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

FORM 10-Q

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

For the quarterly period ended June 30, 2021

or

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

For the transition period from _____ to

Commission File No. 001-37852

PROTAGONIST THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware	**98-0505495**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
7707 Gateway Boulevard, Suite 140 Newark, California 94560-1160	**(510) 474-0170**
(Address, including zip code, of registrant's principal executive offices)	**(Telephone number, including area code, of registrant's principal executive offices)**

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 $0.00001	PTGX	The Nasdaq Stock Market, LLC

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

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

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

Large accelerated filer	☐	Accelerated filer	☐
		Smaller reporting company	☒
Non-accelerated filer	☒	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 of 1934). Yes ☐ No ☒

As of July 30, 2021, there were 47,550,573 shares of the registrant's Common Stock, par value $0.00001 per share, outstanding.

PROTAGONIST THERAPEUTICS, INC.
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PART I. – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands, except share and per share data)

	June 30, 2021	December 31, 2020
Assets		
Current assets:		
Cash and cash equivalents	$ 192,412	$ 117,358
Marketable securities	161,868	188,451
Restricted cash - current	—	10
Receivable from collaboration partner and contract asset - related party	7,077	2,426
Research and development tax incentive receivable	2,778	1,084
Prepaid expenses and other current assets	7,683	6,277
Total current assets	371,818	315,606
Marketable securities - noncurrent	26,122	2,000
Property and equipment, net	1,718	1,462
Restricted cash - noncurrent	225	450
Operating lease right-of-use asset	4,349	4,950
Total assets	$ 404,232	$ 324,468
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	$ 7,905	$ 3,075
Payable to collaboration partner - related party	11,396	2,732
Accrued expenses and other payables	20,096	18,498
Deferred revenue - related party	2,009	14,477
Operating lease liability - current	1,567	1,459
Total current liabilities	42,973	40,241
Operating lease liability - noncurrent	3,691	4,500
Other liabilities	121	121
Total liabilities	46,785	44,862
Commitments and contingencies		
Stockholders' equity:		
Preferred stock, $0.00001 par value, 10,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, $0.00001 par value, 90,000,000 shares authorized; 47,525,560 and 43,745,465 shares issued and outstanding as of June 30, 2021 and December 31, 2020, respectively	—	—
Additional paid-in capital	696,157	563,389
Accumulated other comprehensive (loss) gain	(59)	28
Accumulated deficit	(338,651)	(283,811)
Total stockholders' equity	357,447	279,606
Total liabilities and stockholders' equity	$ 404,232	$ 324,468

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

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Statements of Operations
(Unaudited)
(In thousands, except share and per share data)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
License and collaboration revenue - related party	$ 2,265	$ 6,217	$ 8,454	$ 9,864
Operating expenses:				
Research and development	26,432	20,257	50,677	39,025
General and administrative	6,715	4,177	12,680	8,753
Total operating expenses	33,147	24,434	63,357	47,778
Loss from operations	(30,882)	(18,217)	(54,903)	(37,914)
Interest income	97	207	199	733
Interest expense	—	(209)	—	(452)
Loss on early repayment of debt	—	(585)	—	(585)
Other (expense) income, net	(57)	512	(136)	22
Loss before income tax expense	(30,842)	(18,292)	(54,840)	(38,196)
Income tax expense	—	(1,129)	—	(1,305)
Net loss	$ (30,842)	$ (19,421)	$ (54,840)	$ (39,501)
Net loss per share, basic and diluted	$ (0.69)	$ (0.59)	$ (1.23)	$ (1.31)
Weighted-average shares used to compute net loss per share, basic and diluted	44,864,637	32,799,691	44,546,172	30,251,805

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

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Statements of Comprehensive Loss
(Unaudited)
(In thousands)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Net loss	$ (30,842)	$ (19,421)	$ (54,840)	$ (39,501)
Other comprehensive loss:				
(Loss) gain on translation of foreign operations	(34)	(324)	(67)	14
Unrealized gain (loss) on marketable securities	8	9	(20)	(1)
Comprehensive loss	$ (30,868)	$ (19,736)	$ (54,927)	$ (39,488)

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

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)
(In thousands, except share data)

Three months ended June 30, 2021	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at March 31, 2021	43,939,246	$ —	$ 567,176	$ (33)	$ (307,809)	$ 259,334
Issuance of common stock pursuant to public offering, net of issuance costs	3,503,311	—	123,798	—	—	123,798
Issuance of common stock under equity incentive and employee stock purchase plans	83,003	—	1,247	—	—	1,247
Stock-based compensation expense	—	—	3,936	—	—	3,936
Other comprehensive loss	—	—	—	(26)	—	(26)
Net loss	—	—	—	—	(30,842)	(30,842)
Balance at June 30, 2021	47,525,560	$ —	$ 696,157	$ (59)	$ (338,651)	$ 357,447

Three months ended June 30, 2020	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at March 31, 2020	27,434,705	$ —	$ 300,300	$ 107	$ (237,741)	$ 62,666
Issuance of common stock pursuant to public offering, net of issuance costs	8,050,000	—	105,331	—	—	105,331
Issuance of common stock pursuant to at-the-market offering, net of issuance costs	1,232,793	—	16,643	—	—	16,643
Issuance of common stock under equity incentive and employee stock purchase plans	84,641	—	585	—	—	585
Stock-based compensation expense	—	—	1,996	—	—	1,996
Other comprehensive loss	—	—	—	(315)	—	(315)
Net loss	—	—	—	—	(19,421)	(19,421)
Balance at June 30, 2020	36,802,139	$ —	$ 424,855	$ (208)	$ (257,162)	$ 167,485

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

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Statements of Stockholders' Equity
(Unaudited)
(In thousands, except share data)

Six months ended June 30, 2021	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2020	43,745,465	$ —	$ 563,389	$ 28	$ (283,811)	$ 279,606
Issuance of common stock pursuant to public offering, net of issuance costs	3,503,311	—	123,798	—	—	123,798
Issuance of common stock under equity incentive and employee stock purchase plans	283,844	—	2,563	—	—	2,563
Shares withheld for net settlement of tax withholding upon vesting of restricted stock units	(7,060)	—	(189)	—	—	(189)
Stock-based compensation expense	—	—	6,596	—	—	6,596
Other comprehensive loss	—	—	—	(87)	—	(87)
Net loss	—	—	—	—	(54,840)	(54,840)
Balance at June 30, 2021	47,525,560	$ —	$ 696,157	$ (59)	$ (338,651)	$ 357,447

Six months ended June 30, 2020	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2019	27,217,649	$ —	$ 297,846	$ (221)	$ (217,661)	$ 79,964
Issuance of common stock pursuant to public offering, net of issuance costs	8,050,000	—	105,331	—	—	105,331
Issuance of common stock pursuant to at-the-market offering, net of issuance costs	1,232,793	—	16,643	—	—	16,643
Issuance of common stock under equity incentive and employee stock purchase plans	301,697	—	991	—	—	991
Stock-based compensation expense	—	—	4,044	—	—	4,044
Other comprehensive gain	—	—	—	13	—	13
Net loss	—	—	—	—	(39,501)	(39,501)
Balance at June 30, 2020	36,802,139	$ —	$ 424,855	$ (208)	$ (257,162)	$ 167,485

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

PROTAGONIST THERAPEUTICS, INC.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(In thousands)

	Six Months Ended June 30,	
	2021	**2020**
Cash Flows from Operating Activities		
Net loss	$ (54,840)	$ (39,501)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation	6,596	4,044
Operating lease right-of-use asset amortization	887	887
Depreciation and amortization	365	419
Net amortization of premium (accretion of discount) on marketable securities	821	(243)
Loss on early repayment of debt	—	585
Amortization of debt issuance costs and accretion of debt discount	—	22
Change in deferred tax asset	—	1,412
Changes in operating assets and liabilities:		
Research and development tax incentive receivable	(1,682)	(278)
Receivable from collaboration partner - related party	(4,651)	3,758
Prepaid expenses and other assets	(1,421)	(248)
Accounts payable	4,874	73
Payable to collaboration partner - related party	8,664	(259)
Accrued expenses and other payables	1,386	382
Deferred revenue - related party	(12,468)	(7,517)
Operating lease liability	(987)	(958)
Other liabilities	—	92
Net cash used in operating activities	(52,456)	(37,330)
Cash Flows from Investing Activities		
Purchase of marketable securities	(163,460)	(66,753)
Proceeds from maturities of marketable securities	165,080	104,583
Purchases of property and equipment	(640)	(271)
Net cash provided by investing activities	980	37,559
Cash Flows from Financing Activities		
Proceeds from public offering of common stock, net of issuance costs	123,995	105,689
Proceeds from issuance of common stock upon exercise of stock options and purchases under employee stock purchase plan	2,563	991
Tax withholding payments related to net settlement of restricted stock units	(189)	—
Proceeds from at-the-market offering, net of issuance costs	—	16,834
Issuance costs related to long-term debt	—	(14)
Early repayment of long-term debt	—	(10,524)
Net cash provided by financing activities	126,369	112,976
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(74)	31
Net increase in cash, cash equivalents and restricted cash	74,819	113,236
Cash, cash equivalents and restricted cash, beginning of period	117,818	33,466
Cash, cash equivalents and restricted cash, end of period	$ 192,637	$ 146,702
Supplemental Disclosure of Non-Cash Financing and Investing Information:		
Purchases of property and equipment in accounts payable and accrued liabilities	$ 63	$ 21
Issuance costs related to common stock offering included in accrued liabilities and other payables	$ 197	$ 233
Issuance costs related to common stock offering included in prepaid expenses and other assets at the end of the previous year	$ —	$ 125
Issuance costs related to at-the-market offering of common stock included in prepaid expenses and other assets at the end of the previous year	$ —	$ 191

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

PROTAGONIST THERAPEUTICS, INC.
Notes to Unaudited Condensed Consolidated Financial Statements

Note 1. Organization and Description of Business

Protagonist Therapeutics, Inc. (the "Company") is headquartered in Newark, California. The Company is a clinical-stage biopharmaceutical company that utilizes a proprietary technology platform to discover and develop novel peptide-based drugs to address significant unmet medical needs and transform existing treatment paradigms for patients. Protagonist Pty Limited ("Protagonist Australia") is a wholly-owned subsidiary of the Company and is located in Brisbane, Queensland, Australia. The Company manages its operations as a single operating segment.

Liquidity

As of June 30, 2021, the Company had cash, cash equivalents and marketable securities of $380.4 million. The Company has incurred net losses from operations since inception and has an accumulated deficit of $338.7 million as of June 30, 2021. The Company's ultimate success depends on the outcome of its research and development and collaboration activities. The Company expects to incur additional losses in the future and anticipates the need to raise additional capital to continue to execute its long-range business plan. Since the Company's initial public offering in August 2016, it has financed its operations primarily through offerings of common stock and payments received under license and collaboration agreements.

Risks and Uncertainties

The Company is subject to risks and uncertainties as a result of the ongoing COVID-19 pandemic. The Company is continuing to closely monitor the impact of the COVID-19 pandemic on its business and has taken and continues to take proactive efforts to protect the health and safety of its patients, clinical research staff and employees, and to maintain business continuity. The extent of the impact of the COVID-19 pandemic on the Company's activities remains uncertain and difficult to predict, as the response to the pandemic is ongoing and information continues to evolve. Capital markets and economies worldwide have been negatively impacted by the COVID-19 pandemic, which has contributed to the current global economic recession. Such economic disruption could have a material adverse effect on the Company's business. Policymakers around the globe have responded with fiscal policy actions to support the healthcare industry and economy as a whole. The magnitude and overall effectiveness of these actions remains uncertain.

The severity of the impact of the COVID-19 pandemic on the Company's activities will depend on a number of factors, including, but not limited to, the duration and severity of the pandemic, including the severity of any additional periods of increases or spikes in the number of cases in the areas the Company and its suppliers operate and areas where the Company's clinical trial sites are located; the development and spread of COVID-19 variants, the timing, extent, effectiveness and durability of COVID-19 vaccine programs or other treatments; and new or continuing travel and other restrictions and public health measures, such as social distancing, business closures or disruptions. Accordingly, the extent and severity of the impact on the Company's existing and planned clinical trials, manufacturing, collaboration activities and operations, is uncertain and cannot be fully predicted. The Company has experienced delays in its existing and planned clinical trials due to the worldwide impacts of the pandemic. The Company's future results of operations and liquidity could be adversely impacted by further delays in existing and planned clinical trials, continued difficulty in recruiting patients for these clinical trials, delays in manufacturing and collaboration activities, supply chain disruptions, the ongoing impact on its operating activities and employees, and the ongoing impact of any initiatives or programs that the Company may undertake to address financial and operational challenges. As of the date of issuance of these condensed consolidated financial statements, the extent to which the COVID-19 pandemic may materially impact the Company's future financial condition, liquidity or results of operations remains uncertain.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP") and applicable rules and regulations of the SEC regarding interim financial reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by GAAP have been condensed or omitted, and accordingly the condensed consolidated balance sheet as of December 31, 2020 has been derived from the Company's audited consolidated financial statements at that date but does not include all of the information required by GAAP for complete consolidated financial statements. These unaudited interim condensed consolidated financial statements have been prepared on the same basis as the Company's annual consolidated financial statements and, in the opinion of management, reflect all adjustments (consisting of normal recurring adjustments) that are necessary for a fair presentation of the Company's consolidated financial statements. The results of operations for the three and six months ended June 30, 2021 are not necessarily indicative of the results to be expected for the year ending December 31, 2021 or for any other interim period or for any other future year.

The accompanying condensed consolidated financial statements and related financial information should be read in conjunction with the audited consolidated financial statements and the related notes thereto for the year ended December 31, 2020 included in the Company's Annual Report on Form 10-K, filed with the SEC on March 10, 2021.

Principles of Consolidation

The accompanying unaudited interim condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany transactions and balances have been eliminated upon consolidation.

Use of Estimates

The preparation of the condensed consolidated financial statements in conformity with GAAP requires management to make estimates, assumptions and judgments that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the condensed consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates, including those related to revenue recognition, accruals for research and development activities, stock-based compensation, income taxes, marketable securities and leases. Estimates related to revenue recognition include actual costs incurred versus total estimated costs of the Company's deliverables to determine percentage of completion in addition to the application and estimates of potential revenue constraints in the determination of the transaction price under its license and collaboration agreements. Management bases these estimates on historical and anticipated results, trends, and various other assumptions that the Company believes are reasonable under the circumstances, including assumptions as to forecasted amounts and future events.

Due to the ongoing COVID-19 pandemic, there has been uncertainty and disruption in the global economy and financial markets. The Company has taken into consideration any known COVID-19 impacts in its accounting estimates to date and is not aware of any additional specific events or circumstances that would require any additional updates to its estimates or judgments or a revision of the carrying value of its assets or liabilities as of the date of issuance of this Quarterly Report on Form 10-Q. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

Concentrations of Credit Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash, cash equivalents and marketable securities. Substantially all of the Company's cash is held by two financial institutions

that management believes are of high credit quality. Such deposits may, at times, exceed federally insured limits. The primary focus of the Company's investment strategy is to preserve capital and to meet liquidity requirements. The Company's cash equivalents and marketable securities are managed by external managers within the guidelines of the Company's investment policy. The Company's investment policy addresses the level of credit exposure by limiting concentration in any one corporate issuer and establishing a minimum allowable credit rating. To manage its credit risk exposure, the Company maintains its U.S portfolio of cash equivalents and marketable securities in fixed income securities denominated and payable in U.S. dollars. Permissible investments of fixed income securities include obligations of the U.S. government and its agencies, money market instruments including commercial paper and negotiable certificates of deposit, highly rated corporate debt obligations and money market funds, and highly rated supranational and sovereign government securities.

Cash Equivalents

Cash equivalents that are readily convertible to cash are stated at cost, which approximates fair value. The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents.

Restricted Cash

Restricted cash consists of cash balances held as security in connection with a letter of credit related to the Company's facility lease entered into in March 2017. The letter of credit balance decreased from $0.5 million at December 31, 2020 to $0.2 million at June 30, 2021 pursuant to the terms of the facility lease.

Cash as Reported in Condensed Consolidated Statements of Cash Flows

Cash as reported in the condensed consolidated statements of cash flows includes the aggregate amounts of cash and cash equivalents and the restricted cash as presented on the condensed consolidated balance sheets.

Cash as reported in the condensed consolidated statements of cash flows consists of (in thousands):

	June 30,	
	2021	2020
Cash and cash equivalents	$ 192,412	$ 146,242
Restricted cash - current	—	10
Restricted cash - noncurrent	225	450
Total cash reported on condensed consolidated statements of cash flows	$ 192,637	$ 146,702

Marketable Securities

All marketable securities have been classified as "available-for-sale" and are carried at estimated fair value as determined based upon quoted market prices or pricing models for similar securities. Management determines the appropriate classification of its marketable securities at the time of purchase and reevaluates such designation as of each balance sheet date. Short-term marketable securities have maturities greater than three months but no longer than 365 days as of the balance sheet date. Long-term marketable securities have maturities of 365 days or longer as of the balance sheet date. Unrealized gains and losses are excluded from earnings and are reported as a component of comprehensive gain or loss. Realized gains and losses and declines in fair value judged to be other than temporary, if any, on available-for-sale securities are included in interest income. The cost of securities sold is based on the specific-identification method. Interest on marketable securities is included in interest income.

Revenue Recognition

Under Accounting Standards Codification Topic 606, *Revenue from Contracts with Customers* ("ASC 606"), the Company recognizes revenue when its customer obtains control of promised goods or services, in an amount that reflects the consideration which the Company expects to receive in exchange for those goods or services. To determine

revenue recognition for arrangements that the Company determines are within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation. The Company applies the five-step model to contracts when it is probable that the Company will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, the Company assesses the goods or services promised within each contract, determines those that are performance obligations, and assesses whether each promised good or service is distinct. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligations when (or as) the performance obligations are satisfied. The Company constrains its estimate of the transaction price up to the amount (the "variable consideration constraint") that a significant reversal of recognized revenue is not probable.

Licenses of intellectual property: If a license to the Company's intellectual property is determined to be distinct from the other performance obligations identified in an arrangement, the Company recognizes revenue from non-refundable, upfront fees allocated to the license when the license is transferred to the customer and the customer is able to use and benefit from the license. For licenses that are bundled with other promises, the Company utilizes judgment to assess the nature of the combined performance obligation to determine whether the combined performance obligation is satisfied over time or at a point in time and, if over time, the appropriate method of measuring proportional performance for purposes of recognizing revenue from non-refundable, upfront fees. The Company evaluates the measure of proportional performance each reporting period and, if necessary, adjusts the measure of performance and related revenue recognition.

Milestone payments: At the inception of each arrangement or amendment that includes development, regulatory or commercial milestone payments, the Company evaluates whether the milestones are considered probable of being reached and estimates the amount to be included in the transaction price. ASC 606 suggests two alternatives to use when estimating the amount of variable consideration: the expected value method and the most likely amount method. Under the expected value method, an entity considers the sum of probability-weighted amounts in a range of possible consideration amounts. Under the most likely amount method, an entity considers the single most likely amount in a range of possible consideration amounts. Whichever method is used, it should be consistently applied throughout the life of the contract; however, it is not necessary for the Company to use the same approach for all contracts. The Company expects to use the most likely amount method for development and regulatory milestone payments. If it is probable that a significant revenue reversal would not occur, the associated milestone value is included in the transaction price. Milestone payments that are not within the control of the Company or the licensee, such as regulatory approvals, are not considered probable of being achieved until those approvals are received. If there is more than one performance obligation, the transaction price is then allocated to each performance obligation on a relative stand-alone selling price basis. The Company recognizes revenue as or when the performance obligations under the contract are satisfied. At the end of each subsequent reporting period, the Company re-evaluates the probability or achievement of each such milestone and any related constraint, and if necessary, adjusts its estimates of the overall transaction price. Any such adjustments are recorded on a cumulative catch-up basis, which would affect revenues and earnings in the period of adjustment.

Royalties: For arrangements that include sales-based royalties, including milestone payments based on the level of sales, and the license is deemed to be the predominant item to which the royalties relate, the Company recognizes revenue at the later of (i) when the related sales occur, or (ii) when the performance obligation to which some or all of the royalty has been allocated has been satisfied (or partially satisfied).

Upfront payments and fees are recorded as deferred revenue upon receipt or when due and may require deferral of revenue recognition to a future period until the Company performs its obligations under these arrangements. Amounts payable to the Company are recorded as accounts receivable when the Company's right to consideration is unconditional. Amounts payable to the Company and not yet billed to the collaboration partner are recorded as contract assets. The Company does not assess whether a contract has a significant financing component if the expectation at contract inception is such that the period between payment by the customer and the transfer of the promised goods or services to the customer will be one year or less.

Contractual cost sharing payments made to a customer or collaboration partner are accounted for as a reduction to the transaction price if such payments are not related to distinct goods or services received from the customer or collaboration partner.

Contracts may be amended to account for changes in contract specifications and requirements. Contract modifications exist when the amendment either creates new, or changes existing, enforceable rights and obligations. When contract modifications create new performance obligations and the increase in consideration approximates the standalone selling price for goods and services related to such new performance obligations as adjusted for specific facts and circumstances of the contract, the modification is considered to be a separate contract. If a contract modification is not accounted for as a separate contract, the Company accounts for the promised goods or services not yet transferred at the date of the contract modification (the remaining promised goods or services) prospectively, as if it were a termination of the existing contract and the creation of a new contract, if the remaining goods or services are distinct from the goods or services transferred on or before the date of the contract modification. The Company accounts for a contract modification as if it were a part of the existing contract if the remaining goods or services are not distinct and, therefore, form part of a single performance obligation that is partially satisfied at the date of the contract modification. In such case the effect that the contract modification has on the transaction price, and on the entity's measure of progress toward complete satisfaction of the performance obligation, is recognized as an adjustment to revenue (either as an increase in or a reduction of revenue) at the date of the contract modification (the adjustment to revenue is made on a cumulative catch-up basis).

The period between when the Company transfers control of promised goods or services and when the Company receives payment is expected to be one year or less, and that expectation is consistent with the Company's historical experience. Upfront payment contract liabilities resulting from the Company's license and collaboration agreements do not represent a financing component as the payment is not financing the transfer of goods and services, and the technology underlying the licenses granted reflects research and development expenses already incurred by the Company. As such, the Company does not adjust its revenues for the effects of a significant financing component.

Research and Development Costs

Research and development costs are expensed as incurred unless there is an alternate future use in other research and development projects or otherwise. Research and development costs include salaries and benefits, stock-based compensation expense, laboratory supplies and facility-related overhead, outside contracted services including clinical trial costs, manufacturing and process development costs for both clinical and pre-clinical materials, research costs, development milestone payments under license and collaboration agreements, and other consulting services.

The Company accrues for estimated costs of research and development activities conducted by third-party service providers, which include the conduct of pre-clinical studies and clinical trials, and contract manufacturing activities. The Company records the estimated costs of research and development activities based upon the estimated services provided but not yet invoiced and includes these costs in accrued expenses and other payables in the condensed consolidated balance sheets and within research and development expense in the condensed consolidated statements of operations. The Company accrues for these costs based on factors such as estimates of the work completed and in accordance with agreements established with its third-party service providers. As actual costs become known, the Company adjusts its accrued liabilities. The Company has not experienced any material differences between accrued liabilities and actual costs incurred. However, the status and timing of actual services performed, number of patients enrolled, the rate of patient enrollment and number of locations of sites activated may vary from the Company's estimates, resulting in adjustments to expense in future periods. Changes in these estimates that result in material changes to the Company's accruals could materially affect the Company's results of operations.

The Company has received orphan drug designation from the U.S. Food and Drug Administration ("FDA") for its clinical asset rusfertide (generic name for PTG-300) for the treatment of polycythemia vera and beta-thalassemia and may qualify for a related 25% U.S. Federal income tax credit on qualifying clinical study expenditures.

Research and Development Tax Incentive

The Company is eligible under the AusIndustry research and development tax incentive program to obtain either a refundable cash tax incentive or a taxable credit in the form of a non-cash tax incentive from the Australian Taxation Office ("ATO"). The refundable cash tax incentive is available to the Company on the basis of specific criteria with which the Company must comply. Specifically, the Company must have annual turnover of less than AUD 20.0 million and cannot be controlled by income tax exempt entities. The refundable cash tax incentive is recognized as a reduction to research and development expense when the right to receive has been attained and funds are considered to be collectible. The Company may alternatively be eligible for a taxable credit in the form of a non-cash tax incentive in years when the annual turnover exceeds the limit. The Company evaluates its eligibility under tax incentive programs as of each balance sheet date and makes accrual and related adjustments based on the most current and relevant data available.

Stock-based Compensation Expense

In February 2021, the Company granted performance share units ("PSUs) to certain executives of the Company. Stock-based compensation expense associated with PSUs is based on the fair value of the Company's common stock on the grant date, which equals the closing price of the Company's common stock on the grant date. The Company recognizes compensation expense over the vesting periods of the awards that are ultimately expected to vest when the achievement of the related performance obligation becomes probable.

Net Loss per Share

Basic net loss per share is calculated by dividing the Company's net loss by the weighted average number of shares of common stock and Exchange Warrants outstanding during the period, without consideration of potentially dilutive securities. In accordance with Accounting Standards Codification Topic 260, *Earnings Per Share*, the Exchange Warrants are included in the computation of basic net loss per share because the exercise price is negligible, and they are fully vested and exercisable after the original issuance date. Diluted net loss per share is the same as basic net loss per share for all periods presented since the effect of potentially dilutive securities is anti-dilutive given the net loss of the Company in each period. See Note 11. Stockholder's Equity for additional information regarding the Exchange Warrants.

Recently Adopted Accounting Pronouncements

In December 2019, the FASB issued Accounting Standards Update ("ASU") No. 2019-12, *Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes,* which removes certain exceptions and amends certain requirements in the existing income tax guidance to ease accounting requirements. This guidance is effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2020 and must be applied on a retrospective basis. The Company adopted this guidance effective January 1, 2021 and there was no impact on its consolidated financial statements and disclosures.

Recently Issued Accounting Pronouncements Not Yet Adopted as of June 30, 2021

In June 2016, the FASB issued ASU No. 2016-13, *Financial Instruments - Credit Losses (Topic 326)*, which is intended to provide financial statement users with more useful information about expected credit losses on financial assets held by a reporting entity at each reporting date. The new standard replaces the existing incurred loss impairment methodology with a methodology that requires consideration of a broader range of reasonable and supportable forward-looking information to estimate all expected credit losses. This guidance was originally effective for fiscal years and interim periods within those years beginning after December 15, 2019, with early adoption permitted for fiscal years and interim periods within those years beginning after December 15, 2018. In November 2019, the FASB issued ASU No. 2019-10, *Financial Instruments – Credit Losses (Topic 326), Derivatives and Hedging (Topic 815), and Leases (Topic 842): Effective Dates*, which amended the mandatory effective date of ASU No. 2016-13 for smaller reporting companies. Based on the Company's status as a smaller reporting company as of November 15, 2019, ASU 2016-13 is

effective for the Company for fiscal years and interim periods beginning after December 15, 2022. The Company is currently evaluating the impact of this new guidance on its consolidated financial statements and disclosures.

Note 3. License and Collaboration Agreement

Agreement Terms

On May 26, 2017, the Company and Janssen Biotech, Inc., ("Janssen"), one of the Janssen Pharmaceutical Companies of Johnson & Johnson, entered into an exclusive license and collaboration agreement (the "Janssen License and Collaboration Agreement") for the development, manufacture and potential commercialization of PTG-200 worldwide for the treatment of Crohn's disease ("CD") and ulcerative colitis ("UC"). Janssen is a related party to the Company as Johnson & Johnson Innovation - JJDC, Inc., a significant stockholder of the Company, and Janssen are both subsidiaries of Johnson & Johnson. PTG-200 is the Company's orally delivered gut-restricted Interleukin 23 receptor ("IL-23R") antagonist drug candidate currently in development. The Janssen License and Collaboration Agreement became effective on July 13, 2017. Upon the effectiveness of the agreement, the Company received a non-refundable, upfront cash payment of $50.0 million from Janssen.

Under the Janssen License and Collaboration Agreement, the Company granted to Janssen an exclusive worldwide license to develop, manufacture and commercialize PTG-200 and related IL-23R antagonist compounds for all indications, including CD and UC. The Company was responsible, at its own expense, for the conduct of the Phase 1 clinical trial for PTG-200, and Janssen is responsible for the conduct of the Phase 2 clinical trial for PTG-200 in CD, including filing the U.S. Investigational New Drug application ("IND"). Development costs for the Phase 2 clinical trial are shared between the parties on an 80/20 basis, with Janssen assuming the larger share. Janssen submitted an IND for PTG-200 in CD during the second quarter of 2019, which took effect in July 2019. Janssen and the Company initiated a Phase 2 clinical study for PTG-200 in CD in the fourth quarter of 2019.

The Company entered into an amendment (the "First Amendment") to the Janssen License and Collaboration Agreement effective May 7, 2019. The First Amendment builds upon the Company's ongoing development collaboration with Janssen for PTG-200 and, upon the effectiveness of the First Amendment, the Company became eligible to receive a $25.0 million payment from Janssen, which was received during the second quarter of 2019. The First Amendment expanded the scope of the Janssen License and Collaboration Agreement by supporting research efforts towards identifying and developing second-generation IL-23R antagonists ("second-generation compounds"). Two second-generation compounds, PN-232 and PN-235, have been nominated and are currently in Phase 1 clinical studies.

As part of the services added in the First Amendment, Janssen will pay certain costs and milestones related to advancing pre-clinical candidates from the second-generation research program through Phase 1 studies, including funding of a certain number of full-time equivalent employees ("FTEs") at the Company for an agreed-upon period of time. The Company will pay 100% of the costs for the Phase 1 studies for the first second-generation compound, and 50% of the costs of the Phase 1 studies for the second and third second-generation compounds; thereafter Janssen will pay 100% of any further Phase 1 development costs. Development costs for the Phase 2 clinical trials for second-generation compounds are shared between the parties on an 80/20 basis, with Janssen assuming the larger share. The Company's Phase 1 and Phase 2 development costs are also limited by overall spending caps. In December 2019, the Company became eligible to receive a $5.0 million payment trigged by the successful nomination of a second-generation development compound, which was received during the first quarter of 2020. The Company will be eligible to receive a $7.5 million milestone payment at the completion of a Phase 1 study for the first second-generation compound.

Payments to the Company for research and development services are generally billed and collected as services are performed or assets are delivered, including research activities and Phase 1 and Phase 2 development activities. Janssen bills the Company for its 20% share of the Phase 2 development costs as expenses are incurred by Janssen. Milestone payments are received after the related milestones are achieved.

Pursuant to the First Amendment, the Company will be eligible to receive clinical development, regulatory and sales milestones, if and as achieved, and/or payments relating to Janssen's elections to maintain or expand its license rights. The next possible milestone or opt-in election events based on a Phase 2 clinical trial in CD are as follows:

- Janssen can elect to advance PTG-200 into Phase 2b following receipt of the top line results of the CD Phase 2a clinical trial for PTG-200 by paying a $50.0 million maintenance fee (the "Amended First Opt-in Election"); or

- Janssen would make a $50.0 million milestone payment following dosing of the third patient in the first Phase 2b clinical trial for CD for a second-generation product.

Janssen can also then elect to receive exclusive, worldwide commercial rights for both PTG-200 and second-generation products following the Phase 2b completion date for PTG-200 or a second-generation product by paying a $50.0 million payment (the "Amended Second Opt-in Election"). The Company will also be eligible for certain additional milestone payments including a potential payment of either $100.0 million upon a Phase 3 CD clinical trial meeting a primary clinical endpoint with respect to PTG-200 or $115.0 million upon a Phase 3 CD clinical trial meeting a primary clinical endpoint with respect to a second-generation compound.

Pursuant to the First Amendment, the Company will be eligible to receive tiered royalties on net product sales at percentages ranging from mid-single digits to ten percent. Under the terms of the First Amendment, the Company is eligible to receive up to $1.0 billion in research, development, regulatory and sales milestones.

The Janssen License and Collaboration Agreement remains in effect until the royalty obligations cease following patent and regulatory expiry, unless terminated earlier. Upon a termination of the Janssen License and Collaboration Agreement, all rights revert back to the Company, and in certain circumstances, if such termination occurs during ongoing clinical trials, Janssen would, if requested, provide certain financial and operational support to the Company for the completion of such trials.

Revenue Recognition

The amended Janssen License and Collaboration Agreement is accounted for as containing a single performance obligation for the development license; second-generation compound research services; Phase 1 development services for PTG-200 and potential second-generation compounds; the Company's services associated with Phase 2 development for PTG-200 until Phase 2a; the Company's services associated with Phase 2 development for a second-generation product until the dosing of the third patient in Phase 2b in CD or UC, or Phase 2 in an additional indication; and all other such services that the Company may perform at the request of Janssen to support the development of PTG-200, second-generation research services, or the development of second-generation compounds. The Amended First Opt-in Election and the Amended Second Opt-in Election options are not considered to be material rights.

The contract duration is defined as the period in which parties to the contract have present enforceable rights and obligations. For revenue recognition purposes, the duration of the Janssen License and Collaboration Agreement, as amended, began on the effective date of July 13, 2017 and ends upon the later of end of Phase 2a for PTG-200 or upon dosing of the third patient in Phase 2b for a second-generation compound.

The Company uses the most likely amount method to estimate variable consideration included in the transaction price. Variable consideration after the First Amendment consists of future milestone payments and cost sharing payments from Janssen for agreed upon services offset by development costs reimbursement payable to Janssen. Cost sharing payments from Janssen relate to the agreed upon services for development activities that the Company performs within the duration of the contract are included in the transaction price at the Company's share of the estimated budgeted costs for these activities, including primarily internal full-time equivalent effort and third party contract costs. Cost sharing payments to Janssen relate to agreed-upon services for Phase 2 activities that Janssen performs within the duration of the contract are not a distinct service that Janssen transfers to the Company. Therefore, the consideration payable to Janssen is accounted for as a reduction in the transaction price.

The transaction price of the initial performance obligation under the Janssen License and Collaboration Agreement was $95.8 million as of June 30, 2021, a decrease of $0.5 million from the transaction price of $96.3 million as of March 31, 2021, following an update to the estimate for remaining services to be performed under the performance obligation. In order to determine the transaction price, the Company evaluated all payments to be received during the duration of the contract, net of development costs reimbursement expected to be payable to Janssen. The transaction price as of June 30, 2021 includes the $50.0 million upfront payment, the $25.0 million payment received upon the effectiveness of the First Amendment, the $5.0 million payment triggered by the successful nomination of a second-generation compound, $17.9 million of reimbursement from Janssen for services performed for PTG-200 Phase 2 and for second-generation compound research costs and other services, and estimated variable consideration consisting of a $7.5 million milestone payment subject to the completion of a Phase 1 study for a second-generation compound, offset by $9.6 million of net cost reimbursement to Janssen for services performed. The Company evaluated whether the variable component of the transaction price should be constrained to ensure that a significant reversal of revenue recognized on a cumulative basis as of June 30, 2021 is not probable. The Company concluded that the variable consideration constraint is appropriately reflected in the estimated transaction price as of June 30, 2021. The additional potential development, regulatory and sales milestone payments after the completion of Phase 2a activities in CD and UC that the Company would be eligible to receive are currently outside the contract term as defined for revenue recognition purposes and as such have been excluded from the transaction price. Janssen has also opted in for certain additional services to be performed by the Company that are outside the initial performance obligation, revenue is recognized as these services are performed.

The Company re-evaluates the transaction price, including variable consideration, at the end of each reporting period and as uncertain events are resolved or other changes in circumstances occur. The Company and Janssen make quarterly cost sharing payments to one another in amounts necessary to ensure that each party bears its contractual share of the overall shared costs incurred.

The Company utilizes a cost-based input method to measure proportional performance and to calculate the corresponding amount of revenue to recognize. In applying the cost-based input methods of revenue recognition, the Company uses actual costs incurred relative to expected costs to fulfill the combined performance obligation. These costs consist primarily of internal FTE effort and third-party contract costs. Revenue will be recognized based on actual costs incurred as a percentage of total estimated costs as the Company completes its performance obligations. A cost-based input method of revenue recognition requires management to make estimates of costs to complete the Company's performance obligations. The Company believes this is the best measure of progress because other measures do not reflect how the Company transfers its performance obligation to Janssen. In making such estimates, significant judgment is required to evaluate assumptions related to cost estimates. The cumulative effect of revisions to estimated costs to complete the Company's performance obligations will be recorded in the period in which changes are identified and amounts can be reasonably estimated. A significant change in these assumptions and estimates could have a material impact on the timing and amount of revenue recognized in future periods.

For the three and six months ended June 30, 2021, the Company recognized license and collaboration revenue of $2.1 million and $7.7 million, respectively, which was primarily related to the transaction price for the Janssen License and Collaboration Agreement recognized based on proportional performance. In addition, the Company recorded $0.2 million and $0.8 million in revenue for the three and six months ended June 30, 2021, respectively, related to additional services provided by the Company under the Janssen Collaboration Agreement.

For the three and six months ended June 30, 2020, the Company recognized license and collaboration revenue of $5.7 million and $9.4 million, respectively, which was primarily related to the transaction price for the Janssen License and Collaboration Agreement recognized based on proportional performance. In addition, the Company recorded $0.5 million in revenue for the three and six months ended June 30, 2020 related to additional services provided by the Company under the Janssen Collaboration Agreement.

The following tables present changes in the Company's contract assets and liabilities during the periods presented (in thousands):

Six Months Ended June 30, 2021	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Contract assets:				
Receivable from collaboration partner - related party	$ 2,426	$ 4,651	$ —	$ 7,077
Contract liabilities:				
Deferred revenue - related party	$ 14,477	$ 3,924	$ (16,392)	$ 2,009
Payable to collaboration partner - related party	$ 2,732	$ 8,664	$ —	$ 11,396

Six Months Ended June 30, 2020	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Contract assets:				
Receivable from collaboration partner - related party	$ 5,955	$ 4,202	$ (7,160)	$ 2,997
Contract asset - related party	$ 800	$ 342	$ (1,142)	$ —
Contract liabilities:				
Deferred revenue - related party	$ 41,530	$ 2,977	$ (10,493)	$ 34,014
Payable to collaboration partner - related party	$ 1,262	$ 1,040	$ (1,299)	$ 1,003

During the three and six months ended June 30, 2021, the Company recognized revenue of $0.4 million and $1.5 million, respectively, from amounts included in the deferred revenue contract liability balance at the beginning of each period. During the three and six months ended June 30, 2020, the Company recognized revenue of $2.1 million and $3.3 million, respectively, for each period from amounts included in the deferred revenue contract liability balance at the beginning of each period. None of the costs to obtain or fulfill the contract were capitalized.

Note 4. Fair Value Measurements

Financial assets and liabilities are recorded at fair value. The accounting guidance for fair value provides a framework for measuring fair value, clarifies the definition of fair value and expands disclosures regarding fair value measurements. Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the reporting date. The accounting guidance establishes a three-tiered hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value as follows:

Level 1—Inputs are unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date.

Level 2—Inputs (other than quoted market prices included in Level 1) are either directly or indirectly observable for the asset or liability through correlation with market data at the measurement date and for the duration of the instrument's anticipated life.

Level 3—Inputs reflect management's best estimate of what market participants would use in pricing the asset or liability at the measurement date. Consideration is given to the risk inherent in the valuation technique and the risk inherent in the inputs to the model.

In determining fair value, the Company utilizes quoted market prices, broker or dealer quotations, or valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible and considers counterparty credit risk in its assessment of fair value.

The following table presents the fair value of the Company's financial assets determined using the inputs defined above (in thousands).

	June 30, 2021			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 123,006	$ —	$ —	$ 123,006
Commercial paper	—	141,440	—	141,440
Corporate debt securities	—	70,410	—	70,410
U.S. Treasury and agency securities	—	32,090	—	32,090
Supranational and sovereign government securities	—	6,044	—	6,044
Total financial assets	$ 123,006	$ 249,984	$ —	$ 372,990

	December 31, 2020			
	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds	$ 27,481	$ —	$ —	$ 27,481
Commercial paper	—	65,863	—	65,863
Corporate debt securities	—	27,590	—	27,590
U.S. Treasury and agency securities	—	183,210	—	183,210
Total financial assets	$ 27,481	$ 276,663	$ —	$ 304,144

The Company's commercial paper, U.S. Treasury and agency securities, corporate debt securities, U.S. Treasury and agency securities, including U.S. Treasury bills, and supranational and sovereign government securities are classified as Level 2 as they were valued based upon quoted market prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets.

Note 5. Cash Equivalents and Marketable Securities

Cash equivalents and marketable securities consisted of the following (in thousands):

	June 30, 2021			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 123,006	$ —	$ —	$ 123,006
Commercial paper	141,443	1	(4)	141,440
Corporate debt securities	70,418	5	(13)	70,410
U.S. Treasury and agency securities	32,096	2	(8)	32,090
Supranational and sovereign government securities	6,045	—	(1)	6,044
Total cash equivalents and marketable securities	$ 373,008	$ 8	$ (26)	$ 372,990
Classified as:				
Cash equivalents				$ 185,000
Marketable securities - current				161,868
Marketable securities - noncurrent				26,122
Total cash equivalents and marketable securities				$ 372,990

	December 31, 2020			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 27,481	$ —	$ —	$ 27,481
Commercial paper	65,866	—	(3)	65,863
Corporate debt securities	27,592	2	(4)	27,590
U.S. Treasury and agency securities	183,203	10	(3)	183,210
Total cash equivalents and marketable securities	$ 304,142	$ 12	$ (10)	$ 304,144
Classified as:				
Cash equivalents				$ 113,693
Marketable securities - current				188,451
Marketable securities - noncurrent				2,000
Total cash equivalents and marketable securities				$ 304,144

Marketable securities – current of $161.9 million and $188.5 million held at June 30, 2021 and December 31, 2020, respectively, had contractual maturities of less than one year. Marketable securities – noncurrent of $26.1 million and $2.0 million held at June 30, 2021 and December 31, 2020 had contractual maturities of at least one year but less than two years. The Company does not intend to sell its securities that are in an unrealized loss position, and it is unlikely that the Company will be required to sell its securities before recovery of their amortized cost basis, which may be at maturity. There were no realized gains or realized losses on marketable securities for the periods presented. Factors considered in determining whether a loss is temporary include the length of time and extent to which the fair value has been less than the amortized cost basis and whether the Company intends to sell the security or whether it is more likely than not that the Company would be required to sell the security before recovery of the amortized cost basis.

Note 6. Accrued Expenses and Other Payables

Accrued expenses and other payables consisted of the following (in thousands):

	June 30, 2021	December 31, 2020
Accrued clinical and research related expenses	$ 14,976	$ 11,335
Accrued employee related expenses	3,780	6,413
Accrued professional service fees	829	668
Other	511	82
Total accrued expenses and other payables	$ 20,096	$ 18,498

Note 7. Research Collaboration and License Agreement

The Company and Zealand Pharma A/S ("Zealand") entered into a collaboration agreement in June 2012. In October 2013, Zealand abandoned the collaboration, and the collaboration agreement was terminated in 2014. The agreement provides for certain post-termination payment obligations to Zealand with respect to compounds related to the collaboration that meet specified conditions set forth in the collaboration agreement and which the Company elects to further develop following Zealand's abandonment of the collaboration. The Company has the right, but not the obligation, to further develop and commercialize such compounds. The agreement provides for payments to Zealand for the achievement of certain development, regulatory and sales milestone events that occur prior to a partnering arrangement related to such compounds between the Company and a third party.

The Company previously determined that rusfertide is a compound for which the post-termination payments described above are required under the collaboration agreement and has made three development milestone payments for an aggregate amount of $1.0 million under the agreement. However, upon reevaluation, the Company concluded in 2019 that rusfertide is not a compound requiring post-termination payments under the agreement, and initiated the arbitration proceeding described in Note 10 Commitments and Contingencies – Legal Proceedings below.

Milestone payments to collaboration partners are recorded as research and development expenses in the period that the expense is incurred. No research and development expense was recorded under the agreement for the three and six months ended June 30, 2021 and 2020.

If the Company is required to continue to make payments with respect to rusfertide under the collaboration agreement, the next two milestones that would be due under such agreement include: $1.0 million to $3.0 million for initiation of placebo-controlled Phase 2b clinical trial; and $1.5 million to $4.5 million for initiation of a Phase 3 clinical trial. The milestone amounts vary depending on the number of patients in the applicable clinical trial, and the Company expects the milestones would be the lowest amount within the specified range.

See Note 10. Commitments and Contingencies – Legal Proceedings for additional information on arbitration proceedings related to this research and collaboration agreement.

Note 8. Government Programs

Research and Development Tax Incentive

During the three and six months ended June 30, 2021, the Company recognized AUD 1.3 million ($1.0 million) and AUD 2.3 million ($1.7 million), respectively, as a reduction of research and development expenses in connection with the research and development cash tax incentive from the ATO. During the three and six months ended June 30, 2020, the Company recognized AUD 0.2 million ($0.1 million) and AUD 0.4 million ($0.3 million), respectively, as a reduction of research and development expenses in connection with the research and development cash tax incentive from the ATO. As of June 30, 2021 and December 31, 2020, the research and development cash tax incentive receivable was AUD 3.7 million ($2.8 million) and AUD 1.4 million ($1.1 million), respectively.

Small Business Innovation Research ("SBIR") Grants

The Company has received SBIR grants from the National Institutes of Health ("NIH") in support of research aimed at its product candidates. The Company recognizes a reduction to research and development expenses when expenses related to the grants have been incurred and the grant funds become contractually due from NIH. The Company recorded $0.1 million as a reduction of research and development expenses for the three and six months ended June 30, 2021. The Company recorded $0.1 million and $0.3 million as a reduction of research and development expenses for the three and six months ended June 30, 2020, respectively. The Company records a receivable to reflect the eligible costs incurred under the grants that are contractually due to the Company. This receivable is included in prepaid expenses and other current assets on the condensed consolidated balance sheets. There was no such receivable as of June 30, 2021 or December 31, 2020.

Note 9. Term Loan Facility

On October 30, 2019, the Company entered into a Credit and Security Agreement, dated as of October 30, 2019 (the "Closing Date") by and among the Company, MidCap Financial Trust, as a lender, Silicon Valley Bank, as a lender, the other lenders party thereto from time to time and MidCap Financial Trust, as administrative agent and collateral agent ("Agent") (such agreement, the "Term Loan Credit Agreement"), which provides for a $50.0 million term loan facility. The Term Loan Credit Agreement provides for (i) on the Closing Date, $10.0 million aggregate principal amount of term loans, (ii) at the Company's option, until December 31, 2020, an additional $20.0 million term loan facility subject to the satisfaction of certain conditions, including clinical milestone achievement, and (iii) at the Company's option, until September 30, 2021, an additional $20.0 million term loan facility subject to the satisfaction of certain conditions, including clinical milestone achievement, (collectively, the "Term Loans"). The Company intends to use any proceeds from drawdowns on the Term Loans for general corporate purposes.

The Term Loans are subject to an origination fee of 0.25% for each funded tranche under the Term Loan Credit Agreement and bear interest at an annual rate based on prime rate plus 2.91%, subject to a prime rate floor of 4.94%. The Company will make interest-only payments on the Term Loans outstanding during the initial 24 months, followed by 24 months of principal and interest payments. At the Company's option, the Company may prepay the

outstanding principal balance of the Term Loans in whole or in part, subject to a prepayment premium of 3.0% of any amount prepaid if the prepayment occurs through and including the first anniversary of the Closing Date, 2.0% of the amount prepaid if the prepayment occurs after the first anniversary of the closing date through and including the second anniversary of the closing date, and 1.0% of any amount prepaid after the second anniversary of the closing date and prior to October 1, 2023. An additional fee of 2.85% of the amount of Term Loans advanced by the Lenders will be due upon prepayment or repayment of the Term Loans.

The Term Loan Credit Agreement requires the Company to maintain cash and cash equivalents of at least 35% of the outstanding Term Loans at all times and is secured by a perfected security interest in all of the Company's assets except for intellectual property and certain other customary excluded property pursuant to the terms of the Term Loan Credit Agreement. The Term Loan Credit Agreement contains other covenants that limit the Company's ability and the ability of its subsidiaries to perform certain actions, including obligations to not pay dividends and to maintain unrestricted cash balance above certain threshold, non-occurrence of material adverse change, non-occurrence of change of control and other customary affirmative and negative covenants. The violation of any provision of covenants will result in default for the Company. The Term Loan Credit Agreement includes a clause which allows lenders to accelerate repayment upon the occurrence of certain events of default.

In June 2020, the Company prepaid the outstanding $10.0 million balance on the term loan as well as $0.6 million for related prepayment and exit fees. Accordingly, the company accelerated amortization of $0.1 million related to capitalized and unamortized debt issuance costs, which is included as part of the $0.6 million loss on early repayment of debt. The Company had no outstanding balance as of June 30, 2021 or December 31, 2020 related to the Term Loan Credit Agreement. As of June 30, 2021, the Company was in compliance with the debt covenants, no event of default occurred and the probability of occurrence of event of default was considered remote.

Note 10. Commitments and Contingencies

Legal Proceedings

The Company is a party to the legal action described below. The Company recognizes accruals for such actions to the extent that it concludes that a loss is both probable and reasonably estimable. The Company accrues for the best estimate of a loss within a range; however, if no estimate in the range is better than any other, it accrues the minimum amount in the range. If the Company determines that a loss is reasonably possible and the loss or range of loss can be estimated, it discloses the possible loss.

On January 23, 2020, the Company initiated arbitration proceedings with the International Court of Arbitration of the International Chamber of Commerce against Zealand related to a collaboration agreement the Company and Zealand entered into in 2012 and terminated in 2014. The agreement provides for certain post-termination payment obligations to Zealand with respect to compounds related to the collaboration that the Company elects to further develop and meet specified conditions. In the Company's arbitration claim, it is seeking a declaration that the Company has no past, present or future milestone or royalty payment obligations under the agreement with respect to rusfertide because it is not a compound relating to the collaboration for which post-termination payments to Zealand apply. The Company is also seeking repayment of $1.0 million in milestone payments it has made, as well as its costs, fees, and expenses of the proceeding. Zealand disputes the Company's claims and has filed counterclaims for payment of a development milestone Zealand claims is due, as well as payment of their arbitration costs, fees and expenses. The arbitration is pending. If Zealand prevails in the arbitration, the Company could be required to reimburse Zealand's arbitration costs, fees and expenses, and make contractual payments to Zealand described in its prior periodic reports filed with the SEC. If we successfully develop and commercialize rusfertide without a partner, those payments could include up to an additional aggregate of $28.0 million for achievement of certain development and regulatory milestones, and up to $100.0 million for achievement of sales milestones. In addition, Zealand could be eligible to receive a low single digit royalty on worldwide net sales of the product.

Although the Company cannot predict with certainty the ultimate outcome of these arbitration proceedings, it has concluded that the probability of any related loss is remote and therefore no related accruals were recognized as of June 30, 2021.

Note 11. Stockholders' Equity

In August 2018, the Company entered into a Securities Purchase Agreement with certain accredited investors (each, an "Investor" and, collectively, the "Investors"), pursuant to which the Company sold an aggregate of 2,750,000 shares of its common stock at a price of $8.00 per share, for aggregate net proceeds of $21.7 million, after deducting offering expenses payable by the Company. In a concurrent private placement, the Company issued the Investors warrants to purchase an aggregate of 2,750,000 shares of its common stock (each, a "Warrant" and, collectively, the "Warrants"). Each Warrant is exercisable from August 8, 2018 through August 8, 2023. Warrants to purchase 1,375,000 shares of the Company's common stock have an exercise price of $10.00 per share and Warrants to purchase 1,375,000 shares of the Company's common stock have an exercise price of $15.00 per share. The exercise price and number of shares of common stock issuable upon the exercise of the Warrants (the "Warrant Shares") are subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described in the Warrants. Under certain circumstances, the Warrants may be exercisable on a "cashless" basis. In connection with the issuance and sale of the common stock and Warrants, the Company granted the Investors certain registration rights with respect to the Warrants and the Warrant Shares. The common stock and warrants are classified as equity in accordance with Accounting Standards Codification Topic 480*, Distinguishing Liabilities from Equity* ("ASC 480")*,* and the net proceeds from the transaction were recorded as a credit to additional paid-in capital. As of June 30, 2021, none of the Warrants have been exercised.

In December 2018, the Company entered into an exchange agreement (the "Exchange Agreement") with an Investor and its affiliates (the "Exchanging Stockholders"), pursuant to which the Company exchanged an aggregate of 1,000,000 shares of the Company's common stock, par value $0.00001 per share, owned by the Exchanging Stockholders for pre-funded warrants (the "Exchange Warrants") to purchase an aggregate of 1,000,000 shares of common stock (subject to adjustment in the event of any stock dividends and splits, reverse stock split, recapitalization, reorganization or similar transaction, as described in the Exchange Warrants), with an exercise price of $0.00001 per share. The Exchange Warrants will expire ten years from the date of issuance. The Exchange Warrants are exercisable at any time prior to expiration except that the Exchange Warrants cannot be exercised by the Exchanging Stockholders if, after giving effect thereto, the Exchanging Stockholders would beneficially own more than 9.99% of the Company's common stock, subject to certain exceptions. In accordance with Accounting Standards Codification Topic 505, *Equity*, the Company recorded the retirement of the common stock exchanged as a reduction of common stock shares outstanding and a corresponding debit to additional paid-in-capital at the fair value of the Exchange Warrants on the issuance date. The Exchange Warrants are classified as equity in accordance with ASC 480*,* and fair value of the Exchange Warrants was recorded as a credit to additional paid-in capital and is not subject to remeasurement. The Company determined that the fair value of the Exchange Warrants is substantially similar to the fair value of the retired shares on the issuance date due to the negligible exercise price for the Exchange Warrants. As of June 30, 2021, 400,000 of the Exchange Warrants remain unexercised.

In October 2019, the Company filed a registration statement on Form S-3 (File No. 333-234414) that was declared effective as of November 22, 2019 and permits the offering, issuance, and sale by the Company of up to a maximum aggregate offering price of $250.0 million of its common stock, preferred stock, debt securities and warrants (the "2019 Form S-3"). Up to a maximum of $75.0 million of the maximum aggregate offering price of $250.0 million may be issued and sold pursuant to an ATM financing facility under a sales agreement entered into by the Company on November 27, 2019 (the "2019 Sales Agreement"). In May 2020, the Company completed an underwritten public offering of 7,000,000 shares of common stock at a public offering price of $14.00 per share, and issued an additional 1,050,000 shares of its common stock at a price of $14.00 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commissions and offering costs paid by the Company, were $105.3 million. As of June 30, 2021, a total of $94.2 million of common stock remained available for sale under the 2019 Form S-3, $31.9 million of which remained available for sale under the ATM financing facility.

In December 2020, the Company filed an automatic registration statement on Form S-3ASR and an accompanying prospectus (Registration Statement No. 333-251254), pursuant to which it completed an underwritten public offering of 4,761,904 shares of the Company's common stock at a public offering price of $21.00 per share and issued an additional 714,285 shares of common stock at a price of $21.00 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commissions and offering

costs paid by the Company, were $107.6 million. In June 2021, pursuant to Registration Statement No. 33-251254, the Company completed an underwritten public offering of 3,046,358 shares of its common stock at a public offering price of $37.75 per share and issued an additional 456,953 shares of common stock at a price of $37.75 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commissions and offering costs paid by the Company, were $123.8 million. The Form S-3ASR expires in December 2023.

Note 12. Equity Plans

Equity Incentive Plan

In July 2016, the Company's board of directors and stockholders approved the Company's 2016 Equity Incentive Plan (the "2016 Plan") to replace the 2007 Stock Option Plan. The 2016 Plan is administered by the board of directors or a committee appointed by the board of directors, which determines the types of awards to be granted, including the number of shares subject to the awards, the exercise price and the vesting schedule. Awards granted under the 2016 Plan expire no later than ten years from the date of grant. As of June 30, 2021, 636,010 shares were available for issuance under the 2016 Plan.

Inducement Plan

In May 2018, the Company's board of directors approved the 2018 Inducement Plan, as subsequently amended. The 2018 Inducement Plan is a non-stockholder approved stock plan, under which the Company awards options and restricted stock unit awards to persons that were not previously employees or directors of the Company, or following a bona fide period of non-employment, as an inducement material to such persons entering into employment with the Company, within the meaning of Rule 5635(c)(4) of the Nasdaq Listing Rules. The 2018 Inducement Plan is administered by the board of directors or the Compensation Committee of the board, which determines the types of awards to be granted, including the number of shares subject to the awards, the exercise price and the vesting schedule. Awards granted under the 2018 Inducement Plan expire no later than ten years from the date of grant. As of June 30, 2021, 375,625 shares were available for issuance under the Amended and Restated 2018 Inducement Plan.

Stock Options

Stock option activity under the Company's equity incentive and inducement plans is set forth below:

	Options Outstanding	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Life (years)	Aggregate Intrinsic Value (1)
				(in millions)
Balances at December 31, 2020	4,648,120	$ 11.87	7.61	$ 40.0
Options granted	1,597,040	26.97		
Options exercised	(177,152)	11.54		
Options forfeited	(106,672)	16.66		
Balances at June 30, 2021	5,961,336	$ 15.84	7.77	$ 173.1
Options exercisable – June 30, 2021	2,980,187	$ 12.39	6.46	$ 96.8
Options vested and expected to vest – June 30, 2021	5,961,336	$ 15.84	7.77	$ 173.1

(1) The aggregate intrinsic values were calculated as the difference between the exercise price of the options and the closing price of the Company's common stock on June 30, 2021. The calculation excludes options with an exercise price higher than the closing price of the Company's common stock on June 30, 2021.

The estimated weighted-average grant-date fair value of common stock underlying options granted to employees during the six months ended June 30, 2021 was $19.79 per share.

Stock Options Valuation Assumptions

The fair value of employee stock option awards was estimated at the date of grant using a Black-Scholes option-pricing model with the following assumptions:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Expected term (in years)	5.27 - 6.08	5.50 - 6.08	5.27 - 6.08	5.27- 6.08
Expected volatility	88.0% - 88.8%	74.3% - 74.5%	88.0% - 90.2%	72.1% - 74.5%
Risk-free interest rate	0.85% - 1.11%	0.39% - 0.42%	0.11% - 1.11%	0.39% - 1.44%
Dividend yield	—	—	—	—

In determining the fair value of the options granted, the Company uses the Black-Scholes option-pricing model and assumptions discussed below. Each of these inputs is subjective and generally requires judgment to determine.

Expected Term—The Company's expected term represents the period that the Company's options granted are expected to be outstanding and is determined using the simplified method (based on the mid-point between the vesting date and the end of the contractual term). The Company has limited historical information to develop reasonable expectations about future exercise patterns and post-vesting employment termination behavior for its stock option grants.

Expected Volatility—For the year ended December 31, 2020, the Company's expected volatility was estimated based upon a mix of 75% of the average volatility for comparable publicly traded biopharmaceutical companies over a period equal to the expected term of the stock option grants and 25% of the volatility of the Company's stock price since its initial public offering in August 2016. Beginning January 1, 2021, the Company's expected volatility is estimated based upon a mix of 50% of the average volatility for comparable publicly traded biopharmaceutical companies over a period equal to the expected term of the stock option grants and 50% of the volatility of the Company's stock price since its initial public offering in August 2016.

Risk-Free Interest Rate—The risk-free interest rate is based on the U.S. Treasury zero coupon issues in effect at the time of grant for periods corresponding with the expected term of option.

Expected Dividend—The Company has never paid dividends on its common stock and has no plans to pay dividends on its common stock. Therefore, the Company used an expected dividend yield of zero.

Restricted Stock Units

Restricted stock unit activity under the Company's equity incentive plans is set forth below:

	Number of Shares		Weighted Average Grant Date Fair Value
Unvested at December 31, 2020	244,545	$	9.31
Granted	287,250		23.57
Vested	(78,165)		10.13
Forfeited	(30,126)		18.28
Unvested at June 30, 2021	423,504	$	19.31

Performance Stock Units

During the first quarter of 2021, the Company granted 110,500 PSUs to certain executives of the Company pursuant to the terms of the 2016 Plan, all of which were outstanding at June 30, 2021. The grant date fair value of the

PSUs was $23.57 per share. The terms of the PSUs provide for 100% of shares to be earned based on the of achievement of certain pre-determined performance objectives, subject to the participant's continued employment. The PSUs will expire five years from the grant date if the performance objectives are not achieved. The PSUs will vest, if at all, upon certification by the Compensation Committee of the Company's Board of Directors of the actual achievement of the performance objectives, subject to specified change of control exceptions. Stock-based compensation expense associated with PSUs is based on the fair value of the Company's common stock on the grant date, which equals the closing price of the Company's common stock on the grant date. The Company recognizes compensation expense over the vesting period of the awards that are ultimately expected to vest when the achievement of the related performance objective becomes probable. The total fair value of the PSUs granted in February 2021 was $2.6 million. As of June 30, 2021, the achievement of the related performance objective was deemed not probable and, accordingly, no stock-based compensation for the PSUs has been recognized as expense as of June 30, 2021.

Employee Stock Purchase Plan

The 2016 Employee Stock Purchase Plan ("2016 ESPP") allows eligible employees to purchase shares of the Company's common stock at a discount through payroll deductions of up to 15% of their eligible compensation. At the end of each offering period, eligible employees are able to purchase shares at 85% of the lower of the fair market value of the Company's common stock at the beginning of the offering period or at the end of each applicable purchase period. During the six months ended June 30, 2021, a total of 28,527 shares of common stock were issued under the 2016 ESPP, and 1,029,120 shares remain available for issuance as of June 30, 2021.

Stock-Based Compensation

Total stock-based compensation expense was as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Research and development	$ 2,155	$ 1,026	$ 3,630	$ 2,092
General and administrative	1,781	970	2,966	1,952
Total stock-based compensation expense	$ 3,936	$ 1,996	$ 6,596	$ 4,044

As of June 30, 2021, total unrecognized stock-based compensation expense was approximately $46.4 million, which the Company expects to recognize over a weighted-average period of approximately 3.0 years.

Note 13. 401(k) Plan

The Company has a retirement and savings plan under Section of 401(k) of Internal Revenue Code ("401(k) Plan") covering all U.S. employees. The 401(k) Plan allows employees to make pre- and post-tax contributions up to the maximum allowable amount set by the Internal Revenue Service. The Company may make contributions to this plan at its discretion. For the three and six months ended June 30, 2021, the Company plans to match 50% of each employee's contribution up to a maximum of $3,500, and recognized expense of approximately zero and $0.2 million, respectively, relating to these contributions. No contributions were made to the plan by the Company for the three and six months ended June 30, 2020.

Note 14. Income Taxes

No income tax expense was recorded by the Company during the three and six months ended June 30, 2021. The Company recorded income tax expense of $1.1 million and $1.3 million for the three and six months ended June 30, 2020, respectively, representing an effective income tax rate of 6.2% and 3.4%, respectively. During the second quarter of 2020, the Company's Australia subsidiary sold beneficial rights to discovery intellectual property to its U.S. entity, and the U.S. entity reimbursed the Australia subsidiary for certain direct development costs. Upon completion of the sale, the Company analyzed tax planning strategies and future income and concluded that a valuation allowance is necessary for its Australia subsidiary. Income tax expense for the three and six months ended June 30, 2020 reflects this

sale of intellectual property rights, cost reimbursements and related adjustments to the deferred tax asset, establishing a valuation allowance and certain uncertain tax position liabilities. The Company's effective income tax rate differed from the Company's federal statutory rate of 21%, primarily because its U.S. loss cannot be benefited due to the full valuation allowance position and reduced by foreign taxes.

Note 15. Net Loss per Share

As the Company had net losses for the three and six months ended June 30, 2021 and 2020, all potential dilutive common shares were determined to be anti-dilutive. The following table sets forth the computation of basic and diluted net loss per share (in thousands, except share and per share data):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
Numerator:				
Net loss	$ (30,842)	$ (19,421)	$ (54,840)	$ (39,501)
Denominator:				
Weighted-average shares used to compute net loss per common share, basic and diluted	44,864,637	32,799,691	44,546,172	30,251,805
Net loss per share, basic and diluted	$ (0.69)	$ (0.59)	$ (1.23)	$ (1.31)

The following outstanding shares of potentially dilutive securities have been excluded from diluted net loss per share computations for the periods presented because their inclusion would be anti-dilutive:

	Six Months Ended June 30,	
	2021	2020
Options to purchase common stock	5,961,336	4,537,986
Common stock warrants	2,750,000	2,750,000
Restricted stock units	423,504	262,608
Performance stock units	110,500	—
ESPP shares	15,617	38,218
Total	9,260,957	7,588,812

Note 16. Restructuring

On May 7, 2020, the Company approved a limited reduction in force plan affecting approximately 12% of the Company's employee base and informed the affected employees. The reduction-in-force plan was completed by the end of the second quarter of 2020. Total cash expenditures for the reduction in force plan were $0.3 million, substantially all of which were related to employee severance and benefits costs.

Note 17. Subsequent Events

Restated Janssen License and Collaboration Agreement

On July 27, 2021, the Company entered into an amended and restated License and Collaboration Agreement (the "Restated Agreement") with Janssen. The Restated Agreement amends and restates the License and Collaboration Agreement, dated May 27, 2017, by and between the Company and Janssen (as amended by Amendment No. 1 thereto, effective May 7, 2019, the "Original Agreement").

The Restated Agreement relates to the development, manufacture and commercialization of oral IL-23 receptor antagonist drug candidates. The candidates currently in development pursuant to the Restated Agreement include PTG-200, PN-232 and PN-235. PTG-200 is an oral, IL-23 receptor antagonist in Phase 2a development for the treatment of CD. PN-235 and PN-232 are second-generation oral IL-23 receptor antagonist candidates currently in

Phase 1 studies. Janssen is primarily responsible for the conduct of the PTG-200 trial and the Company is primarily responsible for the conduct of the PN-232 and PN-235 Phase 1 studies.

Pursuant to the Restated Agreement, the parties have:

(a) amended development milestones to reflect Janssen's expected development of collaboration compounds for multiple indications in the IL-23 pathway;

(b) limited the Company's further development and related expense obligations under the Restated Agreement to the ongoing PTG-200 Phase 2a study, and the ongoing Phase 1 studies in PN-232 and PN-235 described in the preceding paragraph; Janssen is responsible for all other future development and related expenses under the Restated Agreement; and

(c) concluded the parties' two-year research collaboration, while enabling Janssen to continue conducting additional research through July 2024 on compounds developed pursuant to the Original Agreement.

The Company's continuing development expense obligations under the Restated Agreement are as follows: (a) the Company will continue to fund 20% of the costs related to the ongoing Phase 2a study evaluating PTG-200 for the treatment of CD (subject to a $20.0 million cap on costs related to Phase 2a and 2b costs for PTG 200); (b) the Company is responsible for 50% of agreed-upon costs related to the ongoing Phase 1 study evaluating PN-235 incurred under the Original Agreement through January 4, 2021; (c) the Company is responsible for 100% of agreed-upon costs related to the ongoing Phase 1 study evaluating PN-232.

Certain of the Company's previous development expense obligations under the Original Agreement have been limited or eliminated as follows: (a) the Company's previous $25.0 million obligation for 20% of costs related to Phase 2 studies for Second Generation Products has been eliminated; (b) the Company's previous $5.0 million obligation for 50% of the costs of a potential third Phase 1 study evaluating a Second Generation Product has been eliminated; and (c) the Company has no obligation to fund any portion of any Phase 2b or other study evaluating PTG-200 beyond the ongoing Phase 2a study.

One milestone for Second Generation Phase 2 development was reduced from $50.0 million to $25.0 million in the Restated Agreement; otherwise, the various milestone payment amounts in the Restated Agreement remain substantially the same as in the Original Agreement. To reflect parallel development of multiple indications in the IL-23 pathway, milestone payments under the Restated Agreement generally now correspond to the achievement of specified milestones in: (a) any initial indication (rather than CD, as in the Original Agreement); (b) any second indication (rather than UC, as in the Original Agreement); and (c) any third indication. With respect to Second Generation Products, milestone payments for second and third indications may be triggered by any Second Generation Product (i.e., not necessarily the Second Generation Product that triggered the initial payment for any indication, or the payment for a second indication). In addition, the opt-in payments contemplated by the Original Agreement related to the scope of Janssen's license rights have been converted into development milestones in the Restated Agreement.

The mid-single digit to ten percent tiered royalty rates payable pursuant to the Original Agreement remain the same in the Restated Agreement. The sales milestone payments in the Original Agreement also remain the same in the Restated Agreement.

Following completion of the ongoing Phase 2a study for PTG-200 and the ongoing Phase 1 studies for PN-232 and PN-235, the Company has no further collaborative development obligations under the Restated Agreement. Any further research and development will be conducted by Janssen.

Janssen retains exclusive, worldwide rights to develop and commercialize PTG-200 and any second-generation compounds derived from the research collaboration conducted under the Original Agreement, or Janssen's further research under the Restated Agreement.

Lease Amendment

On July 2, 2021, the Company entered into an amendment (the "Second Lease Amendment") to its facility lease agreement dated as of March 6, 2017, as amended, to lease approximately 15,000 square feet of additional office space in Newark, California. The Company expects to commence operations in the additional space in the third quarter of 2021. Under the Second Lease Amendment, the Company expects to pay additional base rent of approximately $1.5 million over the lease term, which expires in May 2024. The Company will be responsible for its proportional share of operating expenses and tax obligations. No additional security deposit is required.

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 together with our Unaudited Condensed Consolidated Financial Statements and related notes included in Part I, Item 1 of this quarterly report (this "Quarterly Report") on Form 10-Q and with our Audited Consolidated Financial Statements and related notes thereto for the year ended December 31, 2020, included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission ("SEC") on March 10, 2021.

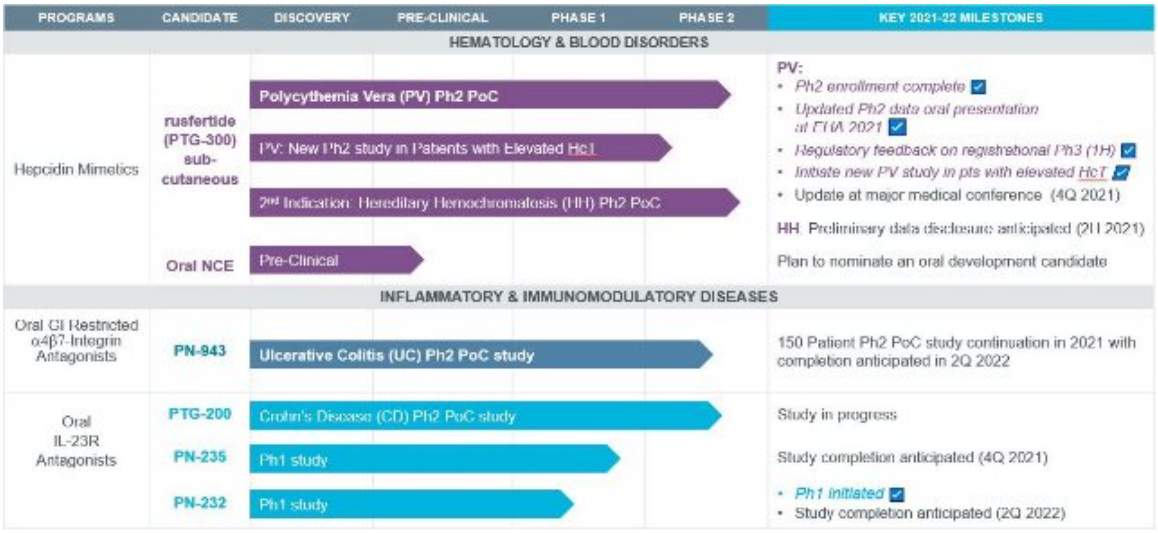
Forward-Looking Statements

This Quarterly Report contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. In some cases, you can identify forward-looking statements by terms such as "anticipates," "believes," "could," "estimates," "expects," "forecasts," "intends," "may," "plans," "potential," "predicts," "projects," "should," "targets," "will," "would," and similar expressions intended to identify forward-looking statements. Forward-looking statements reflect our current views with respect to future events, are based on assumptions, and are subject to risks, uncertainties and other important factors. In particular, statements, whether expressed or implied, concerning, among other things, the potential for our programs, the timing of our clinical trials, the potential for eventual regulatory approval and commercialization of our product candidates and our potential receipt of milestone payments and royalties under our collaboration agreements, the timing and amount of potential payments that we may be required to make to collaboration partners; future operating results or the ability to generate sales, income or cash flow, and the impact of the ongoing COVID-19 pandemic are forward-looking statements. They involve risks, uncertainties and assumptions that are beyond our ability to control or predict, including those discussed in Part II, Item 1A, of this Quarterly Report. While we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted an exhaustive inquiry into, or review of, all potentially available relevant information. Given these risks, uncertainties and other important factors, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our estimates and assumptions only as of the date of this Quarterly Report. Except as required by law, we assume no obligation to update any forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available in the future. "Protagonist," the Protagonist logo and other trademarks, service marks and trade names of Protagonist are registered and unregistered marks of Protagonist Therapeutics, Inc. in the United States and other jurisdictions.

Overview

We are a biopharmaceutical company with multiple peptide-based investigational new chemical entities in different stages of development, all derived from the Company's proprietary discovery technology platform. Our clinical programs fall into two broad categories of diseases; (i) hematology and blood disorders, and (ii) inflammatory and immunomodulatory diseases.

Our Product Pipeline



Our most advanced clinical asset, rusfertide (generic name for PTG-300) is an injectable hepcidin mimetic in development for the potential treatment of erythrocytosis, iron overload and other blood disorders. Hepcidin is a key hormone in regulating iron equilibrium and is critical to the proper development of red blood cells. Rusfertide mimics the effect of the natural hormone hepcidin, but with greater potency, solubility and stability. We initiated Phase 2 proof of concept ("POC") studies in the blood disorders polycythemia vera ("PV") in the third quarter of 2019 and hereditary hemochromatosis ("HH") in January 2020. In December 2020, we presented four posters and one oral presentation relating to rusfertide at the American Society for Hematology's virtual annual meeting, including updated interim Phase 2 results for rusfertide in PV. In June 2021, we presented updated Phase 2 data supporting the long-term efficacy of rusfertide in PV during an oral presentation at the European Hematology Association ("EHA") 2021 Virtual Congress. We believe these interim results provide evidence regarding the potential of rusfertide for managing hematocrit, reducing thrombotic risk and improving iron deficiency symptoms. Rusfertide has a unique mechanism of action in the potential treatment of PV, which may enable it to decrease and maintain hematocrit levels within the range of recommended clinical guidelines without causing the iron deficiency that may occur with frequent phlebotomy.

We completed patient enrollment in the ongoing pivotal Phase 2 clinical trial of rusfertide in PV in April 2021. Based on end of Phase 2 feedback provided by the FDA's Division of Nonmalignant Hematology and written comments from the European Medicines Agency ("EMA") received during the first quarter of 2021, we expect to initiate a global Phase 3 clinical trial of rusfertide in PV in early 2022. During the first quarter of 2021, we initiated another Phase 2 study for rusfertide in up to 20 patients diagnosed with PV and with routinely elevated hematocrit levels (>48%). In addition, we completed enrollment for our Phase 2 POC study in HH, our second indication, in April 2021 and expect to disclose preliminary data from this study in the fourth quarter of 2021.

To date we have received the following designations for rusfertide in PV:

- The U.S. Food and Drug Administration ("FDA") granted orphan drug designation for rusfertide for the treatment of PV in June 2020;
- The European Medicines Agency granted orphan drug designation for rusfertide for the treatment of PV in October 2020;
- The FDA granted Fast Track designation for rusfertide for the treatment of PV in December 2020; and
- The FDA granted Breakthrough Therapy Designation for rusfertide for the treatment of PV in June 2021.

Our alpha-4-beta-7 ("α4β7") antagonist PN-943 and our Interleukin-23 receptor ("IL-23R") antagonist compounds, including PTG-200, PN-235 and PN-232, are orally delivered investigational drugs that are designed to block biological pathways currently targeted by marketed injectable antibody drugs. Our orally stable peptide approach may offer targeted delivery to the GI tissue compartment. We believe that, compared to antibody drugs, these product candidates have the potential to provide improved safety due to minimal exposure in the blood, increased convenience and compliance due to oral delivery, and the opportunity for the earlier introduction of targeted oral therapy.

PN-943 is an investigational, orally delivered, gut-restricted α4β7 specific integrin antagonist for IBD. We submitted a U.S. Investigational New Drug application with the FDA for PN-943 in December 2019, which took effect in January 2020. During the second quarter of 2020 we initiated a 150-patient Phase 2 study evaluating the safety, tolerability and efficacy of PN-943 in patients with moderate to severe UC. This ongoing study is expected to be completed in the second quarter of 2022, subject to delays related to the COVID-19 pandemic.

In May 2017, we entered into a worldwide license and collaboration agreement with Janssen Biotech, Inc. ("Janssen"), a Johnson & Johnson company, to co-develop and co-detail our IL-23R antagonist compounds, including PTG-200 and certain related compounds for all indications, including IBD. PTG-200 (also referenced as JNJ-67864238) is an investigational, orally delivered, IL-23R antagonist for the treatment of IBD. The agreement with Janssen was amended in May 2019 to expand the collaboration by supporting efforts towards second-generation IL- 23R antagonists. In January 2020, as part of the expanded research collaboration, we announced the identification and nomination of an orally delivered IL-23R antagonist peptide as a second-generation development candidate, triggering a $5.0 million milestone payment to us. Janssen initiated a global Phase 2 POC clinical study for PTG-200 in moderate-to-severe CD in the fourth quarter of 2019, and the study is currently in progress. In October 2020, we announced the selection of two second-generation IL-R antagonists for advancement into clinical development, PN-235 (also referenced as JNJ-77242113) and PN-232 (also referenced as JNJ-75105186). A Phase 1 study was initiated for PN-235 in December 2020 and is expected to be completed in the fourth quarter of 2021. A Phase 1 study was initiated for PN-232 in May 2021 and is expected to be completed in the second quarter of 2022. The current development plan contemplates parallel development of multiple collaboration compounds against multiple indications in the IL-23 pathway.

Our clinical assets are all derived from our proprietary discovery platform. Our platform enables us to engineer novel, structurally constrained peptides that are designed to retain key advantages of both orally delivered small molecules and injectable antibody drugs in an effort to overcome many of their limitations as therapeutic agents. Importantly, constrained peptides can be designed to potentially alleviate the fundamental instability inherent in traditional peptides to allow different delivery forms, such as oral, subcutaneous, intravenous, and rectal. We continue to use our peptide technology platform to discover product candidates against targets in disease areas with significant unmet medical needs.

COVID-19 Business Impact

We are subject to risks and uncertainties as a result of the ongoing COVID-19 pandemic. We are continuing to closely monitor the impact of the COVID-19 pandemic on our business and have taken and continue to take proactive efforts to protect the health and safety of our patients, study investigators, clinical research staff and employees, and to maintain business continuity. The extent of the impact of the COVID-19 pandemic on our activities is uncertain and difficult to predict, as the pandemic and the response to the pandemic continue to evolve. Capital markets and economies worldwide have been significantly impacted by the COVID-19 pandemic, and the pandemic has contributed

to a global economic recession. Such economic disruption could have a material adverse effect on our business. Policymakers around the globe have responded with fiscal policy actions to support the healthcare industry and economy as a whole. The magnitude and overall effectiveness of these actions remains uncertain.

The severity of the impact of the COVID-19 pandemic on our activities will depend on a number of factors, including, but not limited to, the duration and severity of the pandemic, including the severity of any additional periods of increases or spikes in the number of cases in the areas we, our suppliers and our manufacturers operate and areas where our clinical trial sites are located; the development and spread of COVID-19 variants; the timing, extent, effectiveness and durability of vaccine programs or other treatments; and new or continuing travel and other restrictions and public health measures, such as social distancing, business closures or disruptions. Accordingly, the extent and severity of the impact on our existing and planned clinical trials, manufacturing, collaboration activities and operations is uncertain and cannot be fully predicted. We have experienced delays in our existing and planned clinical trials due to the worldwide impacts of the pandemic. Our future results of operations and liquidity could be adversely impacted by further delays in existing and planned clinical trials and collaboration activities, continued difficulty in recruiting patients for these clinical trials, delays in manufacturing and collaboration activities, supply chain disruptions, the ongoing impact on operating activities and employees, and the ongoing impact of any initiatives or programs that we may undertake to address financial and operational challenges. As of the date of issuance of this Quarterly Report on Form 10-Q, the extent to which the COVID-19 pandemic may materially impact our future financial condition, liquidity or results of operations is uncertain.

Operations

We have incurred net losses in each year since inception and we do not anticipate achieving sustained profitability in the foreseeable future. Our net loss was $30.8 million and $54.8 million for the three and six months ended June 30, 2021, respectively. Our net loss was $19.4 million and $39.5 million for the three and six months ended June 30, 2020, respectively. As of June 30, 2021, we had an accumulated deficit of $338.7 million. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations. We expect to continue to incur significant research, development, commercialization and other expenses related to our ongoing operations and product development, including clinical development activities under our worldwide license and collaboration agreement with Janssen, and, as a result, we expect to continue to incur losses in the future as we continue our development of, and seek regulatory approval for, our product candidates.

Janssen License and Collaboration Agreement

On May 26, 2017, we and Janssen, one of the Janssen Pharmaceutical Companies of Johnson & Johnson, entered into an exclusive license and collaboration agreement for the clinical development, manufacture and potential commercialization of PTG-200 worldwide for the treatment of CD and UC (the "Janssen License and Collaboration Agreement"), which was subsequently amended effective May 7, 2019 (the "First Amendment"). The First Amendment expanded the scope of the Janssen License and Collaboration Agreement by supporting efforts toward identifying and developing second-generation compounds. Janssen is a related party to us as Johnson & Johnson Innovation - JJDC, Inc., a significant stockholder of ours, and Janssen are both subsidiaries of Johnson & Johnson. During the third quarter of 2017, we received a non-refundable, upfront cash payment of $50.0 million from Janssen. During the second quarter of 2019, we received a non-refundable cash payment of $25.0 million upon execution of the First Amendment. During the first quarter of 2020, we received a cash payment of $5.0 million upon the successful nomination of a second-generation development candidate. See Note 3 and Note 17 to the condensed consolidated financial statements included elsewhere in this report for additional information.

Critical Accounting Polices and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our unaudited condensed consolidated financial statements, which have been prepared in accordance with United States generally accepted accounting principles. The preparation of these unaudited condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and

the disclosure of contingent assets and liabilities at the date of the unaudited condensed consolidated financial statements, as well as the reported revenue generated and expenses incurred during the reporting periods. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions. In making estimates and judgments, management employs critical accounting policies.

Use of Estimates

Due to the ongoing COVID-19 pandemic, there has been uncertainty and disruption in the global economy and financial markets. We have taken into consideration any known COVID-19 impacts in our accounting estimates to date and are not aware of any additional specific events or circumstances that would require any additional updates to our estimates or judgments or a revision of the carrying value of our assets or liabilities as of the date of issuance of this Quarterly Report on Form 10-Q. These estimates may change as new events occur and additional information is obtained. Actual results could differ materially from these estimates under different assumptions or conditions.

Stock-Based Compensation

We recognize compensation costs related to stock options accounted for under Accounting Standards Codification Topic 718 – "*Stock Compensation"* based on the estimated fair value of the awards on the date of grant. We estimate the fair value, and the resulting stock-based compensation expense, using the Black-Scholes option-pricing model. The estimated fair value of the stock-based awards is generally recognized over the requisite service period, which is generally the vesting period of the respective awards.

The Black-Scholes option-pricing model requires the use of subjective assumptions which determine the fair value of stock-based awards. Expected volatility generally requires significant judgement to determine. For the year ended December 31, 2020, our expected volatility was estimated based upon a mix of 75% of the average volatility for comparable publicly traded biopharmaceutical companies over a period equal to the expected term of the stock option grants and 25% of the volatility of our own stock price since our initial public offering in August 2016. Beginning January 1, 2021, our expected volatility is estimated based upon a mix of 50% of the average volatility for comparable publicly traded biopharmaceutical companies over a period equal to the expected term of the stock option grants and 50% of the volatility of our own stock price since our initial public offering in August 2016. These comparable companies are chosen based on their similar size, stage in the life cycle, or area of specialty. We will continue to apply this process until a longer period of historical information regarding the volatility of our own stock price becomes available.

In February 2021, we granted performance share units ("PSUs) to certain of our executives. Stock-based compensation expense associated with PSUs is based on the fair value of our common stock on the grant date, which equals the closing price of our common stock on the grant date. We recognize compensation expense over the vesting period of the awards that are ultimately expected to vest when the achievement of the related performance obligation becomes probable. The total fair value of the PSUs granted in February 2021 was $2.6 million.

There have been no other material changes in our critical accounting policies during the three and six months ended June 30, 2021, as compared to those disclosed in *"Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Estimates"* in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 10, 2021.

Components of Our Results of Operations

License and Collaboration Revenue

Our license and collaboration revenue is derived from payments we receive under the Janssen License and Collaboration Agreement. See Note 3 to the condensed consolidated financial statements included elsewhere in this report for additional information.

Research and Development Expenses

Research and development expenses represent costs incurred to conduct research, such as the discovery and development of our product candidates. We recognize all research and development costs as they are incurred, unless there is an alternative future use in other research and development projects or otherwise. Non-refundable advance payments for goods and services that will be used in future research and development activities are expensed when the activity has been performed or when the goods have been received rather than when payment has been made. In instances where we enter into agreements with third parties to provide research and development services to us, costs are expensed as services are performed. Amounts due under such arrangements may be either fixed fee or fee for service and may include upfront payments, monthly payments, and payments upon the completion of milestones or the receipt of deliverables.

Research and development expenses consist primarily of the following:

- expenses incurred under agreements with clinical study sites that conduct research and development activities on our behalf;
- employee-related expenses, which include salaries, benefits and stock-based compensation;
- laboratory vendor expenses related to the preparation and conduct of pre-clinical, non-clinical, and clinical studies;
- costs related to production of clinical supplies and non-clinical materials, including fees paid to contract manufacturers;
- license fees and milestone payments under license and collaboration agreements; and
- facilities and other allocated expenses, which include expenses for rent and maintenance of facilities, information technology, depreciation and amortization expense and other supplies.

We recognize the funds from grants under government programs as a reduction of research and development expenses when the related research costs are incurred. In addition, we recognize the funds related to our Australian research and development refundable cash tax incentive that are not subject to refund provisions as a reduction of research and development expenses. The research and development tax incentives are recognized when there is reasonable assurance that the incentives will be received, the relevant expenditure has been incurred and the amount of the consideration can be reliably measured. We evaluate our eligibility under the tax incentive program as of each balance sheet date and make accruals and related adjustments based on the most current and relevant data available. We may alternatively be eligible for a taxable credit in the form of a non-cash tax incentive.

We allocate direct costs and indirect costs incurred to product candidates when they enter clinical development. For product candidates in clinical development, direct costs consist primarily of clinical, pre-clinical, and drug discovery costs, costs of supplying drug substance and drug product for use in clinical and pre-clinical studies, including clinical manufacturing costs, contract research organization fees, and other contracted services pertaining to specific clinical and pre-clinical studies. Indirect costs allocated to our product candidates on a program specific basis include research and development employee salaries, benefits, and stock-based compensation, and indirect overhead and other administrative support costs. Program-specific costs are unallocated when the clinical expenses are incurred for our early-stage research and drug discovery projects, our internal resources, employees and infrastructure are not tied to any one research or drug discovery project and are typically deployed across multiple projects. As such, we do not provide financial information regarding the costs incurred for early-stage pre-clinical and drug discovery programs on a program-specific basis prior to the clinical development stage.

The following table summarizes our research and development expenses incurred during the periods indicated:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2021	2020	2021	2020
	(Dollars in thousands)			
Clinical and development expense — rusfertide (PTG-300)	$ 12,168	$ 7,753	$ 22,247	$ 14,559
Clinical and development expense — PN-943	7,751	7,002	15,475	14,020
Clinical and development expense — PN-235	1,433	—	3,232	—
Clinical and development expense — PN-232	39	—	39	—
Clinical and development expense — PTG-200	1	40	2	925
Clinical and development expense — PTG-100	141	12	250	193
Preclinical and drug discovery research expense	5,884	5,633	11,245	9,916
Grants and tax incentives expense reimbursement, net	(985)	(183)	(1,813)	(588)
Total research and development expenses	$ 26,432	$ 20,257	$ 50,677	$ 39,025

We expect our research and development expenses will increase as we progress our product candidates into later stage clinical trials, expand the number of ongoing clinical trials, advance development activities under the Janssen License and Collaboration Agreement, advance our discovery research projects into the pre-clinical stage and continue our early-stage research. The process of conducting research, identifying potential product candidates and conducting pre-clinical and clinical trials necessary to obtain regulatory approval is costly and time intensive. We may never succeed in achieving marketing approval for our product candidates regardless of our costs and efforts. The probability of success of our product candidates may be affected by numerous factors, including pre-clinical data, clinical data, competition, manufacturing capability, our ability to receive, and the timing of, regulatory approvals, market conditions, and our ability to successfully commercialize our products if they are approved for marketing. As a result, we are unable to determine the duration and completion costs of our research and development projects or when and to what extent we will generate revenue from the commercialization and sale of any of our product candidates. Our research and development programs are subject to change from time to time as we evaluate our priorities and available resources.

General and Administrative Expenses

General and administrative expenses consist of personnel costs, allocated facilities costs and other expenses for outside professional services, including legal, human resources, audit and accounting services, and pre-commercial selling and marketing costs. Personnel costs consist of salaries, benefits and stock-based compensation. Allocated expenses consist of expenses for rent and maintenance of facilities, information technology, depreciation and amortization expense and other supplies. We expect to continue to incur expenses to support our continued operations, including expenses related to existing and future compliance with rules and regulations of the SEC and those of the national securities exchange on which our securities are traded, insurance expenses, investor relations, professional services and general overhead and administrative costs.

Interest Income

Interest income consists of interest earned on our cash, cash equivalents and marketable securities, which is comprised of contractual interest, premium amortization and discount accretion.

Interest Expense

Interest expense consists of interest recognized on borrowings under our term loan facility, which is comprised of contractual interest, amortization of origination fees and other issuance costs, and accretion of final payment fees.

Loss on Early Repayment of Debt

Loss on early repayment of debt consists of prepayment and final payment fees paid upon the early repayment of our long-term debt.

Other Expense (Income), Net

Other (expense) income, net consists primarily of amounts related to foreign exchange gains and losses and related items.

Results of Operations

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

	Three Months Ended June 30,		Dollar Change	% Change
	2021	2020		
	(Dollars in thousands)			
License and collaboration revenue - related party	$ 2,265	$ 6,217	$ (3,952)	(64)
Operating expenses:				
Research and development [1]	26,432	20,257	6,175	30
General and administrative [2]	6,715	4,177	2,538	61
Total operating expenses	33,147	24,434	8,713	36
Loss from operations	(30,882)	(18,217)	(12,665)	70
Interest income	97	207	(110)	(53)
Interest expense	—	(209)	209	(100)
Loss on early repayment of debt	—	(585)	585	(100)
Other (expense) income, net	(57)	512	(569)	(111)
Loss before income tax expense	(30,842)	(18,292)	(12,550)	69
Income tax expense	—	(1,129)	1,129	(100)
Net loss	$ (30,842)	$ (19,421)	$ (11,421)	59

(1) Includes $2.2 million and $1.0 million of non-cash stock-based compensation expense for the three months ended June 30, 2021 and 2020, respectively.

(2) Includes $1.8 million and $1.0 million of non-cash stock-based compensation expense for the three months ended June 30, 2021 and 2020, respectively.

License and Collaboration Revenue

License and collaboration revenue decreased $4.0 million, or 64%, from $6.2 million for the three months ended June 30, 2020 to $2.3 million for the three months ended June 30, 2021, which was primarily related to a decrease in services provided under the Janssen License and Collaboration Agreement recognized based on proportional performance. The level of services has decreased as the Company nears completion of its performance obligations delivered pursuant to the collaboration, including the anticipated completion of its ongoing PN-235 Phase 1 trial in the fourth quarter of 2021 and its ongoing PN-232 Phase 1 trial in the first half of 2022.

We have determined that the transaction price of the initial performance obligation under the Janssen License and Collaboration Agreement was $95.8 million as of June 30, 2021, a decrease of $0.5 million from the transaction price of $96.3 million as of March 31, 2021. In order to determine the transaction price, we evaluated all payments expected to be received during the duration of the contract, net of development costs reimbursement expected to be payable to Janssen. We determined that the transaction price includes the $50.0 million upfront payment, the $25.0 million payment received upon the effectiveness of the First Amendment, the $5.0 million payment triggered by the successful nomination of a second-generation compound, $17.9 million of reimbursement from Janssen for services performed for PTG-200 Phase 2 and for second-generation compound research costs and other services, and estimated

variable consideration consisting of a $7.5 million milestone payment subject to the completion of a Phase 1 study for a second-generation compound, offset by $9.6 million of net cost reimbursement to Janssen for services performed. The decrease in transaction price from March 31, 2021 to June 30, 2021 was due primarily to a decrease in the forecast of cost reimbursements to Janssen for services performed. We re-evaluate the transaction price each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Research and Development Expenses

	Three Months Ended June 30,		Dollar	%
	2021	2020	Change	Change
	(Dollars in thousands)			
Clinical and development expense — rusfertide (PTG-300)	$ 12,168	$ 7,753	$ 4,415	57
Clinical and development expense — PN-943	7,751	7,002	749	11
Clinical and development expense — PN-235	1,433	—	1,433	*
Clinical and development expense — PN-232	39	—	39	*
Clinical and development expense — PTG-200	1	40	(39)	(98)
Clinical and development expense — PTG-100	141	12	129	*
Preclinical and drug discovery research expense	5,884	5,633	251	4
Grants and tax incentives expense reimbursement, net	(985)	(183)	(802)	438
Total research and development expenses	$ 26,432	$ 20,257	$ 6,175	30

*Percentage not meaningful

Research and development expenses increased $6.2 million, or 30%, from $20.3 million for the three months ended June 30, 2020 to $26.4 million for the three months ended June 30, 2021. The increase was primarily due to an increase of $4.4 million in rusfertide clinical trial and development costs, including the ongoing Phase 2 trials in PV, which began in December 2019, and HH, which began in early 2020, and clinical and contract manufacturing activities in preparation for a planned global Phase 3 clinical trial of rusfertide in PV; $1.4 million of Phase 1 clinical trial and development costs for PN-235; an increase of $0.7 million in PN-943 clinical trial and development costs following the initiation of the Phase 2 trial in UC in 2020, and an increase of $0.3 million in preclinical and drug discovery research expenses. These increases were partially offset by a decrease of $0.8 million increase in grant and accrued refundable cash tax incentives.

We had 81 and 52 full-time equivalent research and development employees as of June 30, 2021 and 2020, respectively.

General and Administrative Expenses

General and administrative expenses increased $2.5 million, or 61%, from $4.2 million for the three months ended June 30, 2020 to $6.7 million for the three months ended June 30, 2021 primarily due to an increase of $1.5 million in personnel expenses, a $0.4 million increase in market research expenses, and a $0.3 million increase in consulting fees to support the growth of our business, and a $0.2 million increase in legal fees. The increase in personnel expenses was primarily due to increases of $0.8 million in stock-based compensation expense and $0.6 million in wages and benefits.

We had 20 and 17 full-time equivalent general and administrative employees as of June 30, 2021 and 2020, respectively.

Interest Income

Interest income decreased $0.1 million, or 53%, from $0.2 million for the three months ended June 30, 2020 to $0.1 million for the three months ended June 30, 2021. This decrease was due primarily to the recent record low interest

rate environment and a change in the mix of marketable securities compared to the prior year period, despite higher interest-earning asset balances.

Interest Expense

Interest expense decreased $0.2 million, or 100%, from $0.2 million for the three months ended June 30, 2020 to zero for the three months ended June 30, 2021. The decrease in interest expense was due to the prepayment of our outstanding long-term debt under our term credit facility during the second quarter of 2020. We had no debt outstanding under our term loan facility during the three months ended June 30, 2021.

Loss on Early Repayment of Debt

Loss on early repayment of debt of $0.6 million for the three months ended June 30, 2020 reflects prepayment and final payment fees in connection with the early repayment of our term loan in June 2020. We had no debt outstanding during the three months ended June 30, 2021.

Other (Expense) Income, Net

Other expense, net was $0.1 million for the three months ended June 30, 2021 compared to other income, net of $0.5 million for the three months ended June 30, 2020. The change was due primarily to a $0.5 million foreign currency revaluation gain recorded for the three months ended June 30, 2020.

Income Tax Expense

Income tax expense decreased $1.1 million, or 100%, from $1.1 million for the three months ended June 30, 2020 to zero for the three months ended June 30, 2021. Our effective income tax rate was 0% for the three months ended June 30, 2021 as compared to 6.2% for the three months ended June 30, 2020. During the second quarter of 2020, our Australia subsidiary sold beneficial rights to discovery intellectual property to our U.S. entity, and the U.S. entity reimbursed the Australia subsidiary for certain direct development costs. Upon completion of the sale, we analyzed tax planning strategies and future income and concluded that a valuation allowance is necessary for our Australia subsidiary. Income tax expense for the three months ended June 30, 2020 reflects this sale of intellectual property rights, cost reimbursements and related adjustments to the deferred tax asset, establishing a valuation allowance and certain uncertain tax position liabilities. We maintained a full valuation allowance on our tax position as of June 30, 2021.

Comparison of the Six Months Ended June 30, 2021 and 2020

	Six Months Ended June 30,		Dollar Change	% Change
	2021	2020		
	(Dollars in thousands)			
License and collaboration revenue - related party	$ 8,454	$ 9,864	$ (1,410)	(14)
Operating expenses:				
Research and development [1]	50,677	39,025	11,652	30
General and administrative [2]	12,680	8,753	3,927	45
Total operating expenses	63,357	47,778	15,579	33
Loss from operations	(54,903)	(37,914)	(16,989)	45
Interest income	199	733	(534)	(73)
Interest expense	—	(452)	452	(100)
Loss on early repayment of debt	—	(585)	585	(100)
Other (expense) income, net	(136)	22	(158)	(718)
Loss before income tax expense	(54,840)	(38,196)	(16,644)	44
Income tax expense	—	(1,305)	1,305	(100)
Net loss	$ (54,840)	$ (39,501)	$ (15,339)	39

(1) Includes $3.6 million and $2.1 million of non-cash stock-based compensation expense for the six months ended June 30, 2021 and 2020, respectively.

(2) Includes $3.0 million and $2.0 million of non-cash stock-based compensation expense for the six months ended June 30, 2021 and 2020, respectively.

License and Collaboration Revenue

License and collaboration revenue decreased $1.4 million, or 14%, from $9.9 million for the six months ended June 30, 2020 to $8.5 million for the six months ended June 30, 2021, which was primarily related to a decrease in services provided under the Janssen License and Collaboration Agreement recognized based on proportional performance. The level of services has decreased as the Company nears completion of its performance obligations delivered pursuant to the collaboration, including the anticipated completion of its ongoing PN-235 Phase 1 trial in the fourth quarter of 2021 and its ongoing PN-232 Phase 1 trial in the first half of 2022.

We have determined that the transaction price of the initial performance obligation under the Janssen License and Collaboration Agreement was $95.8 million as of June 30, 2021, a decrease of $2.8 million from the transaction price of $98.6 million as of December 31, 2020. In order to determine the transaction price, we evaluated all payments expected to be received during the duration of the contract, net of development costs reimbursement expected to be payable to Janssen. We determined that the transaction price includes the $50.0 million upfront payment, the $25.0 million payment received upon the effectiveness of the First Amendment, the $5.0 million payment triggered by the successful nomination of a second-generation compound, $17.9 million of reimbursement from Janssen for services performed for PTG-200 Phase 2 and for second-generation compound research costs and other services, and estimated variable consideration consisting of a $7.5 million milestone payment subject to the completion of a Phase 1 study for a second-generation compound, offset by $9.6 million of net cost reimbursement to Janssen for services performed. The decrease in transaction price from December 31, 2020 to June 30, 2021 was due primarily to a decrease in the forecast of remaining services to be provided under the initial performance obligation and an increase in the forecast for cost reimbursements to Janssen for services performed. We re-evaluate the transaction price each reporting period and as uncertain events are resolved or other changes in circumstances occur.

Research and Development Expenses

	Six Months Ended June 30,		Dollar	%
	2021	2020	Change	Change
	(Dollars in thousands)			
Clinical and development expense — rusfertide (PTG-300)	$ 22,247	$ 14,559	$ 7,688	53
Clinical and development expense — PN-943	15,475	14,020	1,455	10
Clinical and development expense — PN-235	3,232	—	3,232	*
Clinical and development expense — PN-232	39	—	39	*
Clinical and development expense — PTG-200	2	925	(923)	(100)
Clinical and development expense — PTG-100	250	193	57	30
Preclinical and discovery research expense	11,245	9,916	1,329	13
Grants and tax incentives expense reimbursement, net	(1,813)	(588)	(1,225)	208
Total research and development expenses	$ 50,677	$ 39,025	$ 11,652	30

*Percentage not meaningful

Research and development expenses increased $11.7 million, or 30%, from $39.0 million for the six months ended June 30, 2020 to $50.7 million for the six months ended June 30, 2021. The increase was primarily due to an increase of $7.7 million in rusfertide clinical trial and development costs, including the ongoing Phase 2 trials in PV, which began in December 2019, and HH, which began in early 2020, and clinical and contract manufacturing activities incurred in 2021 in preparation for a planned global Phase 3 clinical trial of rusfertide in PV; $3.2 million of Phase 1 clinical trial and development costs for PN-235 beginning in December 2020; an increase of $1.5 million in PN-943

clinical trial and development costs following the initiation of the Phase 2 trial in UC during the second quarter of 2020; and an increase of $1.3 million in preclinical and drug discovery research expenses, including pre-clinical costs related to our research collaboration efforts with Janssen which were completed during the second quarter of 2021. These increases were partially offset by a $1.2 million increase in grant and accrued refundable cash tax incentives and a decrease of $0.9 million in PTG-200 clinical trial and development expenses under the Janssen License and Collaboration Agreement due to our delivery of substantially all agreed-upon services for the PTG-200 Phase 2 clinical trial.

We had 81 and 52 full-time equivalent research and development employees as of June 30, 2021 and 2020, respectively.

General and Administrative Expenses

General and administrative expenses increased $3.9 million, or 45%, from $8.8 million for the six months ended June 30, 2020 to $12.7 million for the six months ended June 30, 2021 primarily due to an increase of $2.0 million in personnel expenses, $0.6 million in market research expenses, $0.4 million in consulting expenses, and $0.3 million in recruiting expenses to support the growth of our operations, and a $0.6 million increase in legal fees due primarily to an arbitration matter with a former research and collaboration partner. The increase in personnel expenses was primarily due to increases of $1.0 million in stock-based compensation expense and $0.9 million in wages and salaries.

We had 20 and 17 full-time equivalent general and administrative employees as of June 30, 2021 and 2020, respectively.

Interest Income

Interest income decreased $0.5 million, or 73%, from $0.7 million for the six months ended June 30, 2020 to $0.2 million for the six months ended June 30, 2021. This decrease was due primarily to the recent record low interest rate environment and a change in the mix of marketable securities compared to the prior year period, despite higher interest-earning asset balances.

Interest Expense

Interest expense decreased $0.5 million, or 100%, from $0.5 million for the six months ended June 30, 2020 to zero for the six months ended June 30, 2021. The decrease in interest expense was due to the prepayment of our outstanding long-term debt under our term credit facility during the second quarter of 2020. We had no debt outstanding under our term loan facility during the six months ended June 30, 2021.

Loss on Early Repayment of Debt

Loss on early repayment of debt of $0.6 million for the six months ended June 30, 2020 reflects prepayment and final payment fees paid in connection with the early repayment of our term loan in June 2020. We had no debt outstanding during the six months ended June 30, 2021.

Other (Expense) Income, Net

Other expense, net was $0.1 million for the six months ended June 30, 2021 compared to zero for the six months ended June 30, 2020. The change was due primarily to an increase in foreign exchange losses.

Income Tax Expense

Income tax expense decreased $1.3 million, or 100%, from $1.3 million for the six months ended June 30, 2020 to zero for the six months ended June 30, 2021. Our effective income tax rate was 0% for the six months ended June 30, 2021 as compared to 3.4% for the six months ended June 30, 2020. During the second quarter of 2020, our

Australia subsidiary sold beneficial rights to discovery intellectual property to our U.S. entity, and the U.S. entity reimbursed the Australia subsidiary for certain direct development costs. Upon completion of the sale, we analyzed tax planning strategies and future income and concluded that a valuation allowance is necessary for our Australia subsidiary. Income tax expense for the six months ended June 30, 2020 reflects this sale of intellectual property rights, cost reimbursements and related adjustments to the deferred tax asset, establishing a valuation allowance and certain uncertain tax position liabilities. We maintained a full valuation allowance on our tax position as of June 30, 2021.

Liquidity and Capital Resources

Sources of Liquidity

Historically, we have funded our operations primarily from net proceeds from the sale of shares of our common stock and payments under collaboration agreements.

In December 2020, we filed an automatic registration statement on Form S-3ASR and an accompanying prospectus (Registration Statement No. 333-251254), pursuant to which we completed an underwritten public offering of 4,761,904 shares of common stock at a public offering price of $21.00 per share and issued an additional 714,285 shares of our common stock at a price of $21.00 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commissions and offering costs paid by us, were $107.6 million. In June 2021, pursuant to Registration Statement No. 333-251254, we completed an underwritten public offering of 3,046,358 shares of common stock at a public offering price of $37.75 per share and issued an additional 456,953 shares of common stock at a public offering price of $37.75 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commission and offering costs paid by us, were $123.8 million. This Form S-3ASR expires in December 2023.

In October 2019, we filed a registration statement on Form S-3 (File no. 333-234414) that was declared effective as of November 22, 2019 and permits the offering, issuance, and sale by us of up to a maximum aggregate offering price of $250.0 million of our common stock, preferred stock, debt securities and warrants (the "2019 Form S-3"). Up to a maximum of $75.0 million of the maximum aggregate offering price of $250.0 million may be issued and sold pursuant to an ATM financing facility under a sales agreement we entered into on November 27, 2019 (the "2019 Sales Agreement"). In May 2020, we completed an underwritten public offering of 7,000,000 shares of common stock at a public offering price of $14.00 per share, and we issued an additional 1,050,000 shares of our common stock at a price of $14.00 per share following the underwriters' exercise of their option to purchase additional shares. Net proceeds, after deducting underwriting commissions and offering costs paid by us, were $105.3 million. During the year ended December 31, 2020, we issued 2,483,719 shares under our ATM facility for net proceeds of $41.9 million. No shares were issued under the ATM facility during the three and six months ended June 30, 2021. As of June 30, 2021, a total of $94.2 million of common stock remained available for sale under the 2019 Form S-3, $31.9 million of which remained available for sale under the ATM financing facility. This Form S-3 expires in October 2022.

We have received $80.0 million in non-refundable payments from Janssen since the inception of the Janssen License and Collaboration Agreement in 2017 through June 30, 2021, as follows:

- Upon effectiveness of the agreement, we received a non-refundable, upfront cash payment of $50.0 million from Janssen;
- Upon effectiveness of the First Amendment, we became eligible to receive a $25.0 million payment from Janssen, which was received during the second quarter of 2019; and
- In December 2019, we became eligible to receive a $5.0 million payment triggered by the successful nomination of a second-generation development compound, which was received during the first quarter of 2020.

We also receive payments for services provided under the collaboration agreement and in-kind reimburses Janssen for certain costs they have incurred based on the cost sharing terms of the agreement.

Pursuant to the amended and restated License and Collaboration Agreement with Janssen executed July 27, 2021 (the "Restated Agreement"), we will be eligible to receive clinical development, regulatory and sales milestones, if and as achieved. Upcoming potential development milestones for second-generation products include:

- $7.5 million for completion of the first Phase 1 clinical trial of a second-generation product;
- $25.0 million for dosing of the third patient in the first Phase 2 clinical trial for any second-generation product for any indication; and
- $10.0 million for dosing of the third patient in the first Phase 2 clinical trial for any second-generation product for a second indication (i.e. an indication different than the indication which triggered the $25.0 million milestone described directly above).

The next potential development milestone for initial product PTG-200 is $50.0 million for dosing of the third patient in a Phase 2b clinical trial for CD.

In October 2019, we entered into a credit and security agreement pursuant to which the lenders party thereto agreed to make term loans available to us for working capital and general business purposes, in a principal amount of up to $50.0 million, at our option, until September 30, 2021. $20.0 million remains available under this term loan facility through September 30, 2021 subject to the satisfaction of certain conditions, including the achievement of certain clinical development milestones. We had no outstanding debt balance as of June 30, 2021. Additional information about this credit facility is presented in Note 9 to the condensed consolidated financial statements included elsewhere in this report.

Capital Requirements

As of June 30, 2021, we had $380.4 million of cash, cash equivalents and marketable securities and an accumulated deficit of $338.6 million. Our capital expenditures for six months ended June 30, 2021 were $0.6 million. Our capital expenditures for the years ended December 31, 2020 and 2019 were $0.5 million and $1.0 million, respectively. Our primary uses of cash are to fund operating expenses, primarily our research and development expenditures, general and administrative costs and pre-commercialization costs. Cash used to fund operating expenses is impacted by the timing of when we pay these expenses. We believe, based on our current operating plan and expected expenditures, that our existing cash, cash equivalents and marketable securities and access to our term loan facility will be sufficient to meet our anticipated operating and capital expenditure requirements for at least the next 12 months from the date of this filing. We have based this estimate on assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect if our planned pre-clinical and clinical trials are successful, our product candidates enter new and more advanced stages of clinical development or our newer product clinical trials or advance beyond the discovery stage. We expect to require additional financing to advance our product candidates through clinical development and toward potential regulatory approval and to develop, acquire or in-license other potential product candidates. Such additional funding may come from raising additional capital, seeking access to additional debt, and additional collaborative or other arrangements with corporate sources, but such funding may not be available at terms acceptable to us, if at all. We anticipate that we will need to raise substantial additional funding, the requirements of which will depend on many factors, including:

- the progress, timing, scope, results and costs of advancing our clinical trials and pre-clinical studies for our product candidates, including the ability to enroll patients in a timely manner for our clinical trials;
- the costs of and ability to obtain clinical and commercial supplies and any other product candidates we may identify and develop;
- our ability to successfully commercialize the product candidates we may identify and develop;

- the selling and marketing costs associated with our current product candidates and any other product candidates we may identify and develop, including the cost and timing of expanding our sales and marketing capabilities;
- the achievement of development, regulatory and sales milestones resulting in payments to us from Janssen under the Janssen License and Collaboration Agreement or other such arrangements that we may enter into, and the timing of receipt of such payments, if any;
- the timing, receipt and amount of royalties under the Janssen License and Collaboration Agreement on worldwide net sales of PTG-200, including any second-generation compounds, upon regulatory approval or clearance, if any;
- the amount and timing of sales and other revenues from our current product candidates and any other product candidates we may identify and develop, including the sales price and the availability of adequate third-party reimbursement;
- the cash requirements of any future acquisitions or discovery of product candidates;
- the time and cost necessary to respond to technological and market developments;
- the extent to which we may acquire or in-license other product candidates and technologies;
- costs necessary to attract, hire and retain qualified personnel;
- the costs of maintaining, expanding and protecting our intellectual property portfolio; and
- the costs of ongoing general and administrative activities to support the growth or our business.

Adequate additional funding may not be available to us on acceptable terms, or at all. Any failure to raise capital as and when needed could have a negative impact on our financial condition and on our ability to pursue our business plans and strategies. Further, our operating plans may change, and we may need additional funds to meet operational needs and capital requirements for clinical trials, other research and development activities and pre-commercialization costs. If we do raise additional capital through public or private equity offerings or convertible debt securities, the ownership interest of our existing stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. If we raise additional capital through debt financing, we may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates, we are unable to fully estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated product development programs.

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

	Six Months Ended June 30,	
	2021	2020
Cash used in operating activities	$ (52,456)	$ (37,330)
Cash provided by investing activities	980	37,559
Cash provided by financing activities	126,369	112,976

Cash Flows from Operating Activities

Cash used in operating activities for the six months ended June 30, 2021 was $52.5 million, consisting of our net loss of $54.8 million and a net change of $6.3 million in net operating assets and liabilities, partially offset by $8.7 million in non-cash charges. Non-cash charges were primarily comprised of $6.6 million of stock-based compensation, $0.9 million of operating lease right-of-use asset amortization, $0.8 million of net amortization of discount on marketable securities, and $0.4 million of depreciation and amortization. The change in net operating assets and liabilities was primarily due to a decrease of $12.5 million in deferred revenue related to the Janssen License and Collaboration Agreement, an increase of $4.7 million in receivable from collaboration partner, an increase of $1.7 million in research and development tax incentive receivable, an increase in prepaid expenses and other assets of $1.4 million, and a decrease of $1.0 million in operating lease liability, partially offset by an increase of $8.7 million in payable to collaboration partner, an increase of $4.9 million in accounts payable and an increase of $1.4 million in accrued expenses and other payables.

Cash used in operating activities for the six months ended June 30, 2020 was $37.3 million, consisting of our net loss of $39.5 million and a net change of $5.0 million in net operating assets, partially offset by $7.1 million in non-cash charges. Non-cash charges were primarily comprised of $4.0 million of stock-based compensation, a $1.4 million change in net deferred tax asset, $0.9 million of operating lease right-of-use asset amortization, a $0.6 million loss on early prepayment of long-term debt and $0.4 million of depreciation and amortization., partially offset by $0.2 million of net accretion of discount on marketable securities. The change in net operating assets and liabilities was primarily due to a decrease of $7.5 million in deferred revenue related to the Janssen License and Collaboration Agreement, a $1.0 million decrease in operating lease liability, a $0.3 million increase in Australia research and development incentive receivable, a $0.3 million decrease in payable to collaboration partner and a $0.3 million increase in prepaid expenses and other assets, partially offset by a decrease of $3.8 million in receivable from collaboration partner and an increase of $0.4 million in accrued expenses and other payables.

Cash Flows from Investing Activities

Cash provided by investing activities for the six months ended June 30, 2021 was $1.0 million, consisting of proceeds from maturities of marketable securities of $165.1 million, offset by purchases of marketable securities of $163.5 million and purchases of property and equipment of $0.6 million.

Cash provided by investing activities for the six months ended June 30, 2020 was $37.6 million, consisting of proceeds from maturities of marketable securities of $104.6 million, partially offset by purchases of marketable securities of $66.8 million and purchases of property and equipment of $0.3 million.

Cash Flows from Financing Activities

Cash provided by financing activities for the six months ended June 30, 2021 was $126.4 million, consisting of $124.0 million of cash proceeds from our public offering of common stock and $2.6 million from the issuance of common stock upon exercise of stock options and purchases of common stock under our employee stock purchase plan, partially offset by $0.2 million of tax withholding payments related to net settlement of restricted stock units.

Cash provided by financing activities for the six months ended June 30, 2020 was $113.0 million, consisting primarily of cash proceeds from our public offering of common stock of $105.7 million, cash proceeds from ATM sales

of $16.8 million, and proceeds from the issuance of common stock upon exercise of stock options and purchases of common stock under our employee stock purchase plan of $1.0 million, partially offset by early repayment of long-term debt of $10.5 million.

Contractual Obligations and Other Commitments

During the three and six months ended June 30, 2021, there were no material changes to our contractual obligations and commitments described under *Management's Discussion and Analysis of Financial Condition and Results of Operations* in our Annual Report on Form 10-K for the year ended December 31, 2020 filed with the SEC on March 10, 2021.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks in the ordinary course of our business. These risks primarily include interest rate sensitivities related to our borrowings and investments.

We had $380.4 million and $307.8 million in cash, cash equivalents and marketable securities at June 30, 2021 and December 31, 2020, respectively. Cash and cash equivalents consist of cash, money market funds, commercial paper and government bonds. Marketable securities consist of corporate bonds, commercial paper and government bonds. A portion of our investments may be subject to interest rate risk and could fall in value if market interest rates increase. Based on our interest rate sensitivity analysis, an immediate 100 basis point increase in interest rates would increase our interest income by approximately $2.7 million, while an immediate 100 basis point decrease in interest rates would decrease our interest income by approximately $0.5 million.

Approximately $1.7 million and $1.0 million of our cash balance was located in Australia at June 30, 2021 and December 31, 2020, respectively. Our expenses, except those related to our Australian operations, are generally denominated in U.S. dollars. For our operations in Australia, the majority of the expenses are denominated in Australian dollars. To date, we have not had a formal hedging program with respect to foreign currency, but we may do so in the future if our exposure to foreign currency becomes more significant. A 10% increase or decrease in current exchange rates would not have a material effect on our results of operations.

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 Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this Quarterly Report. 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 the evaluation of our disclosure controls and procedures, our Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of the period covered by this Quarterly Report, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the quarter ended June 30, 2021 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

From time to time, we may become subject to litigation and claims arising in the ordinary course of business. We are not currently a party to any material legal proceedings and we are not aware of any pending or threatened legal proceeding against us that we believe could have a material adverse effect on our business, operating results or financial condition. We are a party in the arbitration proceeding described in Note 10 to the condensed consolidated financial statements elsewhere in this Quarterly Report on Form 10-Q.

ITEM 1A. RISK FACTORS

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. Investors should carefully consider the risks described below before making an investment decision. Our business faces significant risks and the risks described below may not be the only risks we face. If any of these risks occur, our business, results of operations or financial condition could suffer, and the market price of our common stock could decline.

Summary of Risk Factors

The following is a summary of the principal risks that could adversely affect our business, operations, and financial results.

Under "**Risks Related to the COVID-19 Pandemic**" we describe risks to our business arising from the COVID-19 pandemic. The pandemic has and could continue to adversely impact our business, including our ongoing and planned clinical trials and preclinical and discovery research. The impacts on our business include, among others, delays to some of our ongoing clinical trials.

Under "**Risks Related to Clinical Development**" we describe risks related to on our ongoing clinical development efforts. They include, among others, the following:

- We have no approved products and no historical product revenue, which makes it difficult to assess our future prospects and financial results.
- We are heavily dependent on the success of our product candidates in clinical development.
- Clinical development is a lengthy and expensive process with an uncertain outcome, and failure can occur at any stage of clinical development.
- Our product candidates may cause undesirable side effects or have other properties adversely impacting safety that delay or prevent their regulatory approval, restrict their approved labeling, or otherwise limit their commercial opportunity.

Under "**Risks Related to Financial Position and Capital Requirements**" we describe risks associated with our financial position and future capital requirements. They include, among others, the following:

- We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future.
- We have never generated any revenue from product sales and may never be profitable.
- We expect to require substantial additional funding.

- Raising additional capital may cause dilution to our existing stockholders.

Under "**Risks Related to Our Reliance on Third Parties**" we describe risks related to our reliance on third parties. They include, among others, the following:

- We rely on Janssen Biotech, Inc. ("Janssen") to continue the development of product candidates subject to our license and collaboration with Janssen, and to successfully commercialize any resulting products.
- Our existing or future collaborations with third parties may not be successful.
- We rely on third parties to conduct our pre-clinical studies and clinical trials and are subject to risks associated with their businesses and performance of their obligations to us.
- We rely on third party contract manufacturers to manufacture our drug substance and clinical drug product.

Under "**Risks Related to Regulatory Approval**" we describe risks related to the potential regulatory approval required to market our product candidates in the United States or other jurisdictions. If we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.

Under "**Risks Related to Commercialization of our Product Candidates**" we describe risks related to the commercialization of any our product candidates that are eventually approved for marketing. We have no marketing and sales organization and may not be able to effectively market and sell any products or generate product revenue if any of our product candidates are approved for marketing. Also, if we commercialize our product candidates abroad, we will be subject to the risks of doing business outside of the United States.

Under "**Risks Related to Our Business and Industry**" we describe risks related to our business in general, and to our company in the biotechnology and pharmaceutical industry. They include, among others, the following:

- We face significant competition from other biotechnology and pharmaceutical companies.
- Our success depends on our ability to attract, retain and motivate qualified executives and other personnel.
- We may experience difficulties in managing the growth of our organization.
- We are subject to risks associated with information technology systems or breaches of data security.
- Any misconduct by our employees, independent contractors, principal investigators, consultants and vendors could have a material adverse effect on our business.
- Our headquarters is located near known earthquake fault zones.

Under "**Risks Related to Our Intellectual Property**" we describe risks related to the intellectual property that is critical to the success of our business. They include, among others, the following:

- If we are unable to obtain or protect intellectual property rights related to our product candidates and technologies, we may not be able to compete effectively in our markets.
- We may be involved in lawsuits to protect or enforce our intellectual property, which could be expensive, time consuming and ultimately unsuccessful.
- Patents covering our product candidates could be found invalid or unenforceable.

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

Under "**Risks Related to Ownership of our Common Stock**" we describe risks associated with owning our common stock. They include, among others, the following:

- Our stock price has been and will likely continue to be volatile and may decline, regardless of our operating performance.
- Any failure to maintain the adequacy of internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.
- Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, or make it difficult for stockholders to replace members of our board of directors.

Risks Related to the COVID-19 Pandemic

The COVID-19 pandemic has and could continue to adversely impact our business, including our ongoing and planned clinical trials and preclinical and discovery research.

The extent to which the ongoing COVID-19 pandemic will continue to impact our business is uncertain and cannot be predicted. The pandemic's impact on our business will depend on a variety of factors, including the timing, extent, effectiveness and durability of vaccine programs or other treatments, new or continuing travel and other restrictions and public health measures, such as social distancing, business closures or disruptions, and the development and spread of COVID-19 variants. The effectiveness of actions taken in the United States and other countries to contain, ameliorate the impact of and treat the disease and to address its impact, is not yet known. A number of jurisdictions, including California and other jurisdictions in the United States, have at various times begun re-opening only to return to restrictions in the face of increases in new COVID-19 cases. As the COVID-19 pandemic continues, we could experience additional disruptions or increased expenses that may adversely impact our business, including:

- delays or difficulties in enrolling patients in our ongoing clinical trials and our future clinical trials;
- delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and clinical site staff, or maintaining ongoing operations at such sites;
- diversion of healthcare resources away from the conduct of clinical trials, including the diversion of hospitals serving as our clinical trial sites and hospital staff supporting the conduct of clinical trials;
- interruption of key clinical trial activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers and others or interruption of clinical trial subject visits and study procedures, which may impact the integrity of subject data and clinical study endpoints;
- limitations in resources, including our employees, that would otherwise be focused on the conduct of our business or our current or planned clinical trials or preclinical research, including because of sickness, the desire to avoid contact with large groups of people or restrictions on movement or access to our facility as a result of government-imposed "shelter-in-place" or similar working restrictions;
- interruptions or delays in the operations of the U.S. Food and Drug Administration ("FDA") or other regulatory authorities, which may impact review and approval timelines;

- delays in manufacturing, receiving the supplies, materials and services needed to conduct clinical trials and preclinical research;

- changes in regulations as part of a response to the COVID-19 pandemic which may require us to change the ways in which our clinical trials are conducted, which may result in unexpected costs or require us to discontinue the clinical trial altogether; and

- delays in necessary interactions with regulators, ethics committees and other important agencies and contractors due to limitations in employee resources or furloughs of government or contractor personnel.

In addition, since March 2020, Alameda County, California, where our headquarters are located, has been subject to various "shelter-in-place" regulations and guidance related to the pandemic. While the "shelter-in-place" orders have terminated or been phased out along with the reopening of businesses in Alameda County, California, we may continue to be subject to capacity restrictions and health and safety recommendations that encourage continued social distancing and remote work, limiting or ability to return to pre-pandemic levels of activity. Our laboratory facilities currently remain open for research activities that cannot be conducted remotely, with heightened safety measures designed to minimize occupational exposure and reduce transmission of COVID-19 within our workplace. Our non-laboratory employees telecommute at least part-time, which may impact certain of our operations over the near term and long term. In addition, we may in the future resume a more restrictive remote work model due to the pandemic. These disruptions in our operations could negatively impact our business, operating results and financial condition.

Further, we may be required to develop and implement additional clinical study policies and procedures designed to help protect study participants from the COVID-19 virus, which may include using telemedicine visits, remote monitoring of patients and clinical sites, shipping drug product directly to patients rather than clinical sites, and measures to ensure that clinical data are collected pursuant to the study protocol and consistent with good clinical practices ("GCPs"). Patients who miss scheduled appointments, any interruption in study drug supply, or other consequence that may result in incomplete data being generated during a study as a result of the pandemic must be adequately documented and justified in accordance with FDA guidance. These additional requirements may be difficult to fulfill and may result in an incomplete data set, which could negatively impact the study results.

While the extent of the impact of the COVID-19 pandemic on our business and financial results is uncertain, a continued and prolonged public health crisis such as the COVID-19 pandemic could have a material negative impact on our business, financial condition, and operating results.

Risks Related to Clinical Development

We are a clinical-stage biopharmaceutical company with no approved products and no historical product revenue, which makes it difficult to assess our future prospects and financial results.

We are a clinical-stage biopharmaceutical company with a limited operating history as a publicly traded company. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of uncertainty. Our operations to date have been limited to developing our technology, undertaking pre-clinical studies and Phase 1 and Phase 2 clinical trials of our pipeline candidates and conducting research to identify additional product candidates. We have not yet successfully developed an approved product or generated revenue from product sales or successfully conducted a pivotal registration trial for one of our product candidates. Consequently, the ability to accurately assess our future operating results or business prospects is significantly more limited than if we had a longer operating history or approved products on the market.

We expect that our financial condition and operating results will fluctuate significantly from period to period due to a variety of factors, many of which are beyond our control, including the success of our programs, decisions by regulatory bodies, actions taken by competitors and other factors identified in these risk factors. Accordingly, the likelihood of our success must be evaluated in light of many potential challenges and variables associated with a

clinical-stage biopharmaceutical company, many of which are outside of our control, and past results, including operating or financial results, should not be relied on as an indication of future results.

We are heavily dependent on the success of our product candidates in clinical development, and if any of these products fail to receive regulatory approval or are not successfully commercialized, our business would be adversely affected.

We currently have no product candidates that are in registrational or pivotal clinical trials or are approved for commercial sale, and we may never develop a marketable product. We expect that a substantial portion of our efforts and expenditures over the next few years will be devoted to our current product candidates and the development of other product candidates. We cannot be certain that our product candidates will receive regulatory approval or, if approved, be successfully commercialized. The research, testing, manufacturing, labeling, approval, sale, marketing and distribution of our product candidates will be subject to extensive regulation by the U.S. Food and Drug Administration ("FDA") and other regulatory authorities in the United States and other countries. In addition, even if approved, our pricing and reimbursement will be subject to further review and discussions with payors. We are not permitted to market any product candidate in the United States until after approval of a new drug application ("NDA") from the FDA, or in any foreign countries until approval by corresponding regulatory authorities. We will need to conduct larger, more extensive clinical trials in the target patient populations to support a potential application for regulatory approval by the FDA or corresponding regulatory authorities. Those trials, for rusfertide for PV or subsequent late-stage product candidates, may not demonstrate the safety and efficacy of our product candidates to support a marketing approval in the United States or other jurisdictions.

Our product candidates require additional clinical development, regulatory approval and secure sources of commercial manufacturing supply. We cannot assure you that our clinical trials for our product candidates will be initiated or completed in a timely manner or successfully, or at all. Further we cannot be certain that we plan to advance any other product candidates into clinical trials. Moreover, any delay or setback in the development of any product candidate would be expected to adversely affect our business and cause our stock price to fall. For example, the announcement of the premature discontinuation of the global Phase 2 clinical trial of PTG-100 for the treatment of moderate-to-severe ulcerative colitis ("UC") in March 2018 due to the interim analysis meeting futility criteria on the primary endpoint of clinical remission (that was subsequently confirmed to be due to human error in endoscopy reads by the original vendor) significantly depressed our stock price.

Clinical development is a lengthy and expensive process with an uncertain outcome, and results of earlier studies and trials may not be predictive of future trial results. Clinical failure can occur at any stage of clinical development.

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 development process. The results of pre-clinical studies and early clinical trials of our product candidates and studies and trials of other products may not be predictive of the results of later-stage clinical trials. Any hypothesis formed from pre-clinical or early clinical observations for any of our product candidates may prove to be incorrect, and the data generated in animal models or observed in limited patient populations may be of limited value and may not be applicable in clinical trials conducted under the controlled conditions required by applicable regulatory requirements.

In addition to our planned pre-clinical studies and clinical trials, we expect to have to complete one or more large scale, well-controlled clinical trials to demonstrate substantial evidence of efficacy and safety for each product candidate we intend to commercialize. Further, given the patient populations for which we are developing therapeutics, we expect to have to evaluate long-term exposure to establish the safety of our therapeutics in a chronic-dose setting. We have never conducted a Phase 3 clinical trial or submitted an NDA. As a result, we have no history or track record to rely on when entering these phases of the development cycle. Product candidates in later stages of clinical trials may fail to show the desired safety and efficacy traits despite having progressed through pre-clinical studies and initial clinical trials. Clinical trial failures may result from a multitude of factors including, but not limited to, flaws in trial design, dose selection, placebo effect, patient enrollment criteria and failure to demonstrate favorable safety and/or efficacy traits of the product candidate. Based upon negative or inconclusive results, we may decide, or regulators may require us, to conduct additional clinical trials or pre-clinical studies.

We may experience delays in ongoing clinical trials, and we do not know whether planned clinical trials will begin on time, need to be redesigned, enroll patients on time or be completed on schedule, if at all. Clinical trials can be delayed for a variety of reasons, including if a clinical trial is modified, suspended or terminated by us, by the institutional review boards or ethics committees of the institutions in which such clinical trials are being conducted, by a Data Safety Monitoring Board, for such trial or by the FDA or other regulatory authorities. Such authorities may impose a modification, suspension or termination due to a number of factors. In addition, there are a significant number of global clinical trials in inflammatory bowel disease and in hematologic disorders that are currently ongoing, especially in Phases 2 and 3, making it highly competitive and challenging to recruit subjects. Furthermore, any negative results we may report in clinical trials of our product candidates, such as the premature termination of our Phase 2 clinical trial of PTG-100 for the treatment of moderate-to-severe UC, may make it difficult or impossible to recruit and retain patients in other clinical trials of that same product candidate. Delays or failures in planned patient enrollment or retention may result in increased costs, program delays or both.

If we experience material delays in the completion of any clinical trial, the reduction in remaining patent term would harm the commercial prospects for that product candidate and our ability to generate product revenue from any of these product candidates will be delayed. Any of these occurrences may harm our business, financial condition and prospects significantly.

All of our product candidates other than rusfertide, PTG-200, PN-235, PN-943 and PTG-100 are in research or pre-clinical development and have not entered into clinical trials. If we are unable to develop, test and commercialize our product candidates, our business will be adversely affected.

As part of our strategy, we seek to discover, develop and commercialize new product candidates in addition to rusfertide, PTG-200, PN-235, PN-943 and PTG-100. Research programs to identify appropriate biological targets, pathways and product candidates require substantial scientific, technical, financial and human resources, whether or not any product candidates are ultimately identified. Our research programs may initially show promise in identifying potential product candidates, yet fail to yield product candidates for clinical development for many reasons.

Our proprietary peptide platform may not result in any products of commercial value.

We have developed a proprietary peptide technology platform to enable the identification, testing, design and development of new product candidates. Our peptide platform may not yield additional product candidates that enter clinical development and, ultimately, become commercially valuable. Although we expect to continue to enhance the capabilities of our platform by developing and integrating existing and new research technologies, our enhancement and development efforts may not succeed. As a result, we may not be able to advance our drug discovery capabilities as quickly as we expect or identify as many potential drug candidates as we desire.

Our product candidates may cause undesirable side effects or have other properties adversely impacting safety that delay or prevent their regulatory approval, restrict their approved labeling, or otherwise limit their commercial opportunity.

If undesirable side effects or adverse events are caused by our product candidates or by other companies' similar approved drugs or product candidates, then we may elect to, or be required by an independent data monitoring committee or regulatory authorities to, delay or halt our clinical trials. If such side effects or adverse events are sufficiently severe or prevalent, the FDA or comparable foreign regulatory authorities could order us to suspend or cease altogether further development of our product candidates. Even if our product candidates are approved, side effects or adverse events could result in significant delay in or denial of, regulatory approval, restrictive labeling, or potential product liability claims. Moreover, since our product candidate PN-943 and the product candidates under development in our collaboration with Janssen are in development for indications for which injectable antibody drugs have been approved, clinical trials for those product candidates may need to show a risk/benefit profile that is competitive with those existing products in order to obtain regulatory approval or, if approved, a product label that is favorable for commercialization.

We have focused our limited resources to pursue particular product candidates and indications, and consequently, we may fail to capitalize on product candidates or indications that may be more profitable or for which there is a greater likelihood of success.

Because we have limited financial and managerial resources, we have focused on research programs and product candidates mainly on the development of rusfertide, PN-943 and the product candidates developed in our Janssen collaboration. As a result, we may forego or delay pursuit of opportunities with other product candidates or for other indications that later prove to have greater commercial potential. Our resource allocation decisions may cause us to fail to capitalize on viable commercial products or profitable market opportunities. If we do not accurately evaluate the commercial potential or target market for a particular product candidate, we may relinquish valuable rights to that product candidate through collaboration partnerships, licensing or other royalty arrangements in cases in which it would have been more advantageous for us to retain sole development and commercialization rights to such product candidate.

Risks Related to Our Financial Position and Capital Requirements

We have incurred significant losses since our inception and anticipate that we will continue to incur significant losses for the foreseeable future. We have never generated any revenue from product sales and may never be profitable.

We have incurred significant operating losses every year since inception and expect to continue to incur operating losses for the foreseeable future. As of June 30, 2021, we had an accumulated deficit of $338.7 million. We expect to continue to incur significant research, development and other expenses related to our ongoing operations and product development. As a result, we expect to continue to incur losses in the future as we continue our development of, and seek regulatory approvals for, our product candidates.

We do not anticipate generating revenue from sales of products for at least several years, if ever, and we do not yet have any product candidates in registration or pivotal clinical trials. If any of our product candidates fail in clinical trials or do not gain regulatory approval or fail to achieve market acceptance, we may never become profitable. Revenue we generate from our collaboration with Janssen and any future collaboration arrangements may not be sufficient to sustain our operations. Failure to become and remain profitable may adversely affect the market price of our common stock and our ability to raise capital and continue operations.

We expect to require substantial additional funding, which may not be available to us on acceptable terms, or at all.

Our operations have consumed substantial amounts of cash since inception. Developing pharmaceutical product candidates, including conducting pre-clinical studies and clinical trials, is expensive. We expect to require substantial additional future capital in order to complete clinical development and, if we are successful, to commercialize any of our current product candidates. Further, in the event our Janssen License and Collaboration Agreement is terminated, we may not receive any additional fees or milestone payments under that agreement. Absent the funding support from this agreement, our further development of the collaboration product candidates would require significant additional capital from us, or the establishment of alternative collaborations with third parties, which may not be possible.

As of June 30, 2021, we had cash, cash equivalents and marketable securities of $380.4 million. Based upon our current operating plan and expected expenditures, we believe that our existing cash, cash equivalents, and marketable securities and proceeds from our debt facility will be sufficient to fund our operations for at least the next 12 months. However, we expect that we will need to have access substantial additional funds in the future in order to complete clinical development or commercialize our product candidates to a point where we can operate profitability.

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

We may seek additional funding through a combination of equity offerings, debt financings, collaborations and/or licensing arrangements. Additional funding may not be available to us on acceptable terms, or at all. Our ability

to raise additional capital may be adversely impacted by adverse economic conditions and market volatility. The incurrence of indebtedness and/or the issuance of certain equity securities could result in fixed payment obligations and could also result in certain additional restrictive covenants, such as limitations on our ability to incur debt and/or issue additional equity, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. In addition, the issuance of additional equity securities by us, or the possibility of such issuance, may cause the market price of our common stock to decline. In the event that we enter into collaborations and/or licensing arrangements in order to raise capital, we may be required to accept unfavorable terms, including relinquishing or licensing to a third party on unfavorable terms our rights to our proprietary technology platform or product candidates. To the extent that we raise additional capital through the sale of equity securities, your ownership interest will be diluted, and the terms may include liquidation or other preferences that adversely affect your rights as a stockholder. 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.

Covenants in our credit and security agreement restrict our business and operations in many ways and if we do not effectively manage our covenants, our financial condition and results of operations could be adversely affected.

In October 2019, we entered into a credit and security agreement (the "Credit Agreement") pursuant to which $20.0 million remains available. All of our assets, except for intellectual property and certain other customary excluded property, are pledged collateral under the Credit Agreement. The Credit Agreement contains numerous affirmative and negative covenants, including, among other things, restrictions on indebtedness, liens, investments, mergers, dispositions, prepayment of other indebtedness and dividends and other distributions, any of which could restrict our business and operations, particularly our ability to respond to changes in our business or to take specified actions to take advantage of certain business opportunities that may be presented to us.

Our failure to comply with any of the covenants could result in a default under the Credit Agreement, which would permit the lenders to declare all or part of any outstanding borrowings to be immediately due and payable, or to refuse to permit additional borrowings under the loan and security agreement.

Risks Related to Our Reliance on Third Parties

If Janssen does not elect to continue the development of product candidates subject to our Janssen collaboration, our business and business prospects would be adversely affected.

The product candidates in development pursuant to our Janssen collaboration may prove to have undesirable or unintended side effects or other characteristics adversely affecting their safety, efficacy or cost effectiveness that could prevent or limit their approval for marketing and successful commercial use, or that could delay or prevent the commencement and/or completion of clinical trials. Under the terms of the Janssen License and Collaboration Agreement, Janssen may terminate the agreement for convenience and without cause on written notice of a certain period. In addition, prior to any termination of the agreement, Janssen will generally have control over the further clinical development of PN-232, PN-235, PTG-200 and any other second-generation compounds. Janssen's decisions with respect to such development will affect the timing and availability of potential future payments under the agreement, if any. If the research program or the Janssen License and Collaboration Agreement are terminated early, or if Janssen's development activities are terminated early or suspended for an extended period of time, or are otherwise unsuccessful, our business and business prospects would be materially adversely affected.

We may have disagreements with Janssen during the term of the Janssen License and Collaboration Agreement, and if they are not settled amicably or in the favor of Protagonist, the result may harm our business.

We are subject to the risk of possible disagreements with Janssen regarding the development of our Janssen collaboration compounds or other matters under the Janssen License and Collaboration Agreement, such as interpretation of the agreement or ownership of proprietary rights. Also, after the period of collaborative development ends under the agreement, Janssen will have sole decision-making authority for product candidates resulting from the collaboration, which could lead to disputes with Janssen. Disagreements with Janssen could lead to litigation or arbitration, which would be expensive and would be time-consuming for our management and employees.

We may not be successful in obtaining or maintaining development and commercialization collaborations, any collaboration arrangements we enter into in the future may not be successful.

Other than our Janssen License and Collaboration Agreement, we have no active collaborations for any of our product candidates. Even if we establish other collaboration arrangements, any such collaboration may not ultimately be successful, which could have a negative impact on our business, results of operations, financial condition and growth prospects. If we enter into collaborations limited to certain territories, we may not maintain significant rights or control of future development and commercialization of any product candidate subject to the collaboration and potential disputes could develop in the future over the terms of the collaboration and the respective rights of the parties, such as our ongoing dispute with Zealand related to our collaboration that ended in 2014.

We rely on third parties to conduct our pre-clinical studies and clinical trials. If these third parties do not successfully carry out their contractual obligations or do not meet regulatory requirements or expected deadlines, we may not be able to obtain timely regulatory approval for or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plan to continue to rely upon third party contract research organizations ("CROs") to execute, monitor and manage clinical trials and collect data for our pre-clinical studies and clinical programs. We control only certain aspects of their activities. Nevertheless, we are responsible for ensuring that their conduct meets regulatory requirements and that each of our studies and trials is conducted in accordance with the applicable protocol, legal, regulatory and scientific standards. We and our CROs are required to comply with GCPs, which are regulations and guidelines promulgated by the FDA, the European Medicines Agency ("EMA") and comparable foreign regulatory authorities for all of our product candidates in clinical development. If we or any of our CROs fail to comply with applicable GCPs, the clinical data generated in our clinical trials may be deemed unreliable and the FDA, EMA or comparable foreign regulatory authorities may not accept the data or require us to perform additional clinical trials before considering our filing for regulatory approval or approving our marketing application. In addition, significant portions of the clinical studies for our product candidates are expected to be conducted outside of the United States, which will make it more difficult for us to monitor CROs and perform visits of our clinical trial sites (particularly during the ongoing pandemic) and will force us to rely heavily on CROs to ensure the proper and timely conduct of our clinical trials and compliance with applicable regulations, including GCPs.

If any of our relationships with these third party CROs terminate, we may not be able to enter into arrangements with alternative CROs or do so on commercially reasonable terms. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, if they need to be replaced or if the quality or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols, regulatory requirements or for other reasons, our clinical trials may be extended, delayed or terminated and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates. As a result, our results of operations and the commercial prospects for our product candidates would be harmed, our costs could increase substantially and our ability to generate revenue could be delayed significantly.

We face a variety of manufacturing risks and rely on third parties to manufacture our drug substance and clinical drug product and we intend to rely on third parties to produce commercial supplies of any approved product candidate.

We rely on contract manufacturers to manufacture and provide product for us that meets applicable regulatory requirements. We do not currently have, nor do we plan to develop, the infrastructure or capability internally to manufacture our drug supplies and we expect to continue to depend on contract manufacturers for the foreseeable future. As we proceed with the development and potential commercialization of our product candidates, we will need to increase the scale at which the drug is manufactured which will require the development of new manufacturing processes to potentially reduce the cost of goods. We will rely on our internal process research and development efforts and those of contract manufacturers to develop the good manufacturing processes ("GMPs") required for cost-effective, large-scale production. If we and our contract manufacturers are not successful in converting to commercial-scale manufacturing, then our product costs may not be competitive and the development and/or commercialization of our product candidates would be materially adversely affected. Moreover, our contract manufacturers are the sole source of

supply for our clinical product candidates. If we were to experience an unexpected loss of supply for any reason, whether as a result of manufacturing, supply or storage issues, natural disasters, the ongoing COVID-19 pandemic or otherwise, we could experience delays, disruptions, suspensions or termination of our clinical study and planned development program, or be required to restart or repeat, any ongoing clinical trials.

We also rely on our contract manufacturers to purchase from third party suppliers the materials necessary to produce our product candidates for our clinical trials. There are a limited number of suppliers for raw materials that our vendors use to manufacture our drugs and there may be a need to assess alternate suppliers to prevent a possible disruption of the manufacture of the materials necessary to produce our product candidates for our clinical trials, and if approved, for commercial sale. Moreover, we currently do not have any agreements for the commercial production of these raw materials. Although we generally do not begin a clinical trial unless we believe we have a sufficient supply of a product candidate to complete the clinical trial, any significant delay in the supply of a product candidate, or the raw material components thereof, for an ongoing clinical trial due to the need to replace a contract manufacturer or other third party manufacturer could considerably delay completion of our clinical trials, product testing and potential regulatory approval of our product candidates.

Risks Related to Regulatory Approval

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

Our business is substantially dependent on our ability to successfully develop, obtain regulatory approval for and then successfully commercialize our product candidates. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA, the EMA or any other foreign regulatory authority, and we may never receive such regulatory approval for any of our product candidates. The time required to obtain approval by the FDA and comparable foreign authorities is difficult to predict, typically takes many years following the commencement of clinical trials and depends upon numerous factors. Approval policies, regulations and the types and amount of clinical and manufacturing data necessary to gain approval may change during the course of clinical development and may vary among jurisdictions. We have not obtained regulatory approval for any product candidate and it is possible that none of our existing product candidates or any product candidates we have in development or may seek to develop in the future will ever obtain regulatory approval.

Our product candidates could fail to receive regulatory approval for many reasons, including the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design or implementation of our clinical trials;
- we may be unable to demonstrate to the satisfaction of the FDA or comparable foreign regulatory authorities that a product candidate is safe and effective for its proposed indication;
- the results of clinical trials may fail to achieve the level of statistical significance required by the FDA or comparable foreign regulatory authorities for approval;
- we may be unable to demonstrate that a product candidate's clinical and other benefits outweigh its safety risks;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data submitted in support of regulatory approval;
- the data collected from pre-clinical studies and clinical trials of our product candidates may not be sufficient to support the submission of an NDA, supplemental NDA, or other regulatory submissions necessary to obtain regulatory approval;

- we or our contractors may not meet the GMP and other applicable requirements for manufacturing processes, procedures, documentation and facilities necessary for approval by the FDA or comparable foreign regulatory authorities; and

- changes to the approval policies or regulations of the FDA or comparable foreign regulatory authorities with respect to our product candidates may result in our clinical data becoming insufficient for approval.

In addition, even if we were to obtain regulatory approval, regulatory authorities may approve our product candidates for fewer or more limited indications than what we requested approval for, may include safety warnings or other restrictions that may negatively impact the commercial viability of our product candidates, including the potential for a favorable price or reimbursement at a level that we would otherwise intend to charge for our products. Likewise, regulatory authorities may grant approval contingent on the performance of costly post-marketing clinical trials or the conduct of an expensive risk-evaluation and mitigation system, which could significantly reduce the potential for commercial success or viability of our product candidates. Any of the foregoing possibilities could materially harm the prospects for our product candidates and business and operations.

We may fail to obtain orphan drug designations from the FDA and/or EU for our product candidates, as applicable, and even if we obtain such designations, we may be unable to maintain the benefits associated with orphan drug designation, including the potential for market exclusivity.

Our strategy includes filing for orphan drug designation where available for our product candidates. Rusfertide has received orphan drug designation for the treatment of patients with PV from the FDA and the European Union ("EU"). Despite this designation, we may be unable to maintain the benefits associated with orphan drug status, including market exclusivity. We may not be the first to obtain regulatory approval of a product candidate for a given orphan-designated indication. In addition, exclusive marketing rights in the United States may be limited if we seek approval for an indication broader than the orphan-designated indication or may be lost if the FDA later determines that the request for designation was materially defective or if we are unable to assure sufficient quantities of the product to meet patient needs. Further, even if we obtain orphan drug designation exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties may receive and be approved for the same condition, and only the first applicant to receive approval for a given active ingredient will receive the benefits of marketing exclusivity. Even after an orphan-designated product is approved, the FDA can subsequently approve a later drug with the same active moiety for the same condition if the FDA concludes that the later drug is clinically superior if it is shown to be safer, more effective or makes a major contribution to patient care.

Risks Related to Commercialization of our Product Candidates

We currently have no marketing and sales organization. To the extent any of our product candidates for which we maintain commercial rights is approved for marketing, if we are unable to establish marketing and sales capabilities or enter into agreements with third parties to market and sell our product candidates, we may not be able to effectively market and sell any products or generate product revenue.

We currently do not have a marketing or sales organization for the marketing, sales and distribution of pharmaceutical products. In order to commercialize any of our product candidates that receive marketing approval, we will have to build marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we may not be successful in doing so. In the event of successful development of any of our product candidates, we may elect to build a targeted specialty sales force which will be expensive and time consuming. Any failure or delay in the development of our internal sales, marketing and distribution capabilities would adversely impact the commercialization of these products. With respect to our product candidates, we may choose to partner with third parties that have direct sales forces and established distribution systems, either to augment our own sales force and distribution systems or in lieu of our own sales force and distribution systems, and in the case of the Janssen License and Collaboration Agreement, we may elect to exercise our Co-Detailing Option (allows us to elect to provide up to 30% of the selling effort in the United States for PTG-200 and/or any second-generation compounds approved for commercial sale), which would require us to establish a U.S.

sales team. If we are not successful in commercializing our product candidates, either on our own or through collaborations with one or more third parties, our future revenue will be materially and adversely impacted.

Recently enacted and future legislation may increase the difficulty and cost for us to obtain marketing approval of and commercialize our product candidates and affect the prices we may obtain.

In the United States and some foreign jurisdictions, there have been, and we expect there will continue to be, a number of legislative and regulatory changes and proposed changes regarding the healthcare system that could, among other things, prevent or delay marketing approval of our product candidates, restrict or regulate post-approval activities and affect our ability to profitably sell any product candidates for which we obtain marketing approval.

For example, in the United States in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act of 2010, (collectively, the "ACA") was enacted to increase access to health insurance, reduce or constrain the growth of healthcare spending, enhance remedies against fraud and abuse, add new transparency requirements for health care and the health insurance industries, impose new taxes and fees on the health industry and impose additional health policy reforms. The law has continued the downward pressure on pharmaceutical pricing, especially under the Medicare program, and increased the industry's regulatory burdens and operating costs.

There have been executive, judicial and Congressional challenges to certain aspects of the ACA. For example, former President Trump signed Executive Orders and other directives designed to delay the implementation of certain provisions of the ACA or otherwise circumvent some of the requirements for health insurance mandated by the ACA. Concurrently, Congress considered legislation to repeal or repeal and replace all or part of the ACA. While Congress has not passed comprehensive repeal legislation, several bills affecting the implementation of certain taxes under the ACA have been enacted. The Tax Cuts and Jobs Act of 2017 (the "Tax Act") included a provision repealing, effective January 1, 2019, 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. Additionally, the 2020 federal spending package permanently eliminated, effective January 1, 2020, the ACA-mandated "Cadillac" tax on high-cost employer-sponsored health coverage and the medical device tax and, effective January 1, 2021, also eliminated the health insurance tax. Further, the Bipartisan Budget Act of 2018 (the "BBA") among other things, amends the ACA, effective January 1, 2019, to close the coverage gap in most Medicare drug plans, commonly referred to as the "donut hole." On December 14, 2018, a Texas U.S. District Court Judge ruled that the ACA is unconstitutional in its entirety because the "individual mandate" was repealed by Congress as part of the Tax Act. Additionally, on December 18, 2019, the U.S. Court of Appeals for the 5th Circuit upheld the District Court ruling that the individual mandate was unconstitutional and remanded the case back to the District Court to determine whether the remaining provisions of the ACA are invalid as well. The U.S. Supreme Court is currently reviewing this case, but it is unclear when a decision will be made. On February 10, 2021, the Biden administration withdrew the federal government's support for overturning the ACA. Although the U.S. Supreme Court has not yet ruled on the constitutionality of the ACA, on January 28, 2021, President Biden issued an executive order to initiate a special enrollment period for purposes of obtaining health insurance coverage through the ACA marketplace, which began on February 15, 2021 and will remain open until August 15, 2021. The executive order also instructs certain governmental agencies to review and reconsider their existing policies and rules that limit access to healthcare, including among others, reexamining Medicaid demonstration projects and waiver programs that include work requirements, and policies that create unnecessary barriers to obtaining access to health insurance coverage through Medicaid or the ACA. It is unclear how the Supreme Court ruling, other such litigation and the healthcare reform measures of the Biden administration will impact the ACA and our business.

In addition, other legislative changes have been proposed and adopted in the United States since the ACA was enacted. These changes included aggregate reductions to Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013 and, due to subsequent legislative amendments to the statute, including the BBA, will remain in effect through 2030 unless additional action is taken by Congress. COVID-19 relief legislation suspended the 2% Medicare sequester from May 1, 2020 through December 31, 2021. In January 2013, the American Taxpayer Relief Act of 2012 was signed into law, which, among other things, further reduced Medicare payments to several types of providers and increased the statute of limitations period in which the government may recover overpayments to providers from three to five years.

Further, there has been heightened governmental scrutiny over the manner in which manufacturers set prices for their marketed products. Such scrutiny has resulted in several recent Congressional inquiries and proposed and enacted federal and state legislation 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 products. At the federal level, the Trump administration used several means to propose or implement drug pricing reform, including through federal budget proposals, executive orders and policy initiatives. For example, on July 24, 2020 and September 13, 2020, the Trump administration announced several executive orders related to prescription drug pricing that attempt to implement several of the administration's proposals. The FDA also released a final rule, effective November 30, 2020, implementing a portion of the importation executive order providing guidance for states to build and submit importation plans for drugs from Canada. Further, on November 20, 2020, HHS finalized a regulation removing safe harbor protection for price reductions from pharmaceutical manufacturers to plan sponsors under Part D, either directly or through pharmacy benefit managers, unless the price reduction is required by law. The implementation of the rule has been delayed by the Biden administration from January 1, 2022 to January 1, 2023 in response to ongoing litigation. The rule also creates a new safe harbor for price reductions reflected at the point-of-sale, as well as a new safe harbor for certain fixed fee arrangements between pharmacy benefit managers and manufacturers, the implementation of which have also been delayed until January 1, 2023. On November 20, 2020, the Centers for Medicare & Medicaid Services ("CMS") issued an interim final rule implementing President Trump's Most Favored Nation executive order, which would tie Medicare Part B payments for certain physician-administered drugs to the lowest price paid in other economically advanced countries, effective January 1, 2021. On December 28, 2020, the United States District Court in Northern California issued a nationwide preliminary injunction against implementation of the interim final rule. At the state level, legislatures have become increasingly aggressive in passing legislation and implementing regulations designed to control pharmaceutical and biological product pricing, including price or patient reimbursement constraints, discounts, restrictions on certain product access and marketing cost disclosure and transparency measures, and, in some cases, designed to encourage importation from other countries and bulk purchasing. The implementation of cost containment measures or other healthcare reforms may prevent us from being able to generate revenue, attain profitability or commercialize our product candidates, if approved.

We expect that additional state and federal healthcare reform measures will be adopted in the future, particularly in light of the new presidential administration, any of which could limit the amounts that federal and state governments will pay for healthcare therapies, which could result in reduced demand for our product candidates or additional pricing pressures. Further, it is possible that additional governmental action is taken in response to the COVID-19 pandemic.

Legislative and regulatory proposals have also been made to expand post-approval requirements and restrict sales and promotional activities for pharmaceutical products. We cannot be sure whether additional legislative changes will be enacted, or whether the FDA regulations, guidance or interpretations will be changed, or what the impact of such changes on the marketing approvals of our product candidates, if any, may be. In addition, increased scrutiny by the U.S. Congress of the FDA's approval process may significantly delay or prevent marketing approval, as well as subject us to more stringent product labeling and post-marketing testing and other requirements.

We currently conduct, and intend to continue to conduct, a substantial portion of the clinical trials for our product candidates outside of the United States. If approved, we may commercialize our product candidates abroad. We will thus be subject to the risks of doing business outside of the United States.

We currently conduct, and intend to continue to conduct, a substantial portion of our clinical trials outside of the United States and, if approved, we intend to also market our product candidates outside of the United States. We are thus subject to risks associated with doing business outside of the United States. Our business and financial results in the future could be adversely affected due to a variety of factors associated with conducting development and marketing of our product candidates, if approved, outside of the United States, including varying medical standards and practices, geopolitical risks, uncertainty around intellectual property protection, and regulatory risks, such as compliance with the Foreign Corrupt Practices Act. If we are unable to anticipate and address these risks properly, our business and financial results will be harmed.

Risks Related to Our Business and Industry

We face significant competition from other biotechnology and pharmaceutical companies, and our operating results will suffer if we fail to compete effectively.

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. We have competitors worldwide, including major multinational pharmaceutical companies, biotechnology companies, specialty pharmaceutical and generic pharmaceutical companies as well as universities and other research institutions.

Many of our competitors have substantially greater financial, technical and other resources, such as larger research and development staff, and experienced marketing and manufacturing organizations. As a result, these companies may obtain regulatory approval more rapidly than we are able and may be more effective in selling and marketing their products. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Competition may increase further as a result of advances in the commercial applicability of newer technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring or licensing, on an exclusive basis, pharmaceutical products that are easier to develop, more effective or less costly than any product candidates that we are currently developing or that we may develop. If approved, our product candidates are expected to face competition from commercially available drugs as well as drugs that are in the development pipelines of our competitors.

Pharmaceutical companies may invest heavily to accelerate discovery and development of novel compounds or to in-license novel compounds that could make our product candidates less competitive. In addition, any new product that competes with an approved product must demonstrate advantages in efficacy, convenience, tolerability or safety in order to overcome price competition and to be commercially successful. If our competitors succeed in obtaining FDA, EMA or other regulatory approval or discovering, developing and commercializing drugs before we do, there would be a material adverse impact on the future prospects for our product candidates and business. For example, in June 2020, the FDA accepted a Biologics License Application for ropeginterferon alfa-2b for use in treatment for patients with PV in the absence of symptomatic splenomegaly from PharmaEssentia Corporation, the manufacturer of the novel pegylated interferon. A decision from the FDA on this application is expected in early 2021. We also face competition in certain instances from the existing standards of care, which may be significantly less expensive than our expected drug prices. For example, one widely used treatment for PV and hereditary hemochromatosis ("HH") patients is phlebotomy and/or chelation therapy. While patients may not like therapies that involve frequent blood draws, these therapies are inexpensive and may present pricing challenges for us if our drug candidates are successfully developed and approved.

If we fail to comply with state and federal healthcare regulatory laws, we could face substantial penalties, damages, fines, disgorgement, integrity oversight and reporting obligations, exclusion from participation in governmental healthcare programs, and the curtailment of our operations, any of which could adversely affect our business, operations, and financial condition.

Healthcare providers, including physicians, and third-party payors will play a primary role in the recommendation and prescription of any future product candidates we may develop or any product candidates for which we obtain marketing approval. Our arrangements with third-party payors and customers may expose us to broadly applicable fraud and abuse and other healthcare laws and regulations that may affect the business or financial arrangements and relationships through which we would market, sell and distribute our products. Even though we do not and will not control referrals of healthcare services or bill directly to Medicare, Medicaid or other third-party payors, federal and state healthcare laws and regulations pertaining to fraud and abuse and patients' rights are and will be applicable to our business. The laws that may affect our ability to operate include, but are not limited to:

- the federal Anti-Kickback Statute;
- the federal false claims laws, including the False Claims Act;

- the federal Health Insurance Portability and Accountability Act of 1996 ("HIPAA");
- HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act and their implementing regulations, which also imposes obligations, including mandatory contractual terms, on HIPAA-covered entities, their business associates as well as their covered subcontractors with respect to safeguarding the privacy, security and transmission of individually identifiable health information;
- the federal civil monetary penalties statute;
- the federal Physician Payments Sunshine Act; and
- analogous state and foreign laws and regulations, such as state anti-kickback and false claims laws.

Further, the ACA, among other things, amended the intent requirements of the federal Anti-Kickback Statute and certain criminal statutes governing healthcare fraud. Any violations of these laws, or any action against us for violation of these laws, even if we successfully defend against it, could result in a material adverse effect on our reputation, business, results of operations and financial condition.

We have entered into consulting and scientific advisory board arrangements with physicians and other healthcare providers, including some who could influence the use of our product candidates, if approved. While we have worked to structure our arrangements to comply with applicable laws, because of the complex and far-reaching nature of these laws, regulatory agencies may view these transactions as prohibited arrangements that must be restructured, or discontinued, or for which we could be subject to other significant penalties. We could be adversely affected if regulatory agencies interpret our financial relationships with providers who may influence the ordering of and use our product candidates, if approved, to be in violation of applicable laws.

The scope and enforcement of each of these laws is uncertain and subject to rapid change in the current environment of healthcare reform. Federal and state enforcement bodies have continued to increase their scrutiny of interactions between healthcare companies and healthcare providers, which has led to a number of significant investigations, prosecutions, convictions and settlements in the healthcare industry. Additionally, as a result of these investigations, healthcare providers and entities may have to agree to additional onerous compliance and reporting requirements as part of a consent decree or corporate integrity agreement. Any such investigation or settlement could significantly increase our costs or otherwise have an adverse effect on our business.

If our operations are found to be in violation of any of these laws or any other governmental laws and regulations that may apply to us, we may be subject to significant civil, criminal and administrative penalties, damages, fines, disgorgement, imprisonment, integrity oversight and reporting obligations, exclusion from government funded healthcare programs, such as Medicare and Medicaid, disgorgement, contractual damages, reputational harm, diminished profits and the curtailment or restructuring of our operations. If, and to the extent that, Janssen or we are unable to comply with these regulations, our ability to earn potential royalties from worldwide net sales of Janssen collaboration product candidates would be materially and adversely impacted. If any of the physicians or other healthcare providers or entities with whom we expect to do business is found to be not in compliance with applicable laws, they may be subject to significant criminal, civil or administrative sanctions, including exclusions from government funded healthcare programs. The imposition of any of these penalties or other commercial limitations could negatively impact our collaboration with Janssen or cause Janssen to terminate the Janssen License and Collaboration Agreement, either of which would materially and adversely affect our business, financial condition and results of operations.

Our future success depends on our ability to retain our executive officers and to attract, retain and motivate qualified personnel. If we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy.

Our ability to compete in the highly competitive biotechnology and pharmaceuticals industries depends upon our ability to attract and retain highly qualified managerial, scientific, medical and regulatory personnel. We are highly

dependent on our existing senior management team. The loss of the services of any of our executive officers or other key employees and our inability to find suitable replacements would harm our research and development efforts, our collaboration efforts, as well as our business, financial condition and prospects. Our success also depends on our ability to continue to attract, retain and motivate highly skilled and experienced personnel with scientific, medical, regulatory, manufacturing, marketing, sales, general and administrative and management training and skills.

We may not be able to attract or retain qualified personnel in the future due to the intense competition for a limited number of qualified personnel among biopharmaceutical, biotechnology, pharmaceutical and other businesses. Many of the other biopharmaceutical and pharmaceutical companies that we compete against for qualified personnel have greater financial and other resources, different risk profiles and a longer history in the industry than we do. Many are located in areas of the country with lower costs of living. Any or all of these factors may limit our ability to continue to attract and retain high quality personnel, which could negatively affect our ability to successfully develop and commercialize product candidates and to grow our business and operations as currently contemplated.

We expect to expand the size of our organization, and we may experience difficulties in managing this growth.

As of June 30, 2021, we had 101 full-time equivalent employees, including 81 full-time equivalent employees engaged in research and development. As our development and commercialization plans and strategies develop, we expect to need additional managerial, operational, scientific, sales, marketing, research, development, regulatory, manufacturing, financial and other resources. In addition, as our operations expand, we expect that we will need to manage relationships with strategic collaborators, CROs, contract manufacturers, suppliers, vendors and other third parties. Our future financial performance and our ability to develop and commercialize our product candidates and to compete effectively will depend, in part, on our ability to manage any future growth effectively. We may not be successful in accomplishing these tasks in growing our company, and our failure to accomplish any of them could adversely affect our business and operations.

Significant disruptions of information technology systems or breaches of data security could adversely affect our business.

Our business is increasingly dependent on critical, complex and interdependent information technology systems, including Internet-based systems, to support business processes as well as internal and external communications. The size and complexity of our internal computer systems and those of our CROs, contract manufacturers, collaboration partner, and other third parties on which we rely may make them potentially vulnerable to breakdown, telecommunications and electrical failures, malicious intrusion such as ransomware and computer viruses that may result in the impairment of key business processes. Those systems and processes require appropriate training and adherence to security protocols by our personnel and third-party personnel. In addition, our systems are potentially vulnerable to data security breaches, by employees or others, that may expose sensitive data to unauthorized persons. Such data security breaches could lead to the loss of trade secrets or other intellectual property or could lead to the public exposure of personally identifiable information (including sensitive personal information) of our employees, collaborators, clinical trial patients, and others. A malicious intrusion, data security breach or privacy violation that leads to disclosure or modification of or prevents access to patient information, including personally identifiable information or protected health information, could harm our reputation, compel us to comply with federal and/or state breach notification laws, subject us to mandatory corrective action, require us to verify the correctness of database contents and otherwise subject us to liability under laws and regulations that protect personal data, resulting in increased costs or loss of revenue. If we are unable to prevent such data security breaches or privacy violations or implement satisfactory remedial measures, our operations could be disrupted, and we may suffer loss of reputation, financial loss and other regulatory penalties.

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

We are subject to numerous environmental, health and safety laws and regulations, including those governing laboratory procedures and the handling, use, storage, treatment and disposal of hazardous materials and wastes. Our operations involve the use of hazardous and flammable materials, including chemicals and biological materials, and

produce hazardous waste products. We generally contract with third parties for the disposal of these materials and wastes. We cannot eliminate the risk of contamination or injury from these materials. In the event of contamination or injury resulting from our use of hazardous materials, we could be held liable for any resulting damages, and any liability could exceed our resources. We also could incur significant costs associated with civil or criminal fines and penalties.

Our employees, independent contractors, principal investigators, consultants and vendors may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements, which could have a material adverse effect on our business.

We are exposed to the risk that our employees, independent contractors, principal investigators, consultants or vendors may engage in fraudulent conduct or other illegal activity. Misconduct by these parties could include intentional, reckless and/or negligent conduct or disclosure of unauthorized activities to us that violates: (i) FDA laws and regulations or those of comparable foreign regulatory authorities, (ii) manufacturing standards, (iii) federal and state data privacy, security, fraud and abuse and other healthcare laws and regulations established and enforced by comparable foreign regulatory authorities, or (iv) laws that require the true, complete and accurate reporting of financial information or data. 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 and results of operations, including the imposition of significant fines or other sanctions.

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. If we cannot successfully defend ourselves against product liability claims, we may incur substantial liabilities or be required to stop development or, if approved, limit commercialization of our product candidates.

Our inability to obtain and retain sufficient product liability insurance at an acceptable cost to protect against potential product liability claims could prevent or inhibit the development or commercialization of our product candidates. We currently carry clinical trial liability insurance for our clinical trials. 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 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.

Our headquarters is located near known earthquake fault zones. The occurrence of an earthquake, fire or any other catastrophic event could disrupt our operations or the operations of third parties who provide vital support functions to us, which could have a material adverse effect on our business and financial condition.

We and some of the third-party service providers on which we depend for various support functions are vulnerable to damage from catastrophic events, such as power loss, natural disasters, terrorism, pandemics and similar unforeseen events beyond our control. Our corporate headquarters, including our laboratory facilities, are located in the San Francisco Bay Area, which in the past has experienced severe earthquakes and fires. 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.

The insurance coverage and reimbursement status of newly approved products is uncertain. Failure to obtain or maintain adequate coverage and reimbursement for our product candidates could limit our ability to generate revenue.

The availability and extent of reimbursement by governmental and private payors is essential for most patients to be able to afford medications and therapies. Sales of any of our product candidates that receive marketing approval will depend substantially, both in the United States and internationally, on the extent to which the costs of our product candidates will be paid by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or reimbursed by government health administration authorities, private health coverage insurers and other third-party payors. If reimbursement is not available, or is available only to limited levels, we 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 adequate pricing that will allow us to realize a sufficient 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 reimbursement for new products are typically made by CMS. CMS decides whether and to what extent a new product will be covered and reimbursed under Medicare. Private payors tend to follow CMS to a substantial degree, but also have their own methods and approval process. Therefore, coverage and reimbursement can differ significantly from payor to payor. It is difficult to predict what CMS will decide with respect to reimbursement for novel products such as ours since there is no body of established practices and precedents for these new products.

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 and other countries may cause us to price our product candidates on less favorable terms than we currently anticipate. In many countries, particularly the countries of the European Union, the prices of medical products are subject to varying price control mechanisms as part of national health systems. In these countries, pricing negotiations with governmental authorities can take considerable time after the receipt of marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost-effectiveness of our product candidates to other available therapies. In general, the prices of products under such systems are substantially lower than in the United States. 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 revenues and profits.

Moreover, increasing efforts by governmental and third-party payors, in the United States and internationally, to cap or reduce healthcare costs may cause such organizations to limit both coverage and level of reimbursement for new products approved and, as a result, they may not cover or provide adequate payment for our product candidates. 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 into the healthcare market.

Risks Related to Our Intellectual Property

If we are unable to obtain or protect intellectual property rights related to our product candidates and technologies, we may not be able to compete effectively in our markets.

We rely upon a combination of patent protection, trade secret protection and confidentiality agreements to protect the intellectual property related to our product candidates and technologies. The strength of patents in the biotechnology and pharmaceutical field involves complex legal and scientific questions and can be uncertain. We may or may not file or prosecute all necessary or desirable patent applications. The patent applications that we own or license may fail to result in issued patents in the United States or in other foreign countries, or they may fail to result in issued patents with claims that cover our product candidates or technologies in the United States or in other foreign countries. Any failure to identify relevant prior art relating to a patent or patent applications can invalidate a patent or

prevent a patent from issuing. Even if patents have been issued, third parties may challenge the validity, enforceability or scope thereof, which may result in such patents being narrowed, invalidated or held unenforceable. Furthermore, even if they are unchallenged, our patent and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates and technologies, or prevent others from designing around our claims.

If the breadth or strength of protection provided by our patents is challenged, or if they fail to provide meaningful exclusivity for our product candidates, it could prevent us from asserting exclusivity over the covered product and allow generic competition. We cannot offer any assurances about which, if any, of our patent applications will issue, the breadth of any such issued patent, or whether any issued patents will be found invalid and unenforceable or will be threatened by third parties. Any successful opposition or other challenge to our patents or patent applications could significantly diminish the commercial prospects of any products that we develop.

In addition, patents have a limited lifespan. In the United States and in many other countries, the natural expiration of a patent is generally 20 years after it is filed, and once any patents covering a product expire, generic competitors may enter the market. Our granted U.S. patents covering PN-943 and PTG-200 expire in 2035, and our granted U.S. patent covering rusfertide expires in 2034. Although the life of a patent can be increased based on certain delays caused by the U.S. Patent and Trademark Office (the "PTO"), this increase can be reduced or eliminated based on certain delays caused by the patent applicant during patent prosecution. If we encounter delays in our clinical trials or in gaining regulatory approval, the period of time during which we could market any of our product candidates under patent protection, if approved, would be reduced.

We may not be able to protect our intellectual property rights throughout the world. Filing, prosecuting and defending patents on all of our product candidates throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States may be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights, including trade secrets, to the same extent as federal and state laws of the United States and many countries limit the enforceability of patents against third parties, including government agencies or government contractors.

Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and, further, may export otherwise infringing products to territories where we have patent protection but enforcement is not as strong as in the United States. These products may compete with our products in jurisdictions where we do not have any issued patents and our patent claims or other intellectual property rights may not be effective or sufficient to prevent them from so competing. Also, if our trade secrets are disclosed in a foreign jurisdiction, competitors worldwide could have access to our proprietary information and we may be without satisfactory recourse. Such disclosure could have a material adverse effect on our business.

Obtaining and maintaining patents depends on compliance with various procedural, document submission, fee payment and other requirements imposed by government patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements. Periodic maintenance fees, renewal fees, annuity fees and various other government fees on patents or applications will be due to be paid to the USPTO and various government patent agencies outside of the United States over the lifetime of our patents and applications. Non-compliance could result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, potential competitors might be able to enter the market with similar or identical products or platforms, which could have a material adverse effect on our business prospects and financial condition.

We also rely on trade secret protection and confidentiality agreements to protect proprietary scientific, business and technical information and know-how that is not or may not be patentable or that we elect not to patent. For example, we primarily rely on trade secrets and confidentiality agreements to protect our peptide therapeutics technology platform. Any disclosure to or misappropriation by third parties of our confidential proprietary information could enable competitors to quickly duplicate or surpass our technological achievements, thus eroding our competitive position in our market. If we are unable to protect the confidentiality of our trade secrets and proprietary know-how or if competitors independently develop viable competing products, our business and competitive position may be harmed.

Although we require all of our employees to assign their inventions to us, and endeavor to execute confidentiality agreements with all of our employees, consultants, advisors and any third parties who have access to our proprietary know-how and other confidential information related to such technology, we cannot be certain that we have executed such agreements with all third parties who may have helped to develop our intellectual property or who had access to our proprietary information, nor can be we certain that our agreements will not be breached. If any of the parties to these confidentiality agreements breaches or violates the terms of such agreements, we may not have adequate remedies for any such breach or violation, and we could lose our trade secrets as a result.

Even if we are able to adequately protect our trade secrets and proprietary information, our trade secrets could otherwise become known or could be independently discovered by our competitors. Competitors could purchase our products and attempt to replicate some or all of the competitive advantages we derive from our development efforts, willfully infringe our intellectual property rights, design around our protected technology or develop their own competitive technologies that fall outside of our intellectual property rights. If any of our trade secrets were to be lawfully obtained or independently developed by a competitor, in the absence of patent protection, we would have no right to prevent them, or those to whom they communicate, from using that technology or information to compete with us. If our trade secrets are not adequately protected so as to protect our market against competitors' products, others may be able to exploit our proprietary peptide product candidate discovery technologies to identify and develop competing product candidates, and thus our competitive position could be adversely affected, as could our business.

We may be involved in lawsuits and other legal proceedings to protect or enforce our intellectual property, which could be expensive, time consuming and unsuccessful.

Competitors may infringe our issued patents or any patents issued as a result of our pending or future patent applications. To counter infringement or unauthorized use, we may be required to file infringement claims, which can be expensive and time-consuming. In addition, in an infringement proceeding, a court may decide that a patent of ours is not valid or is unenforceable or may refuse to stop the other party in such infringement proceeding from using the technology at issue on the grounds that our patents do not cover the technology in question. An adverse result in any litigation or defense proceedings could put one or more of our patents at risk of being invalidated, held unenforceable or interpreted narrowly, and could put any of our patent applications at risk of not yielding an issued patent.

The filing of a patent application or the issuance of a patent is not conclusive as to its ownership, inventorship, scope, patentability, validity or enforceability. Issued patents and patent applications may be challenged in the courts and in the patent office in the United States and abroad. For example, our patent applications, or any patents that grant therefrom, may be challenged through third-party submissions, opposition or derivation proceedings, and our patents may be challenged through reexamination, inter partes review or post-grant review proceedings before the USPTO, or in declaratory judgment actions or counterclaims. An adverse determination in any such submission, proceeding or litigation could prevent the issuance of, reduce the scope of, invalidate or render unenforceable our patent rights, result in the loss of exclusivity, or limit our ability to stop others from using or commercializing our platform technology and products. Any of the foregoing could have a material adverse effect on our business, financial condition, results of operations and prospects.

Interference or derivation proceedings provoked by third parties or brought by us, the PTO or any foreign patent authority may be necessary to determine the priority or ownership of inventions with respect to our patent or patent applications. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms, if any license is offered at all.

Any issued patents covering our product candidates, including any patent that may issue as a result of our pending or future patent applications, could be found invalid or unenforceable if challenged in court in the United States or abroad.

As more groups become engaged in scientific research and product development in fields related to our product candidates, such as IL-23R, α4β7integrin or hepcidin mimetics, the risk of our patents, or patents that we have in-licensed, being challenged through patent interferences, derivation proceedings, oppositions, re-examinations,

litigation or other means will likely increase. An adverse outcome in a patent dispute could have a material adverse effect on our business by:

- causing us to lose patent rights in the relevant jurisdiction(s);
- subjecting Janssen or us to litigation, or otherwise preventing the commercialization of product candidates in the relevant jurisdiction(s);
- requiring Janssen or us to obtain licenses to the disputed patents;
- forcing Janssen or us to cease using the disputed technology; or
- requiring Janssen or us to develop or obtain alternative technologies.

An adverse outcome in a patent dispute could severely harm our collaboration with Janssen or cause Janssen to terminate the Janssen License and Collaboration Agreement.

Intellectual property disputes could cause us to spend substantial resources and distract our personnel from their normal responsibilities. Litigation or other legal proceedings relating to intellectual property claims, with or without merit, are unpredictable and generally expensive and time-consuming and, even if resolved in our favor, are likely to divert significant resources from our core business, including distracting our technical and management personnel from their normal responsibilities. In addition, there could be public announcements of the results of hearings, motions or other interim proceedings or developments and if securities analysts or investors perceive these results to be negative, it could have a substantial adverse effect on the market price of our common stock. We may not have sufficient financial or other resources to adequately conduct such litigation or proceedings. Some of our competitors may be able to sustain the costs of such litigation or proceedings more effectively than we can because of their greater financial resources and more mature and developed intellectual property portfolios. Accordingly, despite our efforts, we may not be able to prevent third parties from infringing upon or misappropriating or from successfully challenging our intellectual property rights. Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace.

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

Our commercial success depends in part on our ability to develop, manufacture, market and sell our drug candidates and use our proprietary technologies without infringing or otherwise violating the patents and proprietary rights of third parties. Numerous third-party U.S. and foreign issued patents and pending patent applications exist in the fields in which we are developing product candidates, and there may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture or methods for treatment related to the use or manufacture of our product candidates and technologies. Third parties may initiate legal proceedings against us alleging that we are infringing or otherwise violating their patent or other intellectual property rights. Given the vast number of patents in our field of technology, marketing of our product candidates or practice of our technologies could infringe existing patents or patents granted in the future. 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 of which we are unaware that may later result in issued patents that may be infringed by the practice of our peptide therapeutics technology platform or the manufacture, use or sale of our product candidates. In addition, third parties may obtain patents in the future and claim that our product candidates or technologies infringe upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover the manufacturing process of any of our product candidates, any molecules formed during the manufacturing process or any final product or formulation itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire. As our industry expands and more patents are issued, the risk increases that our product candidates or technologies may give rise to claims of infringement of the patent rights of others.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to commercialize our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. Even if we are successful in defending against any infringement claims, litigation is expensive and time-consuming and is likely to divert management's attention and substantial resources from our core business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, limit our uses, pay royalties or redesign our infringing product candidates, which may be impossible or require substantial time and monetary expenditure. We may choose to seek, or may be required to seek, a license from the third-party patent holder and would most likely be required to pay license fees or royalties or both, each of which could be substantial. These licenses may not be available on commercially reasonable terms, however, or at all. Even if we were able to obtain a license, the rights we obtain may be nonexclusive, which would provide our competitors access to the same intellectual property rights upon which we are forced to rely. Furthermore, even in the absence of litigation, we may need to obtain licenses from third parties to advance our research or allow commercialization of our product candidates, and we have done so from time to time. We may fail to obtain any of these licenses at a reasonable cost or on reasonable terms, if at all. In such an event, we would be unable to further practice our technologies or develop and commercialize any of our product candidates at issue, which could harm our business significantly.

We may not identify relevant third party patents or may incorrectly interpret the relevance, scope or expiration of a third party patent which might adversely affect our ability to develop and market our products.

We cannot guarantee that any of our patent searches or analyses, including the identification of relevant patents, the scope of patent claims or the expiration of relevant patents, are complete or thorough, nor can we be certain that we have identified each and every third party patent and pending application in the United States and abroad that is relevant to or necessary for the commercialization of our product candidates in any jurisdiction. The scope of a patent claim is determined by an interpretation of the law, the written disclosure in a patent and the patent's prosecution history. Our interpretation of the relevance or the scope of a patent or a pending application may be incorrect, which may negatively impact our ability to market our products. We may incorrectly determine that our products are not covered by a third party patent or may incorrectly predict whether a third party's pending application will issue with claims of relevant scope. Our failure to identify and correctly interpret relevant patents may negatively impact our ability to develop and market our products.

We may not be successful in obtaining or maintaining necessary rights to protect our product candidates through acquisitions and in-licenses. We may find that our programs require the use of proprietary rights held by third parties or the growth of our business may depend in part on our ability to acquire, in-license or use these proprietary rights. We may be unable to acquire or in-license compositions, methods of use, processes or other third party intellectual property rights from third parties we identify as necessary for our product candidates. Even if we are able to obtain a license to intellectual property of interest, we may not be able to secure exclusive rights, in which case others could use the same rights and compete with us. If we are unable to successfully obtain rights to required third party intellectual property rights or maintain the existing intellectual property rights we have, we may have to abandon development of that program and our business and financial condition could suffer.

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

Many of our employees and consultants, including our senior management and our scientific founders, have been employed or retained at universities or by other biotechnology or pharmaceutical companies, including potential competitors. Some of our employees and consultants, including each member of our senior management and each of our scientific founders, executed proprietary rights, non-disclosure and non-competition agreements in connection with such previous employment or retention. We may be subject to claims that we or these employees, consultants or independent contractors have used or disclosed intellectual property, including trade secrets or other proprietary information, of any such employee's or consultant's former or other employer. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are

successful in defending against such claims, litigation could result in substantial costs and be a distraction to management.

We may be subject to claims challenging the inventorship or ownership of our issued patents, any patents issued as a result of our pending or future patent applications and other intellectual property.

We may be subject to claims that former employees, collaborators or other third parties have an ownership interest in our issued patents, any patents issued as a result of our pending or future applications or other intellectual property. We have had in the past, and we may also have in the future, ownership disputes arising, for example, from conflicting obligations of consultants or others who are involved in developing our product candidates and technologies. Litigation may be necessary to defend against these and other claims.

Some of our intellectual property was generated through government funded programs and thus may be subject to federal regulations such as "march-in" rights, certain reporting requirements and a preference for U.S.-based companies. Compliance with such regulations may limit our exclusive rights and limit our ability to contract with non-U.S. manufacturers.

Some of our intellectual property rights were generated through the use of U.S. government funding and are therefore subject to certain federal regulations. As a result, the U.S. government may have certain rights to intellectual property embodied in our current or future product candidates pursuant to the Bayh-Dole Act of 1980, or Bayh-Dole Act, and implementing regulations. These U.S. government rights in certain inventions developed under a government-funded program include a non-exclusive, non-transferable, irrevocable worldwide license to use inventions for any governmental purpose. In addition, the U.S. government has the right to require us or our licensors to grant exclusive, partially exclusive, or non-exclusive licenses to any of these inventions to a third party in certain circumstances (also referred to as "march-in rights"). The U.S. government also has the right to take title to these inventions if we, or the applicable licensor, fail to disclose the invention to the government and fail to file an application to register the intellectual property within specified time limits. In addition, the U.S. government requires that any products embodying the subject invention or produced through the use of the subject invention be manufactured substantially in the United States, subject to a potential waiver. This preference for U.S. manufacturers may limit our ability to contract with non-U.S. product manufacturers for products covered by such intellectual property.

Our reliance on third parties requires us to share our trade secrets, which increases the possibility that a competitor will discover them or that our trade secrets will be misappropriated or disclosed.

Because we expect to rely on third parties in the development and manufacture of our product candidates, we must, at times, share trade secrets with them. We seek to protect our proprietary technology in part by entering into confidentiality agreements and, if applicable, material transfer agreements, consulting agreements or other similar agreements with our advisors, employees, third-party contractors and consultants prior to beginning research or disclosing proprietary information. These agreements typically limit the rights of the third parties to use or disclose our confidential information, including our trade secrets. Despite the contractual provisions employed when working with third parties, the need to share trade secrets and other confidential information increases the risk that such trade secrets become known by our competitors, are inadvertently incorporated into the technology of others, or are disclosed or used in violation of these agreements. Given that our proprietary position is based, in part, on our know-how and trade secrets, a competitor's discovery of our trade secrets or other unauthorized use or disclosure would impair our competitive position and may have an adverse effect on our business and results of operations.

If our trademarks and trade names are not adequately protected, then we may not be able to build name recognition in our markets of interest and our business may be adversely affected.

We may not obtain registered trademarks for commercial trade names for our product candidates. Any trademarks or trade names that we do obtain may be challenged, infringed, circumvented, declared generic or determined to be infringing on other marks. We may not be able to protect our rights to these trademarks and trade names or may be forced to stop using these names. If we are unable to establish name recognition based on our

trademarks and trade names, we may not be able to compete effectively, and our business may be materially adversely affected.

Intellectual property rights do not necessarily address all potential threats to our business.

The degree of future protection afforded by our intellectual property rights is uncertain because intellectual property rights have limitations and may not adequately protect our business. The following examples are illustrative:

- others may be able to make compounds or formulations that are similar to our product candidates, but that are not covered by the claims of any patents that we own, license or control;
- we or any strategic partners might not have been the first to make the inventions covered by the issued patents or pending patent applications that we own;
- we might not have been the first to file patent applications covering certain of our inventions;
- others may independently develop the same, similar, or alternative technologies without infringing, misappropriating or violating our intellectual property rights;
- it is possible that our pending patent applications will not lead to issued patents;
- issued patents may not provide us with any competitive advantages, or may be narrowed or held invalid or unenforceable, including as a result of legal challenges;
- our competitors might conduct research and development activities in the United States and other countries that provide a safe harbor from patent infringement claims for certain research and development activities, as well as in countries where we do not have patent rights, and may then use the information learned from such activities to develop competitive products for sale in our major commercial markets;
- we may choose not to file a patent in order to maintain certain trade secrets or know-how, and a third party may subsequently file a patent covering such trade secrets or know-how; and
- the patents of others may have an adverse effect on our business.

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

Risks Related to Ownership of our Common Stock

Our stock price has been and will likely continue to be volatile and may decline regardless of our operating performance.

Our stock price has fluctuated in the past and is likely to be volatile in the future. From January 1, 2020 through June 30, 2021, the reported sale price of our common stock has fluctuated between $5.30 and $45.93 per share. The stock market in general and the market for biotechnology companies in particular have experienced extreme volatility that has often been unrelated to the operating performance of particular companies. As a result of this volatility, investors may experience losses on their investment in our common stock, including due to the factors discussed in these “Risk Factors” and elsewhere in this Annual Report.

Volatility in our share price could subject us to securities class action litigation.

Securities class action litigations have often been brought against companies following a decline in the market price of their securities. If we face such litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

We are obligated to develop and maintain proper and effective internal controls over financial reporting and any failure to maintain the adequacy of these internal controls may adversely affect investor confidence in our company and, as a result, the value of our common stock.

We are required, pursuant to Section 404 of the Sarbanes-Oxley Act (Section 404), to furnish a report by management on the effectiveness of our internal control over financial reporting. This assessment needs to include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. Our public float on June 30, 2021 was greater than $700.0 million, and our independent registered public accounting firm will be required to attest to the effectiveness of our internal control over financial reporting beginning with our Annual Report required to be filed with the SEC for the fiscal year ending December 31, 2021. At that time, if we have a material weakness, we would receive an adverse opinion regarding our internal control over financial reporting from our independent registered accounting firm.

We currently do not have an internal audit group, and we may need to hire additional accounting and financial staff with appropriate public company experience and technical accounting knowledge and continue the costly and challenging process of compiling the system and processing documentation necessary to perform the evaluation needed to comply with Section 404. We may not complete our continued evaluation, testing and any required remediation in a timely fashion. During our evaluation of our internal control, if we identify one or more material weaknesses in our internal control over financial reporting or fail to remediate any material weaknesses, we will be unable to assert that our internal control over financial reporting is effective. Any material weakness or other failure to maintain internal control over financial reporting could severely inhibit our ability to accurately report our financial condition or results of operations.

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated certificate of incorporation ("Certificate of Incorporation") provides that the Court of Chancery of the State of Delaware will be the exclusive forum for certain actions and proceedings. Furthermore, Section 22 of the Securities Act of 1933, as amended, creates concurrent jurisdiction for federal and state courts over all Securities Act actions. Accordingly, both state and federal courts have jurisdiction to entertain such claims. The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes, which may discourage such lawsuits. Alternatively, if a court were to find the choice of forum provision contained in our Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions.

Some provisions of our charter documents and Delaware law may have anti-takeover effects that could discourage an acquisition of us by others, even if an acquisition would be beneficial to our stockholders and may prevent attempts by our stockholders to replace or remove our current management.

There are provisions in our Certificate of Incorporation and Bylaws, such as the existence of a classified board and the authorization of "blank-check" preferred stock, that may make it difficult for a third party to acquire, or attempt to acquire, control of our company, even if a change in control was considered favorable by our stockholders. These provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibit a person who owns 15% or more of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. Any provision in our Certificate of Incorporation, our Bylaws or Delaware law that has the effect of delaying or deterring a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our common stock, and could also affect the price that some investors are willing to pay for our common stock.

General Risk Factors

Our ability to use net operating loss carryforwards to offset future taxable income, and our ability to use tax credit carryforwards, may be subject to certain limitations.

Our ability to use our federal and state net operating losses ("NOLs") to offset potential future taxable income and related income taxes that would otherwise be due is dependent upon our generation of future taxable income, and we cannot predict with certainty when, or whether, we will generate sufficient taxable income to use our NOLs. To the extent that we continue to generate taxable losses, unused losses will carry forward to offset future taxable income, if any, until such unused losses expire.

Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change", generally defined as a greater than fifty percentage point change (by value) in its equity ownership by certain stockholders over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards, or NOLs, and other pre-change tax attributes (such as research and development tax credits) to offset its post-change taxable income or tax liability may be limited. We have experienced ownership changes in the past and in the current year, resulting in annual limitations in our ability to use our NOLs and credits. In addition, we may experience subsequent ownership changes as a result of future equity offerings or other changes in the ownership of our stock, some of which are beyond our control. As a result, the amount of the NOLs and tax credit carryforwards presented in our financial statements could be limited and may expire unused. Any such material limitation or expiration of our NOLs may harm our future operating results by effectively increasing our future tax obligations.

We may have additional tax liabilities.

We are regularly subject to audits by tax authorities in the jurisdictions in which we conduct business. Although we believe our tax positions are reasonable, the final outcome of tax audits and related litigation could be materially different than that reflected in our historical income tax provisions and accruals, and we could be subject to assessments of additional taxes and/or substantial fines or penalties. The resolution of any audits or litigation could have an adverse effect on our financial position and results of operations. We and our subsidiary are engaged in intercompany transactions, the terms and conditions of which may be scrutinized by tax authorities, which could result in additional tax and/or penalties becoming due.

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

Recent Sales of Unregistered Securities

None.

Repurchases of Shares or of Company Equity Securities

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
3.1	Amended and Restated Certificate of Incorporation	8-K	001-37852	3.1	8/16/2016
3.2	Amended and Restated Bylaws	S-1/A	333-212476	3.2	8/1/2016
31.1+	Certification of Chief Executive Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
31.2+	Certification of Chief Financial Officer required by Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				
32.1+*	Certification of Chief Executive Officer and Chief Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				
101.INS+	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.				
101.SCH+	Inline XBRL Taxonomy Extension Schema Document				
101.CAL+	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF+	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB+	Inline XBRL Taxonomy Extension Labels Linkbase Document				
101.PRE+	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File - The cover page interactive data file does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				

\+ Filed herewith

* This certification attached as Exhibit 32.1 that accompanies this Quarterly Report on Form 10-Q is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Protagonist Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of the Form 10-Q, irrespective of any general incorporation language contained in such filing.

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.

PROTAGONIST THERAPEUTICS, INC.

Date: August 4, 2021

By: /s/ Dinesh V. Patel, Ph.D.
Dinesh V. Patel, Ph.D.
President, Chief Executive Officer and Director
(Principal Executive Officer)

Date: August 4, 2021

By: /s/ Don Kalkofen
Don Kalkofen
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 31.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Dinesh V. Patel, certify that:

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

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

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

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules13a-15(f) and 15d-15(f)) for the registrant and we have:

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

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

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

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

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

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

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

/s/ Dinesh V. Patel, Ph.D.

Date: August 4, 2021

Dinesh V. Patel, Ph.D.
President, Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Don Kalkofen, certify that:

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

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

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

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

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

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

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

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

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

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

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

/s/ Don Kalkofen

Date: August 4, 2021

Don Kalkofen
Chief Financial Officer

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Dinesh V. Patel, Chief Executive Officer of Protagonist Therapeutics, Inc. (the "Company"), and Don Kalkofen, Chief Financial Officer of the Company, each hereby certify that, to the best of his knowledge:

1. The Company's Quarterly Report on Form 10-Q for the period ended June 30, 2021, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

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

Date: August 4, 2021

/s/ Dinesh V. Patel, Ph.D.
Dinesh V. Patel, Ph.D.
President, Chief Executive Officer

Date: August 4, 2021

/s/ Don Kalkofen
Don Kalkofen
Chief Financial Officer

"This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Protagonist Therapeutics, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing."