolution

Negotiation

If any dispute arises out of this Agreement, the parties will first try to resolve it amicably. Any party may send a notice of a dispute to the other, and each party will appoint, within ten Business Days from receipt of the notice, an appropriate single representative having full power and authority to resolve the dispute. The representatives will meet as necessary in order to resolve the dispute. If the representatives fail to resolve the matter within one month from their appointment, or if a party fails to appoint a representative as required above: for Technical Disputes, the expert determination procedure may be started by either party; and for all other disputes, each party will refer the dispute immediately to the Chief Operating Officer or equivalent (or another senior manager as he/she may designate) ("**Senior Officers**") who will meet and discuss as necessary to try to resolve the dispute amicably. Nothing in this Agreement will preclude any party from seeking interlocutory relief (including, without limitation, injunctive relief). If the Senior Officers fail to resolve the dispute, either party may pursue alternative action including commencement of court proceedings in a court of competent jurisdiction.

Technical Disputes

If a dispute arises between the parties that is exclusively related to technical aspects of the manufacturing, packaging, labelling, quality control testing, handling, storage, or other activities under this Agreement, including conformance of Product to applicable Specifications (a "**Technical Dispute**"), the parties will use all reasonable efforts to resolve the dispute by amicable negotiations as provided above. If the parties are unable to resolve a Technical Dispute by negotiation, the Technical Dispute will, at the written request of either party, be referred for determination to an expert in the following manner:

(a) Appointment of Expert. Within [***] Business Days after the written request, the parties will appoint a single agreed expert with experience and expertise in the subject matter of the dispute. As a condition of the expert's appointment, the parties will ensure that the expert agrees to disclose any actual or potential conflicts of interest promptly as they arise. The parties do not intend that the expert acts as an arbitrator.

(b) Procedure. The parties will require the expert to provide an opinion on each referred issue (with reasonably detailed reasoning) within [***] Business Days (or as agreed by the parties with the expert). Each party will give to the expert all the evidence and information within their respective possession or control as the expert may reasonably request, which they will disclose promptly and in any event within [***] Business Days of a written request from the expert to do so. At all times the parties will co-operate in good faith and seek to narrow and limit the issues to be determined.

(c) Final and Binding. The determination of the expert will, except for fraud or manifest error or where an unapproved conflict of interest is discovered, be final and binding upon the parties with respect to the referred Technical Dispute.

Costs. Each party will bear its own costs for any matter referred to an expert under this Appendix 2 and, in the absence of express agreement to the contrary, the costs and expenses of the expert will be shared equally by the parties.

APPENDIX 3 – API Yield Calculation

Omitted pursuant to Regulation S-K, Item 601(a)(5).

[***]

APPENDIX 4 – Price Adjustments

Omitted pursuant to Regulation S-K, Item 601(a)(5).

[***]

Exhibit 31.1

CERTIFICATION

I, Michael Raab, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ardelyx, 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 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: August 6, 2020

By: /s/ Michael Raab

Michael Raab
President Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Justin Renz, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Ardelyx, 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 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: August 6, 2020

By: /s/ Justin Renz

Justin Renz
Chief Financial Officer
(Principal Financial and Accounting 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 of Ardelyx, Inc. (the "Company") on Form 10-Q for the period ending June 30, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), Michael Raab, President and Chief Executive Officer of the Company, and Justin Renz, Chief Financial Officer of the Company, respectively, do each hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

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

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

Date: August 6, 2020

By: /s/ Michael Raab
Michael Raab
President Chief Executive Officer and Director
(Principal Executive Officer)

Date: August 6, 2020

By: /s/ Justin Renz
Justin Renz
Chief Financial Officer
(Principal Financial and Accounting Officer)