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DELTA REPORT

10-Q

PTGX - PROTAGONIST THERAPEUTICS,

10-Q - MARCH 31, 2024 COMPARED TO 10-Q - SEPTEMBER 30, 2023

The following comparison report has been automatically generated

TOTAL DELTAS	5675
CHANGES	142
DELETIONS	1261
ADDITIONS	4272

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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 September 30, 2023 March 31, 2024

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**
(Address of registrant's principal executive offices)	**(Zip code)**

(510) 474-0170

(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value $0.00001	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). Yes ☐ No ☒

As of October 27, 2023 April 30, 2024, there were 57,678,122 58,652,133 shares of the registrant's Common Stock, par value $0.00001 per share, outstanding.

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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)

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Assets				
Current assets:				
Cash and cash equivalents	$ 230,527	$ 125,744	$ 172,568	$ 186,727
Marketable securities	90,224	111,611	150,067	154,890
Receivable from collaboration partner	—	10	300,043	10,000
Prepaid expenses and other current assets	4,130	5,712	4,875	3,960
Total current assets	324,881	243,077	627,553	355,577
Marketable securities - noncurrent	1,985	—		
Property and equipment, net	1,421	1,565	1,111	1,195
Restricted cash - noncurrent	225	225	225	225
Operating lease right-of-use asset	1,504	3,061	387	954
Total assets	$ 330,016	$ 247,928	$ 629,276	$ 357,951
Liabilities and Stockholders' Equity				
Current liabilities:				
Accounts payable	$ 1,252	$ 3,640	$ 3,507	$ 772
Payable to collaboration partner	3	69	3	3
Accrued expenses and other payables	24,809	24,955	16,487	19,358
Deferred revenue - current			16,125	—
Income taxes payable			3,326	—
Operating lease liability - current	1,803	2,515	462	1,141
Total current liabilities	27,867	31,179	39,910	21,274
Operating lease liability - noncurrent	—	1,141		
Deferred revenue - noncurrent			28,922	—
Total liabilities	27,867	32,320	68,832	21,274
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; 57,647,476 and 49,339,252 shares issued and outstanding as of September 30, 2023 and December 31, 2022, respectively	1	—		
Common stock, $0.00001 par value, 90,000,000 shares authorized; 58,600,787 and 57,708,613 shares issued and outstanding as of March 31, 2024 and December 31, 2023, respectively			1	1

Additional paid-in capital	945,363	752,722	969,042	952,491
Accumulated other comprehensive loss	(170)	(359)	(229)	(105)
Accumulated deficit	(643,045)	(536,755)	(408,370)	(615,710)
Total stockholders' equity	302,149	215,608	560,444	336,677
Total liabilities and stockholders' equity	$ 330,016	$ 247,928	$ 629,276	$ 357,951

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2023	2022	2024	2023
License and collaboration revenue	$ —	$ —	$ —	$ 26,581	$ 254,953	$ —
Operating expenses:						
Research and development	30,664	25,402	91,262	96,331	33,734	27,416
General and administrative	7,662	6,901	25,439	25,107	14,910	8,605
Total operating expenses	38,326	32,303	116,701	121,438	48,644	36,021
Loss from operations	(38,326)	(32,303)	(116,701)	(94,857)		
Income (loss) from operations					206,309	(36,021)
Interest income	4,252	1,157	10,656	1,809	4,376	2,491
Other expense, net	(31)	(86)	(245)	(151)	(19)	(195)
Net loss	$ (34,105)	$ (31,232)	$ (106,290)	$ (93,199)		
Net loss per share, basic and diluted	$ (0.58)	$ (0.64)	$ (1.91)	$ (1.90)		
Weighted-average shares used to compute net loss per share, basic and diluted	59,182,899	49,107,639	55,542,543	48,971,329		
Income (loss) before income tax expense					210,666	(33,725)
Income tax expense					(3,326)	—
Net income (loss)					$ 207,340	$ (33,725)
Net income (loss) per share, basic					$ 3.41	$ (0.67)
Net income (loss) per share, diluted					$ 3.26	$ (0.67)
Weighted-average shares used to compute net income (loss) per share, basic					60,855,689	50,573,650
Weighted-average shares used to compute net income (loss) per share, diluted					63,595,328	50,573,650

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

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Net loss	$ (34,105)	$ (31,232)	$ (106,290)	$ (93,199)
Other comprehensive loss:				
(Loss) gain on translation of foreign operations	—	(79)	194	(193)
Unrealized gain (loss) on marketable securities	28	319	(5)	12
Comprehensive loss	$ (34,077)	$ (30,992)	$ (106,101)	$ (93,380)

	Three Months Ended March 31,	
	2024	2023
Net income (loss)	$ 207,340	$ (33,725)
Other comprehensive income (loss):		
Gain on translation of foreign operations	—	194
Unrealized (loss) gain on marketable securities	(124)	43
Comprehensive income (loss)	$ 207,216	$ (33,488)

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

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

Three months ended September 30, 2023	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at June 30, 2023	57,494,185	$ 1	$ 903,205	$ (198)	$ (608,940)	$ 294,068
Exercise of Warrants in exchange for issuance of Pre-funded Warrants	—	—	33,813	—	—	33,813
Issuance of common stock upon exercise of Warrants	44,748	—	559	—	—	559
Issuance of common stock under equity incentive and employee stock purchase plans	108,543	—	1,021	—	—	1,021
Stock-based compensation expense	—	—	6,765	—	—	6,765
Other comprehensive gain	—	—	—	28	—	28
Net loss	—	—	—	—	(34,105)	(34,105)
Balance at September 30, 2023	57,647,476	$ 1	$ 945,363	$ (170)	$ (643,045)	$ 302,149

Three months ended March 31, 2024	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2023	57,708,613	$ 1	$ 952,491	$ (105)	$ (615,710)	$ 336,677
Issuance of common stock under equity incentive and employee stock purchase plans	827,978	—	7,799	—	—	7,799
Shares withheld for net settlement of tax withholding upon vesting of restricted stock units	(20,793)	—	(600)	—	—	(600)
Issuance of common stock upon exercise of Pre-Funded Warrants	84,989	—	—	—	—	—
Stock-based compensation expense	—	—	9,352	—	—	9,352
Other comprehensive income (loss)	—	—	—	(124)	—	(124)
Net income (loss)	—	—	—	—	207,340	207,340
Balance at March 31, 2024	58,600,787	$ 1	$ 969,042	$ (229)	$ (408,370)	$ 560,444

Three months ended September 30, 2022	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at June 30, 2022	48,683,931	$ —	$740,027	$ (720)	$ (471,329)	$ 267,978

Three months ended March 31, 2023	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Income	Accumulated Deficit	Tot Stockh
Balance at December 31, 2022	49,339,252	$ —	$752,722	$ (359)	$ (536,755)	$ 215

Issuance of common stock pursuant to at-the-market offering, net of issuance costs							1,749,199	1	24,301	—	—	24
Issuance of common stock under equity incentive and employee stock purchase plans	114,483	—	680	—	—	680	358,211	—	2,261	—	—	2
Issuance of common stock upon exercise of Exchange Warrants	399,997	—	—	—	—	—						
Shares withheld for net settlement of tax withholding upon vesting of restricted stock units							(6,159)	—	(100)	—	—	
Stock-based compensation expense	—	—	5,950	—	—	5,950	—	—	7,584	—	—	7
Other comprehensive gain	—	—	—	240	—	240						
Net loss	—	—	—	—	(31,232)	(31,232)						
Balance at September 30, 2022	49,198,411	$ —	$746,657	$ (480)	$ (502,561)	$ 243,616						
Other comprehensive income (loss)							—	—	—	237	—	
Net income (loss)							—	—	—	—	(33,725)	(33
Balance at March 31, 2023							51,440,503	$ 1	$786,768	$ (122)	$ (570,480)	$ 216

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

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PROTAGONIST THERAPEUTICS, INC.

Condensed Consolidated Statements of Stockholders' Equity

(Unaudited)

(In thousands, except share data)

Nine months ended September 30, 2023	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2022	49,339,252	$ —	$ 752,722	$ (359)	$ (536,755)	$ 215,608
Issuance of common stock pursuant to public offering, net of issuance costs	5,750,000	—	107,790	—	—	107,790
Issuance of common stock pursuant to at-the-market offering, net of issuance costs	1,749,199	1	24,301	—	—	24,302
Exercise of Warrants in exchange for issuance of Pre-funded Warrants	—	—	33,813	—	—	33,813
Issuance of common stock upon exercise of Warrants	44,748	—	559	—	—	559
Issuance of common stock under equity incentive and employee stock purchase plans	796,240	—	4,255	—	—	4,255
Shares withheld for net settlement of tax withholding upon vesting of restricted stock units	(31,963)	—	(769)	—	—	(769)
Stock-based compensation expense	—	—	22,692	—	—	22,692
Other comprehensive gain	—	—	—	189	—	189
Net loss	—	—	—	—	(106,290)	(106,290)
Balance at September 30, 2023	57,647,476	$ 1	$ 945,363	$ (170)	$ (643,045)	$ 302,149

Nine months ended September 30, 2022	Common Stock Shares	Common Stock Amount	Additional Paid-In Capital	Accumulated Other Comprehensive (Loss) Gain	Accumulated Deficit	Total Stockholders' Equity
Balance at December 31, 2021	47,838,330	$ —	$ 709,682	$ (299)	$ (409,362)	$ 300,021
Issuance of common stock pursuant to at-the-market offering, net of issuance costs	422,367	—	14,553	—	—	14,553
Issuance of common stock under equity incentive and employee stock purchase plans	545,443	—	3,895	—	—	3,895
Issuance of common stock upon exercise of Exchange Warrants	399,997	—	—	—	—	—
Shares withheld for net settlement of tax withholding upon vesting of restricted stock units	(7,726)	—	(188)	—	—	(188)
Stock-based compensation expense	—	—	18,690	—	—	18,690
Issuance costs related to prior period common stock offering	—	—	25	—	—	25
Other comprehensive loss	—	—	—	(181)	—	(181)
Net loss	—	—	—	—	(93,199)	(93,199)
Balance at September 30, 2022	49,198,411	$ —	$ 746,657	$ (480)	$ (502,561)	$ 243,616

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

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

	Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2024	2023
Cash Flows from Operating Activities				
Net loss	$ (106,290)	$ (93,199)		
Adjustments to reconcile net loss to net cash used in operating activities:				
Net income (loss)			$ 207,340	$ (33,725)
Adjustments to reconcile net income (loss) to net cash used in operating activities:				
Stock-based compensation	22,692	18,690	9,352	7,584
Operating lease right-of-use asset amortization	1,751	1,751	584	584
(Accretion) amortization of discount/premium on marketable securities	(3,221)	365		
Accretion of discount on marketable securities			(1,615)	(1,255)
Depreciation	729	778	236	248
Other	194	—	—	194
Changes in operating assets and liabilities:				
Research and development tax incentive receivable	—	2,719		
Receivable from collaboration partner	10	1,441	(290,043)	(41)
Prepaid expenses and other assets	1,582	413	(915)	787
Accounts payable	(2,271)	3,121	2,825	381
Payable to collaboration partner	(66)	(867)	—	(47)
Accrued expenses and other payables	(259)	(8,127)	(2,870)	(8,383)
Deferred revenue	—	(1,601)	45,047	—
Income taxes payable			3,326	—
Operating lease liability	(2,047)	(1,986)	(696)	(674)
Net cash used in operating activities	(87,196)	(76,502)	(27,429)	(34,347)
Cash Flows from Investing Activities				
Purchase of marketable securities	(93,077)	(134,279)	(65,671)	(28,060)
Proceeds from maturities of marketable securities	115,696	222,537	71,984	37,896
Purchases of property and equipment	(590)	(725)	(242)	(10)
Net cash provided by investing activities	22,029	87,533	6,071	9,826
Cash Flows from Financing Activities				
Proceeds from public offering of common stock, net of issuance costs	107,790	—		
Proceeds from at-the-market offering, net of issuance costs	24,302	14,553	—	24,302
Proceeds from exercise of Warrants in exchange for issuance of Pre-funded Warrants	33,813	—		

Proceeds from issuance of common stock upon exercise of Warrants	559	—		
Proceeds from issuance of common stock upon exercise of stock options and purchases under employee stock purchase plan	4,255	3,895	7,799	2,261
Tax withholding payments related to net settlement of restricted stock units	(769)	(188)	(600)	(100)
Issuance costs related to prior period common stock offering	—	25		
Net cash provided by financing activities	169,950	18,285	7,199	26,463
Effect of exchange rate changes on cash, cash equivalents and restricted cash	—	(165)		
Net increase in cash, cash equivalents and restricted cash	104,783	29,151		
Net (decrease) increase in cash, cash equivalents and restricted cash			(14,159)	1,942
Cash, cash equivalents and restricted cash, beginning of period	125,969	123,890	186,952	125,969
Cash, cash equivalents and restricted cash, end of period	$ 230,752	$ 153,041	$ 172,793	$127,911
Supplemental Disclosure of Non-Cash Financing and Investing Information:				
Purchases of property and equipment in accounts payable and accrued liabilities	$ 3	$ 61	$ 45	$ 15

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

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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 biopharmaceutical company with peptide-based new chemical entities rusfertide and JNJ-2113 (formerly PN-235) in advanced Phase 3 stages of clinical development, both derived from the Company’s proprietary technology platform. The Company’s clinical programs fall into two broad categories of diseases; diseases: (i) hematology and blood disorders, and (ii) inflammatory and immunomodulatory diseases. The Company has one wholly-owned wholly owned subsidiary, Protagonist Pty Limited (“Protagonist Australia”), located in Brisbane, Queensland, Australia.

Operating segments are components of an enterprise for which separate financial information is available and is evaluated regularly by the Chief Executive Officer, the Company’s chief operating decision maker, in deciding how to allocate resources and assessing performance. The Company operates and manages its business as one operating segment. The Company’s Chief Executive Officer reviews financial information on an aggregate basis for the purposes of allocating and evaluating financial performance.

Liquidity

As of September 30, 2023 March 31, 2024, the Company had cash, cash equivalents and marketable securities of $322.7 million $322.6 million. The Company has incurred cumulative net losses from operations since inception and had an accumulated deficit through March 31, 2024 of $643.0 million as of September 30, 2023 $408.4 million. The Company’s ultimate success depends upon the outcome of its research and development and collaboration activities. The Company expects to may incur additional losses in the future and anticipates the may 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 proceeds from offerings of common stock and payments received under license and collaboration agreements.

Risks and Uncertainties

The Company is currently operating in a period of economic macroeconomic uncertainty and capital markets disruption, which has been impacted by the direct and indirect effects of the COVID-19 pandemic ("COVID-19"), domestic and global monetary and fiscal policy, geopolitical instability, including ongoing military conflicts between Russia and Ukraine and in Israel and surrounding areas, rising tensions between China and Taiwan, a recessionary environment, historically and high domestic and global inflation, the potential impact of a U.S. government shutdown, and instability in banks and other financial institutions. interest rates. The Company has experienced delays in its existing and planned clinical trials due to worldwide impacts related to COVID-19, and its Company's future results of operations and liquidity could be adversely impacted by outbreaks of disease, epidemics and pandemics, including further potential delays in existing and planned clinical trials, difficulty in recruiting patients for these clinical trials, delays in manufacturing and collaboration activities and supply chain disruptions. The conflict in Ukraine has exacerbated market disruptions, including significant volatility in commodity prices as well as supply chain interruptions, and has contributed to record inflation globally. interruptions. The U.S. Federal Reserve and other central banks may be unable to contain inflation through more restrictive monetary policy and inflation may increase or continue for a prolonged period of time. Inflationary factors, such as increases in the cost of clinical supplies, interest rates, overhead costs and transportation costs may adversely affect the Company's operating results. In addition, the failure of Silicon Valley Bank and other regional banks in the United States during the first half of 2023 has given rise to uncertainty in the security of amounts in deposit accounts uninsured by the Federal Deposit Insurance Corporation. The Company continues to monitor these events and the potential impact on its business. Although the Company does not believe that inflation has had a material adverse impact on its financial position or results of operations to date, it its financial position or results of operations may be adversely affected in the future due to numerous factors, including domestic and global monetary and fiscal policy, macroeconomic factors, supply chain constraints, the ongoing conflicts between Russia and Ukraine and in Israel and surrounding areas and other factors, and such factors may lead to increases in the cost of manufacturing for and delays in the initiation of studies in the Company's product candidates.

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Note 2.Summary of Significant Accounting Policies

Basis of Presentation and Consolidation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"), the instructions to Form 10-Q and Rule

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10-01 of Regulation S-X and applicable rules and regulations of the Securities and Exchange Commission ("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 September 30, 2023 March 31, 2024 has been derived from the Company's unaudited 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 condensed consolidated financial statements. The results of operations for the three and nine months ended September 30, 2023 March 31, 2024 are not necessarily indicative of the results to be expected for the year ending December 31, 2023 December 31, 2024 or for any future period.

Effective January 1, 2023, the financial statements of Protagonist Australia use the U.S. dollar as the functional currency due to the expected nature of the ongoing operations of this subsidiary. The cumulative translation adjustment as of January 1, 2023 related to this subsidiary was not material. Prior to January 1, 2023, the financial statements of Protagonist Australia used the Australian dollar as the functional currency since the majority of expense transactions occurred in such currency. Foreign currency translation gains and losses are reported as a component of stockholders' equity in accumulated other comprehensive loss on the condensed consolidated balance sheets.

The accompanying unaudited 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, 2022 December 31, 2023 included in the Company's Annual Report on Form 10-K, filed with the SEC on March 15, 2023 February 27, 2024.

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 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 assumptions used to determine percentage standalone selling price utilized to allocate the transaction price between distinct performance obligations, assumptions used to recognize revenue over time for certain performance obligations for which a cost-based input method is used as the measure of completion in addition to the application progress and estimates of potential revenue constraints whether contingent consideration should be included in the determination of the transaction price under its license and collaboration agreements. at each reporting period. 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. Actual results could may differ materially from these estimates.

There has been uncertainty and disruption in the global economy and financial markets due to a number of factors, including the direct and indirect effects of COVID-19, geopolitical instability, inflationary pressures, and high interest rates, a recessionary environment, domestic and global monetary and fiscal policy. policy and other factors. The Company has taken into consideration any known 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

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issuance filing date of this report. 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.

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.

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

	September 30,		March 31,	
	2023	2022	2024	2023
Cash and cash equivalents	$ 230,527	$ 152,816	$172,568	$127,686
Restricted cash – noncurrent	225	225		
Restricted cash - noncurrent			225	225
Total cash reported on condensed consolidated statements of cash flows	$ 230,752	$ 153,041	$172,793	$127,911

Investment Impairment

As of each reporting date, the Company assesses each of its investments in available-for-sale debt securities whose fair value is below its cost basis to determine if the investment's impairment is due to credit-related factors or noncredit-related factors. Factors considered in determining whether an impairment is credit-related include the extent to which the investment's fair value is less than its cost basis, declines in published credit ratings, issuer default on interest or principal payments, and declines in the financial condition and near-term prospects of the issuer. Credit-related impairments on available-for-sale debt securities are recognized as an allowance for credit losses with a corresponding adjustment to other income (expense), net. The portion of the impairment that is not credit-related is recorded as a reduction of other comprehensive income (loss), net of applicable taxes.

Pursuant to Accounting Standard Update ("ASU") 2016-13, *Financial Instruments - Credit Losses (Topic 326)* ("ASU 2016-13"), the Company has elected to exclude accrued interest from both the fair value and the amortized cost basis of the available-for-sale debt securities for the purposes of identifying and measuring an impairment. The Company writes off accrued interest as a reduction of interest income when an issuer has defaulted on interest payments due on a security.

Stock-Based Compensation Expense

The Company measures its stock-based awards made to its equity plan participants has granted stock options, restricted stock units ("RSUs") and performance share units ("PSUs").

Stock-based compensation expense associated with stock options is based on the estimated grant date fair values value using the Black-Scholes valuation model, which requires the use of subjective assumptions related to expected stock price volatility, option term, risk-free interest rate and dividend yield. The Company recognizes compensation expense over the vesting period of the awards as of that are ultimately expected to vest.

Stock-based compensation expense associated with RSUs is based on the grant date. For stock option awards, the Company uses the Black-Scholes option-pricing model to estimate fair values. For restricted stock unit awards, the estimated fair value is generally the fair market value of the underlying Company's common stock on the grant date, which equals the closing market price of the

Company's common stock on the grant date. Stock-based For RSUs, the Company recognizes compensation expense is recognized over the requisite service vesting period and is based on the value of the portion of stock-based payment awards that is are ultimately expected to vest. The Company recognizes forfeitures PSUs allow the recipients of stock-based such awards as they occur.

The Company has granted performance share units ("PSUs") to certain executives earn fully vested shares of the Company. Company's common stock upon the achievement of pre-established performance objectives. 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 market price of the Company's common stock on the grant date. date and is recognized when the performance objective is expected to be achieved. The Company evaluates on a quarterly basis the probability of achieving the performance criteria. The cumulative effect on current and prior periods of a change in the estimated number of PSUs expected to be earned is recognized as compensation expense or as reduction of previously recognized compensation expense in the period of the revised estimate.

The Company recognizes forfeitures of stock-based awards as they occur.

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

	Three Months Ended March 31,	
	2024	2023
Research and development	$ 5,288	$ 4,582
General and administrative	4,064	3,002
Total stock-based compensation expense	$ 9,352	$ 7,584

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

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2023	2022	2023	2022
Research and development	$ 3,780	$ 3,858	$ 13,171	$ 11,290
General and administrative	2,985	2,092	9,521	7,400
Total stock-based compensation expense	$ 6,765	$ 5,950	$ 22,692	$ 18,690

Significant Accounting Policies

Other than Collaborative Arrangements

The Company analyzes its collaborative arrangements to assess whether such arrangements involve joint operating activities performed by parties that are both active participants in the change activities and exposed to significant risks and rewards, and therefore are within the scope of Accounting Standards Codification Topic 808 - *Collaborative Arrangements* ("Topic 808"). For collaborative arrangements that contain multiple elements, the Company determines which units of account are deemed to be within the scope of Topic 808 and which units of account are more reflective of a vendor-customer relationship, and therefore are within the scope of Accounting Standards Codification Topic 606 – *Revenue from Contracts with Customers* ("Topic 606"). For units of account that are

accounted for pursuant to Topic 808, an appropriate recognition method is determined and applied consistently, either by analogy to appropriate accounting literature or by applying a reasonable accounting policy election. For collaborative arrangements that are within the scope of Topic 808, the Company evaluates the income statement classification for presentation of amounts due to or owed from other participants associated with multiple units of account in Protagonist Australia functional currency from a collaborative arrangement based on the Australian dollar nature of each activity. Payments or reimbursements that are the result of a collaborative relationship instead of a customer relationship, such as co-development and co-commercialization activities, are recorded as increases or decreases to the U.S. dollar effective January 1, 2023 research and the investment impairment policy, development expense or general and administrative expense, as discussed above, there appropriate.

There have been no other material changes to the Company's significant accounting policies during the three and nine months ended September 30, 2023 March 31, 2024, as compared to those disclosed in Note 2. Summary of Significant Accounting Policies included in our the Company's Annual Report on Form 10-K for the year ended December 31, 2022 December 31, 2023.

Recently Adopted Accounting Pronouncements

In June 2016, the Financial Accounting Standard Board ("FASB") issued ASU 2016-13. The guidance requires measurement and recognition of expected credit losses for financial assets at the time financial assets are initially recognized in the financial statements. The measurement of expected credit losses is based on historical credit loss information as well as current and future economic factors. ASU 2016-13 also eliminates the concept of "other-than-temporary" impairment when evaluating available-for-sale debt securities and instead focuses on determining whether any impairment is a result of credit loss or other factors. In November 2019, August 2020, the FASB issued Accounting Standards Update No. 2020-06, *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40): Accounting for Convertible Instruments and Contracts in an Entity's Own Equity* ("ASU 2019-10, *Financial Instruments – Credit Losses (Topic 326): Effective Dates* 2020-06"), which delayed simplifies accounting for convertible instruments by removing major separation models required under current GAAP. ASU 2020-06 also removes certain settlement conditions that are required for equity-linked contracts to qualify for the mandatory derivative scope exception, and it simplifies the diluted earnings per share calculation in certain areas. ASU2020-06 is effective date of ASU 2016-13 for smaller reporting companies. the Company beginning on January 1, 2024. The Company adopted ASU 2016-13 2020-06 effective January 1, 2023 January 1, 2024. The adoption of this guidance did not have a material impact on the Company's condensed consolidated financial statements or related disclosures.

Recently Issued Accounting Pronouncements Not Yet Adopted as of March 31, 2024

In November 2023, the FASB issued Accounting Standards Update No. 2023-07 *Segment Reporting (Topic 280) – Improvements to Reportable Segment Disclosures* ("ASU 2023-07"), which requires public entities to disclose incremental segment information on an annual and interim basis. ASU 2023-07 requires public entities with a single reportable segment to provide all the disclosures required by the amendments in ASU 2023-07 and all existing segment disclosures in *Segment Reporting (Topic 280)*. ASU 2023-07 is effective for the Company for fiscal years beginning on January 1, 2024, and interim periods within fiscal years beginning on January 1, 2025. The Company is currently evaluating the impact of the adoption of this guidance on its financial position, results of operations and cash flow.

In December 2023, the FASB issued Accounting Standards Update No. 2023-09 *Income Taxes (Topic 740) – Improvements to Income Tax Disclosures* ("ASU 2023-09"), which requires public business entities to disclose specific categories in the income tax rate reconciliation annually and provide additional information for reconciling items that meet a qualitative threshold. ASU 2023-09 also requires that entities disclose annually additional information about income taxes paid and disaggregated information for certain items. ASU 2023-09 is effective for the Company beginning on January 1, 2025. The Company is currently evaluating the impact of the adoption of this guidance on its financial position, results of operations and cash flows.

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Note 3. License and Collaboration Agreement Agreements

Takeda Collaboration Agreement

In January 2024, the Company entered into a worldwide license and collaboration agreement for the development and commercialization of rusfertide with Takeda Pharmaceuticals USA, Inc. ("Takeda") ("the Takeda Collaboration Agreement"), which became effective in March 2024.

The Company and Takeda will jointly develop and commercialize rusfertide and potentially other specified second-generation injectable hepcidin mimetic compounds (the "Licensed Products") in the United States (the "Profit-Share Territory"). Takeda is solely and exclusively responsible for the development and commercialization of the Licensed Products in all other countries (the "Takeda Territory"). The Company and Takeda will share costs of the development, manufacture and commercialization activities for the Licensed Products in the Profit-Share Territory, provided that (i) the Company will lead, and will be responsible for its costs associated with, completion of the ongoing Phase 3 VERIFY program evaluating rusfertide for the treatment of polycythemia vera ("PV') as well as associated U.S. regulatory activities; (ii) Takeda will lead, and will be solely responsible for its costs associated with, pre-commercialization activities related to rusfertide in the Profit-Share Territory, and (iii) Takeda will lead commercialization of rusfertide in the Profit-Share Territory, with Protagonist holding an option to co-detail. Takeda is solely responsible for all costs for the development, manufacture and commercialization of the Licensed Products in the Takeda Territory. The Company granted Takeda a non-transferable, sublicensable, and except for certain specified exceptions, exclusive license to certain intellectual property of the Company to exercise its rights and perform its obligations under the Takeda Collaboration Agreement.

Within 30 days after the effectiveness of the Takeda Collaboration Agreement, Termsthe Company will receive an upfront payment of $300.0 million. In addition, the Company is eligible to receive additional worldwide development, regulatory and commercial milestone payments for rusfertide of up to $330.0 million, and tiered royalties from 10% to 17% on net sales of the Licensed Products in the Takeda Territory. The Company and Takeda will also share equally in profits and losses (50% to the Company and 50% to Takeda) for Licensed Products in the Profit-Share Territory. Takeda will book sales of the Licensed Products globally.

The Company has the right to opt-out entirely of profit- and loss-sharing in the Profit-Share Territory for rusfertide and all other Licensed Products (the "Full Opt-out Right") (i) during the 90-day period beginning 120 days after filing of a New Drug Application ("NDA") with the U.S. Food and Drug Administration ("FDA") for rusfertide for polycythemia vera ("PV') (the "Initial Opt-out Period"); and (ii) for convenience without receipt of the Opt-out Payment (as defined below) (generally following the Initial Opt-out Period). In addition, if the Company does not exercise the Full Opt-out Right, the Company may opt-out of any Licensed Product other than rusfertide on a Licensed Product-by-Licensed Product basis (each, a "Partial Opt-out Right" and either the Full Opt-out Right or a Partial Opt-out right being an "Opt-out Right"). Following the Company's exercise of an Opt-out Right, the Company has agreed to transition applicable development and commercial activities to Takeda, and Takeda has agreed to assume sole operational and financial responsibility for such activities in the United States.

The Takeda Collaboration Agreement provides for aggregate development, regulatory and commercial milestone payments from Takeda to the Company for rusfertide of up to $975 million if the Company exercises the Full Opt-out Right. In addition to these milestone payments, in the event the Company exercises the Full Opt-out Right during the Initial Opt-out Period, the Company will receive: (i) a $200 million payment following its exercise of the Full Opt-out Right; and (ii) an additional $200 million payment following FDA approval of the NDA for rusfertide for PV (together, the "Opt-out Payment"). If the Company exercises an Opt-out Right, Takeda has agreed to pay the Company royalties of 14% to 29% on worldwide net sales of Licensed Products with respect to which the Company has exercised an Opt-out Right.

Upcoming potential development and regulatory milestones under the Takeda Collaboration Agreement include:

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- $25.0 million upon successful achievement of the primary endpoint in the Phase 3 VERIFY clinical trial for rusfertide in PV; and

- $50.0 million upon FDA approval of an NDA for rusfertide in PV (or $75.0 million if the Company exercises the Full Opt-out Right).

The Company has evaluated the Takeda Collaboration Agreement and concluded that it has elements that are within the scope of Topic 606 and Topic 808. As of the effective date of the Takeda Collaboration Agreement, the Company identified two distinct performance obligations: (i) the rusfertide license delivered upon the effectiveness of the Takeda Collaboration Agreement and (ii) certain development services to be provided prior to the Initial Opt-out Period, including the Company's responsibilities to complete the VERIFY Phase 3 clinical trial in PV and to file an NDA with the FDA upon successful completion of the VERIFY trial and associated manufacturing services.

The Company has determined that the initial transaction price totaled $300.0 million, comprised of the upfront payment. The Company has excluded any future estimated milestones or royalties from this transaction price to date, all of which are either currently constrained or subject to the sales-and usage-based royalty exception. As part of the Company's evaluation of this variable consideration constraint, it determined that the potential payments are contingent upon developmental and regulatory milestones that are uncertain and are highly susceptible to factors outside of its control. The Company allocated $254.1 million of the initial transaction price to the license and $45.9 million to the development services based upon the relative standalone selling price of each performance obligation. The amount allocated to the license, which represents functional intellectual property that was transferred at a point in time, was satisfied upon transfer of the license to Takeda. The amount allocated to development services will be recognized over time based on a measure of the Company's efforts toward satisfying the performance obligation relative to the total expected efforts or inputs to satisfy the performance obligation (e.g., costs incurred compared to total budget). The Company recognized $0.9 million with respect to the period from effective date of the contract through March 31, 2024.

The Company determined that the Takeda Collaboration Agreement met the definition of a collaborative arrangement under Topic 808. Both parties are active participants in directing and carrying out the development of the Licensed Products and both are exposed to the significant risk and rewards related to the commercial success of the Products. If the Company does not exercise an Opt-out Right ("Company Opt-in"), the Company and Takeda would co-detail the Licensed Products in the U.S. and share in the economic results through a profit-sharing structure. The Company has determined that development costs subsequent to the Company Opt-in date are within the scope of Topic 808, which does not provide recognition and measurement guidance. As such, the Company determined that Accounting Standards Codification Topic 730 – *Research and Development* was appropriate to analogize to based on the cost-sharing provisions of the agreement. The Company has concluded that payments to or reimbursements from Takeda related to these services will be accounted for as an increase to or reduction of research and development expense, respectively.

JNJ License and Collaboration Agreement

On July 27, 2021, the Company entered into an Amended and Restated License and Collaboration Agreement (the "Restated Agreement" with J&J Innovative Medicines ("JNJ") with, formerly Janssen Biotech, Inc., a Pennsylvania corporation ("Janssen"), which amended and restated the License and Collaboration Agreement, effective July 13, 2017, by and between the Company and Janssen (the "Original Agreement"), JNJ, as amended by the first amendment, effective May 7, 2019 (the "First Amendment" (together, the "JNJ License and Collaboration Agreement"). Prior to January 1, 2023 From inception in 2017 through December 31, 2022, Janssen was a related party to the Company as Johnson & Johnson Innovation - JJDC, Inc. was earned a significant (greater than 5%) stockholder total of the Company, and both companies are subsidiaries of Johnson & Johnson. Upon the effectiveness of the Original Agreement, the Company received a $112.5 million in non-refundable upfront cash payment of $50.0 million from Janssen. Upon the effectiveness of the First Amendment, the Company received a $25.0 million payment from Janssen in 2019. The Company received a $5.0 million payment triggered by the successful nomination of a second-generation oral Interleukin ("IL")-23 receptor antagonist development compound ("second-generation compound") during the first quarter of 2020 and received a $7.5 million payment triggered by the completion of data collection activities for the first Phase 1 clinical trial of a second-generation compound during JNJ. During the fourth quarter of 2021. The 2023, the Company received earned a $25.0 million $50.0 million milestone payment in connection with the dosing of a third patient in the ICONIC-TOTAL Phase 3 clinical trial of JNJ-2113 in patients with moderate-to-severe psoriasis and a $10.0 million milestone payment upon the dosing of the third patient in the first ANTHEM Phase 2 clinical 2b trial for moderately-to-severely active ulcerative colitis ("UC"). The Company has earned a second-generation compound during total of $172.5 million in non-refundable payments from JNJ from inception in 2017 through the second quarter date of 2022. this Quarterly Report.

The Restated JNJ License and Collaboration Agreement relates to the development, manufacture and commercialization of oral IL-23 receptor antagonist drug candidates. The candidates nominated and enables JNJ to develop collaboration compounds for initial development pursuant to the Restated Agreement included PTG-200 (JNJ-67864238), PN-232 (JNJ-75105186) and JNJ-2113 (JNJ-77242113) (formerly PN-235). PTG-200 is an oral IL-23 receptor antagonist that was in Phase 2a development for the treatment of Crohn's disease ("CD"). During the fourth quarter of 2021, following a pre-specified interim analysis criteria, a portfolio multiple

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decision was made by Janssen to stop further development of both PTG-200 and PN-232 in favor of advancing JNJ-2113, based on its superior potency and overall pharmacokinetic and pharmacodynamic profile. Janssen is primarily responsible for the conduct of all future trials, including anticipated Phase 2 and Phase 3 trials, and the Company is primarily responsible for the conduct of the second-generation Phase 1 trials.

The Restated Agreement enables Janssen to develop collaboration compounds for multiple indications. Under the Restated JNJ License and Collaboration Agreement, Janssen JNJ is required to use commercially reasonable efforts to develop at least one collaboration compound for at least two indications.

Upcoming potential development and regulatory milestones for second-generation compounds include:

- $50.0 million upon the dosing of the third patient in a Phase 3 clinical trial for a second-generation compound for any indication;
- $115.0 million upon a Phase 3 clinical trial for a second-generation compound for any indication meeting its primary clinical endpoint;
- $35.0 million upon the filing of a New Drug Application ("NDA") an NDA for a second-generation compound with the U.S. Food and Drug Administration (the "FDA"); FDA;
- $50.0 million upon FDA approval of an NDA for a second-generation compound;
- $10.0 million upon the dosing of the third patient in the first Phase 2 clinical trial for any second-generation compound for a second indication (i.e., an indication different than the indication which triggered the $25.0 million milestone received during the second quarter of 2022 described above); and
- $15.0 million upon the dosing of the third patient in a Phase 3 clinical trial for a second-generation compound for a second indication.

The Company completed its performance obligation under the JNJ License and Collaboration Agreement as of June 30, 2022. Pursuant to the Restated Agreement, agreement, the Company remains is eligible to receive future sales milestone payments and tiered royalties on net product sales at percentages ranging from six percent 6% to ten percent. The sales milestone payments in the Original Agreement also remain the same in the Restated Agreement. 10%.

Pursuant to both the Original and Restated Agreements, 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 share of the PTG-200 Phase 2a development costs as expenses are incurred by Janssen. Milestone payments are received after the related milestones are achieved.

Janssen retains exclusive, worldwide rights to develop and commercialize IL-23 receptor antagonist compounds derived from the research collaboration conducted under the Original Agreement, or Janssen's further research under the Restated Agreement. Any further research and development will be conducted by Janssen. The Company will have the right to co-detail (for CD and ulcerative colitis indications) up to two of the IL-23 receptor antagonist compounds under the collaboration in the U.S. market.

The Restated Agreement remains in effect until the royalty obligations cease following patent and regulatory expiry, unless terminated earlier. Upon a termination of the Restated 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.

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Revenue Recognition

The Restated Agreement contains a single performance obligation for the development license; Phase 1 development services for PTG-200, PN-232 and JNJ-2113 (formerly PN-235); the Company's services associated with Phase 2a development for PTG-200 in CD; the initial year of second-generation compound research services; and all other such services that the Company may perform at the request of Janssen to support the development of PTG-200 through Phase 2a and PN-232 and JNJ-2113 through Phase 1. Under the Restated Agreement, development services performed by the Company for PTG-200 beyond Phase 2a and PN-232 and JNJ-2113 beyond Phase 1 are no longer required.

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 Restated Agreement for the identified single initial performance obligation began on the Original Agreement's effective date of July 13, 2017 and ended upon the completion of Phase 1 clinical trials for PN-232 and JNJ-2113. Final activities related to these trials were completed as of June 30, 2022.

No license and collaboration revenue was recognized for the three and nine months ended September 30, 2023 because the Company completed its performance obligation under the collaboration as of June 30, 2022. For the three and nine months ended September 30, 2022 March 31, 2024, the Company recognized license and collaboration revenue of zero $255.0 million related to the Takeda Collaboration Agreement transaction price, including $254.1 million allocated to the rusfertide license delivered to Takeda upon effectiveness of the agreement in March 2024 and $26.6 million $0.9 million for development services provided by the Company during the period based on the cost-based input method. For the three months ended March 31, 2023, respectively. License no license and collaboration revenue for was recognized.

The remaining unrecognized transaction price amount of $45.0 million was recorded as deferred revenue on the nine months ended September 30, 2022 was primarily related Company's condensed consolidated balance sheet as of March 31, 2024 and will be recognized over time based on a measure of the Company's efforts toward satisfying the performance obligation relative to the transaction price recognized under total expected efforts or inputs to satisfy the Restated Agreement based on proportional performance.

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

Nine Months Ended September 30, 2023	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Contract assets:				
Receivable from collaboration partner	$ 10	$ 41	(51)	$ —
Contract liabilities:				
Payable to collaboration partner	$ 69	$ 11	(77)	$ 3

Nine Months Ended September 30, 2022	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period

Contract assets:				
Receivable from collaboration partner	$ 1,566	$ 25,165	$ (26,606)	$ 125
Contract liabilities:				
Deferred revenue	$ 1,601	$ 25,757	$ (27,358)	$ —
Payable to collaboration partner	$ 899	$ 52	$ (919)	$ 32

During the three and nine months ended September 30, 2022, March 31, 2024 and 2023, the Company recognized did not recognize revenue of zero and $0.9 million from any 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 contracts 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

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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.

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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 tables present the fair value of the Company's financial assets determined using the inputs defined above (in thousands):

	September 30, 2023				March 31, 2024			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								

Money market funds	$ 70,470	$ —	$ —	$ 70,470	$24,432	$ —	$ —	$ 24,432
Certificates of deposit	—	4,799	—	4,799	—	10,661	—	10,661
Commercial paper	—	132,226	—	132,226	—	170,510	—	170,510
Corporate debt securities	—	1,980	—	1,980	—	12,657	—	12,657
U.S. Treasury and agency securities	—	108,786	—	108,786	—	101,035	—	101,035
Total financial assets	$ 70,470	$ 247,791	$ —	$ 318,261	$24,432	$294,863	$ —	$319,295

	December 31, 2022				December 31, 2023			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
Assets:								
Money market funds	$ 54,292	$ —	$ —	$ 54,292	$19,212	$ —	$ —	$ 19,212
Certificates of deposit					—	13,004	—	13,004
Commercial paper	—	110,227	—	110,227	—	130,296	—	130,296
Corporate debt securities	—	10,741	—	10,741	—	7,672	—	7,672
U.S. Treasury and agency securities		57,242	—	57,242	—	145,085	—	145,085
Total financial assets	$ 54,292	$ 178,210	$ —	$ 232,502	$19,212	$296,057	$ —	$315,269

The Company's certificates of deposit, commercial paper, corporate debt securities, and U.S. Treasury and agency securities, including U.S. Treasury bills, 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.

The carrying amount of the Company's remaining financial assets and liabilities, including cash, receivables and payables, approximates their fair value due to their short-term nature.

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Note 5. Cash Equivalents and Marketable Securities

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

	September 30, 2023				March 31, 2024			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 70,470	$ —	$ —	$ 70,470	$ 24,432	$ —	$ —	$ 24,432
Certificates of deposit	4,798	1	—	4,799	10,661	2	(2)	10,661
Commercial paper	132,275	—	(49)	132,226	170,606	1	(97)	170,510
Corporate debt securities	1,982	—	(2)	1,980	12,677	—	(20)	12,657
U.S. Treasury and agency securities	108,794	9	(17)	108,786	101,037	4	(6)	101,035
Total cash equivalents and marketable securities	$ 318,319	$ 10	$ (68)	$ 318,261	$319,413	$ 7	$ (125)	$319,295
Classified as:								
Cash equivalents				$ 226,052				$169,228

Marketable securities	90,224	150,067
Marketable securities - noncurrent	1,985	
Total cash equivalents and marketable securities	$ 318,261	$319,295

	December 31, 2022				December 31, 2023			
	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Money market funds	$ 54,292	$ —	$ —	$ 54,292	$ 19,212	$ —	$ —	$ 19,212
Certificates of deposit					12,998	6	—	13,004
Commercial paper	110,257	—	(30)	110,227	130,351	5	(60)	130,296
Corporate debt securities	10,756	—	(15)	10,741	7,678	—	(6)	7,672
U.S. Treasury and agency securities	57,251	27	(36)	57,242	145,024	63	(2)	145,085
Total cash equivalents and marketable securities	$ 232,556	$ 27	$ (81)	$ 232,502	$315,263	$ 74	$ (68)	$315,269
Classified as:								
Cash equivalents				$ 120,891				$160,379
Marketable securities				111,611				154,890
Total cash equivalents and marketable securities				$ 232,502				$315,269

Marketable securities of $90.2 million $150.1 million and $111.6 million $154.9 million held at September 30, 2023 as of March 31, 2024 and December 31, 2022 December 31, 2023, respectively, had contractual maturities of less than one year. Marketable securities – noncurrent of $2.0 million held at September 30, 2023 had contractual maturities of at least one year but less than two years. The Company did not hold any marketable securities – noncurrent at December 31, 2022. The Company does not intend to sell its securities that are in an unrealized loss position, and it is not more likely than not 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 material realized gains or realized losses on marketable securities for the periods presented. The Company evaluated securities with unrealized losses to determine whether such losses, if any, are were due to credit-related factors and determined that there were no credit-related losses to be recognized as of September 30, 2023 March 31, 2024.

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Note 6.Balance Sheet Components

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consisted of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Prepaid clinical and research related expenses			$ 1,645	$ 649
Prepaid insurance	$ 1,871	$ 1,417	1,335	1,410
Prepaid clinical and research related expenses	578	2,746		

Prepaid licenses	410	489	530	529
Other prepaid expenses	1,206	1,018	1,005	1,040
Other receivable	65	42	360	332
Prepaid expenses and other current assets	$ 4,130	$ 5,712	$ 4,875	$ 3,960

Property and Equipment, Net

Property and equipment, net consisted of the following (in thousands):

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Laboratory equipment	$ 5,281	$ 4,817	$ 5,423	$ 5,323
Furniture and computer equipment	1,123	1,089	1,195	1,143
Leasehold improvements	963	913	963	963
Total property and equipment	7,367	6,819	7,581	7,429
Accumulated depreciation	(5,946)	(5,254)	(6,470)	(6,234)
Property and equipment, net	$ 1,421	$ 1,565	$ 1,111	$ 1,195

Accrued Expenses and Other Payables

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

	September 30, 2023	December 31, 2022	March 31, 2024	December 31, 2023
Accrued clinical and research related expenses	$ 19,666	$ 19,109	$ 8,459	$ 11,841
Accrued employee related expenses	4,528	4,967	2,458	6,786
Accrued professional service fees	471	464	5,530	632
Other	144	415	40	99
Total accrued expenses and other payables	$ 24,809	$ 24,955	$16,487	$ 19,358

Note 7. Stockholders' Equity

Public Offering

In April 2023, the Company completed an underwritten public offering of 5,000,000 shares of its common stock at a public offering price of $20.00 per share and issued an additional 750,000 shares of common stock at a price of $20.00 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 approximately $107.8 million.

ATM Offering

In August 2022, the Company entered into an Open Market Sale Agreement℠ (the "Sales Agreement"), pursuant to which the Company may offer and sell up to $100.0 million shares of common stock from time to time in "at-the-market" offerings (the "2022

"2022 ATM Facility"). There were no sales of the Company's common stock under the 2022 ATM Facility during the year three months ended December 31, 2022 March 31, 2024. During the three months ended March 31, 2023, the

Company sold 1,749,199 shares of its common stock under the 2022 ATM Facility for net proceeds of $24.3 million, after deducting issuance costs. There were no sales of the Company's common stock under the 2022 ATM Facility during the three months ended June 30, 2023 and September 30, 2023.

In November 2019, the Company entered into an Open Market Sale Agreement(the "Prior Sales Agreement"), pursuant to which the Company could offer and sell up to $75.0 million of shares of common stock from time to time in "at-the-market" offerings (the "2019 ATM Facility"). During the year ended December 31, 2022, the Company sold 422,367 shares of its common stock under the 2019 ATM Facility for net proceeds of $14.6 million, after deducting issuance costs. The Prior Sales Agreement was terminated in connection with and replaced by the Sales Agreement in August 2022.

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 was exercisable from August 8, 2018 through August 8, 2023. Warrants to purchase 1,375,000 shares of the Company's common stock had an exercise price of $10.00 per share and Warrants to purchase 1,375,000 shares of the Company's common stock had 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") were 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 were exercisable on a "cashless" basis. In connection with the issuance and sale of the common stock and Warrants met the Company granted the Investors certain registration rights with respect to the Warrants and the Warrant Shares. The common stock and Warrants were classified as criteria for equity in accordance with Accounting Standards Codification Topic 480*, Distinguishing Liabilities from Equity* ("ASC 480"), classification and the net proceeds from the transaction were recorded as a credit to additional paid-in capital.

In August 2023, prior to the expiration of the Warrants, the Company entered into certain agreements with the Investors and their affiliates under which the Company agreed to allow the Warrants to be exercised in exchange for pre-funded warrants representing the same number of Warrant Shares underlying the Warrants with an exercise price of $0.001 per share (the "Pre-Funded Warrants"). Subsequent to the execution of the agreements and prior to the expiration of the Warrants, all outstanding Warrants were exercised for gross proceeds of $34.4 million in exchange for 44,748 shares of the Company's common stock and Pre-Funded Warrants to purchase 2,705,252 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 Pre-Funded Warrants) with an exercise price of $0.001 per share. The Pre-Funded Warrants will expire upon the day they are exercised in full. The Pre-Funded Warrants are exercisable at any time prior to expiration except that the Pre-Funded Warrants cannot be exercised by the Investors if, after giving effect thereto, the Investors would beneficially own more than 9.99% of the Company's common stock, subject to certain exceptions. The common stock and Pre-Funded Warrants were classified as met the criteria for equity in accordance with ASC 480 classification and the net proceeds from the transaction were recorded as a credit to additional paid-in capital. In accordance with Accounting Standards Codification Topic

260, *Earnings Per Share*, outstanding Pre-Funded 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. During the three months ended March 31, 2024, Pre-Funded Warrants to purchase 84,992 shares were net exercised, resulting in the issuance of 84,989 shares of common stock. As of September 30, 2023 March 31, 2024, none of the Pre-Funded Warrants have been exercised. to purchase 2,620,260 shares were outstanding.

Note 8. Income Taxes

The Company has recorded an income tax provision of $3.3 million for the three months ended March 31, 2024. No income tax provision was recorded for the three months ended March 31, 2023. The primary difference in tax expense as compared to the prior year is a result of taxable income resulting from the recognition of revenue in connection with the Takeda Collaboration Agreement. The tax provision for the three months ended March 31, 2024 was determined using an estimated annual effective tax rate, adjusted for discrete items, if any.

Based on the available objective evidence during the three months ended March 31, 2024, the Company believes it is more likely than not that its net deferred tax assets may not be realized. The primary difference between the effective tax rate and the statutory tax rate relates to the Company's change in valuation allowance.

Note 9. Net Income (Loss) per Share

The computation of basic net income (loss) per common share is based on the weighted-average number of common shares outstanding during each period. The computation of diluted net income (loss) per common share is based on the weighted-average number of common shares outstanding during the period plus, when their effect is

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Note 8. Net Loss per Share

As dilutive, incremental shares consisting of shares subject to stock options, RSUs, PSUs, the Company had net losses Company's employee stock purchase plan ("ESPP"), and warrants. In accordance with Accounting Standards Codification Topic 260, *Earnings Per Share*, 2,620,260 outstanding Pre-Funded Warrants were included in the computation of weighted-average common shares, basic for the three and nine months ended September 30, 2023 March 31, 2024 because the exercise price is negligible, and 2022, they are fully vested and exercisable after the original issuance date.

In periods when the Company has net income, the dilutive effect of all potential weighted average dilutive potentially outstanding shares is computed using the treasury stock method. In periods in which the Company reports a net loss, all common shares were determined to be anti-dilutive. The following table sets forth the computation of stock equivalents are deemed anti-dilutive such that basic net loss per common share and diluted net loss per common share are equal.

The following table reconciles the numerator and denominator used to calculate diluted net income (loss) per common share (in thousands, except share and per share data):

	Three Months Ended September 30,		Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2023	2022	2024	2023
Numerator:						
Net loss	$ (34,105)	$ (31,232)	$ (106,290)	$ (93,199)		
Net income (loss)					$ 207,340	$ (33,725)
Denominator:						

Weighted-average shares used to compute net loss per common share, basic and diluted	59,182,899	49,107,639	55,542,543	48,971,329		
Net loss per share, basic and diluted	$ (0.58)	$ (0.64)	$ (1.91)	$ (1.90)		
Weighted-average common share, basic					60,855,689	50,573,650
Dilutive effect of common stock equivalents					2,739,639	—
Weighted-average common share, dilutive					63,595,328	50,573,650
Net income (loss) per common share						
Basic net income (loss) per common share					$ 3.41	$ (0.67)
Diluted net income (loss) per common share					$ 3.26	$ (0.67)

The following outstanding shares ofApproximately 4.2 million potentially dilutive securities have been common shares consisting of shares subject to outstanding stock options, RSUs, and ESPP were excluded from the diluted net income per common share computation for the three months ended March 31, 2024 because their effect was anti-dilutive. Approximately 12.0 million potentially dilutive common shares consisting of shares subject to outstanding stock options, RSUs, PSUs, ESPP and warrants were excluded from the diluted net loss per common share computations computation for the periods presented because their inclusion would be anti-dilutive:

	September 30,	
	2023	2022
Options to purchase common stock	8,030,007	6,441,415
Common stock warrants	—	2,750,000
Restricted stock units	708,872	694,414
Performance stock units	75,500	199,500
ESPP shares	42,472	79,960
Total	8,856,851	10,165,289

Note 9. 10. Subsequent Event

On May 6, 2024, the Company amended its facility lease agreement dated as of March 6, 2017 (the “Amended Lease”) to lease 60,575 rentable square feet of office and laboratory space located in Newark, California. The term of the Amended Lease commences on July 1, 2024 (or such later date when tenant improvements in newly leased office space within the facility are substantially complete). Under the Amended Lease, which expires in November 2029, the Company will pay an initial monthly base rent of $3.53 per square foot, which will increase by 3.5% annually. The Amended Lease provides for an agreed-upon period of rent abatement. The Company announced will be responsible for its proportional share of operating expenses and tax obligations. No additional security deposit was required pursuant to the achievement of a $50.0 million milestone event under its license and collaboration agreement with Janssen on November 1, 2023. The milestone was earned when the third patient was dosed in the ICONIC-TOTAL Phase 3 clinical trial of JNJ-2113 in patients with moderate-to-severe psoriasis.

Amended Lease.

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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 on Form 10-Q (the "Quarterly Report") and with our Audited Consolidated Financial Statements and related notes thereto for the year ended December 31, 2022 December 31, 2023, included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission (the "SEC") on March 15, 2023 February 27, 2024.

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"). All statements other than statements of historical fact are forward-looking statements. 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," "seeks" 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 timing of including enrollment, in our clinical trials, data and regulatory submissions, our cash runway, the potential for eventual regulatory approval and commercialization of our product candidates, our potential receipt of milestone payments and royalties under our collaboration agreements, future operating results, our ability to generate sales, income or cash flow, the impact of any future outbreaks of disease, epidemics and pandemics, such as the COVID-19 pandemic ("COVID-19"), ongoing military conflicts, including between Ukraine and Russia and in Israel and surrounding areas; rising tensions between China and Taiwan, inflationary pressures, the impact of a potential U.S. government shutdown, pressure and the availability of credit and our exposure to banking or other financial institution instability are forward-looking statements. Forward-looking statements involve risks, uncertainties and assumptions that are beyond our ability to control or predict, including those risks, uncertainties and assumptions discussed in Part II, Item 1A, of this Quarterly Report. These statements are based on information available to us as of the date of this Quarterly Report and, while we believe such information provides a reasonable basis for these statements, the 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, whether as a result of new information, future developments, changes in assumptions or otherwise. "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.

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Overview

We are a biopharmaceutical company with peptide-based new chemical entities rusfertide and JNJ-2113 (formerly PN-235) in advanced Phase 3 stages of development, both derived from our proprietary discovery technology platform. Our clinical programs fall into two broad categories of diseases; diseases: (i) hematology and blood disorders, and (ii) inflammatory and immunomodulatory ("I&I") diseases.

Our Product Pipeline

Graphic

Rusfertide

Our most advanced clinical asset, rusfertide (generic name for PTG-300), is anRusfertide, our injectable hepcidin mimetic partnered with Takeda Pharmaceuticals USA, Inc. ("Takeda"), is in development for the potential treatment of polycythemia vera ("PV"). We have initiated VERIFY (ClinicalTrials.gov identifier NCT05210790), a global double-blind, placebo-controlled Phase 3 clinical trial of rusfertide in PV for approximately 250 patients. The trial evaluates the efficacy, symptom burden and other blood disorders safety of once-weekly, subcutaneously self-administered rusfertide in patients with uncontrolled hematocrit who are phlebotomy dependent despite standard of care treatment. The trial enrolled patients across North and is wholly owned. Hepcidin is a key hormone in regulating iron equilibrium South America, Europe, Asia and is critical Australia. Enrollment for the VERIFY trial has been completed and we expect to announce top-line data for the proper development of red blood cells. Rusfertide mimics trial's 32-week primary efficacy endpoint by the effect end of the natural hormone hepcidin, but with greater potency, solubility and stability. Data from first quarter of 2025, potentially leading to a New Drug Application ("NDA") filing in the fourth quarter of 2025. By the end of 2024, we expect to receive the results of our rusfertide Phase 2 clinical trials presented at medical conferences in 2021 and 2022 provided evidence regarding ongoing two-year study evaluating the carcinogenicity 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 when administered once weekly to specifically decrease and maintain hematocrit levels within the range of recommended clinical guidelines without causing the iron deficiency that can occur with frequent phlebotomy. rats.

Our rusfertide Phase 2 clinical trials include the following:

- REVIVE, a Phase 2 proof of concept ("POC") trial, was initiated in the fourth quarter of 2019. We completed enrollment of patients in the first quarter of 2022 and 70 patients were enrolled through the end of the randomized withdrawal portion of the trial, which was completed during the first quarter of 2023 and will continue is continuing in an ongoing open label extension. open-label extension ("OLE");

- THRIVE, a Phase 2 long-term extension trial for REVIVE patients on years three through five of treatment; and

- PACIFIC, another Phase 2 trial for rusfertide for patients diagnosed with PV and with routinely elevated hematocrit levels (>48%), was initiated during the first quarter of 2021, and the 52-week trial was completed during the second quarter of 2023.

On March 15, 2023, In March 2023, we announced positive topline results from the blinded, placebo-controlled, randomized withdrawal portion of the REVIVE trial. Subjects receiving rusfertide achieved statistically significant improvements versus placebo in the trial's primary endpoint. The double-blind, placebo-controlled, 12-week randomized withdrawal portion was included as Part 2 of the REVIVE trial study to evaluate rusfertide in PV patients with frequent phlebotomy requirements. In the REVIVE trial, subjects were initially enrolled in the 28-week open label dose-titration and efficacy evaluation Part 1 of the study, trial, followed by 1:1 randomization of 53 subjects to placebo versus rusfertide therapy for a subsequent duration of 12 weeks. More subjects receiving rusfertide during the blinded randomized withdrawal portion of the REVIVE trial were responders compared with placebo (69.2% versus 18.5%, p=0.0003). A study trial subject was defined as a responder if the subject completed 12 weeks of double-blind treatment while maintaining hematocrit control without phlebotomy eligibility and without phlebotomy. During the 12 weeks of the blinded randomized withdrawal, only 2 92.3% of 26 subjects on rusfertide (24 out of 26) were not phlebotomized.

Data from the REVIVE trial presented at the European Hematology Association Congress in June 2023 suggested that rusfertide treatment results in highly statistically significant reduction in the need for therapeutic phlebotomy in phlebotomy-dependent patients, leading to rapid, sustained and durable control of hematocrit levels below 45%. Rusfertide was well tolerated, with localized injection site reactions comprising the majority of adverse events.

VERIFY, Long-term follow up data from the REVIVE trial presented at the American Society of Hematology Annual Meeting in December 2023 showed durable hematocrit control, decreased phlebotomy use, long-term tolerability, and no new safety signals in patients with PV. An analysis of the PACIFIC Phase 2 trial was also presented that indicated rusfertide improves markers of iron deficiency in patients with PV. In addition, data was presented regarding the prevalence of thromboembolic events and secondary cancers in PV patients not treated with rusfertide. In February 2024, the full Phase 2 REVIVE trial results, including efficacy and safety data, were published in the New England Journal of Medicine.

In January 2024, we entered into a global double-blind, placebo-controlled Phase 3 clinical trial worldwide license and collaboration agreement with Takeda for the development and commercialization of rusfertide (the "Takeda Collaboration Agreement". Under the terms of the agreement, we earned a nonrefundable upfront payment of $300.0 million upon effectiveness of the agreement in PV March 2024, which we received in April 2024. We are eligible to receive additional worldwide development, regulatory and commercial milestone payments for approximately 250 patients, was initiated rusfertide of up to $330 million, inclusive of the following potential upcoming milestones:

- $25.0 million upon successful achievement of the primary endpoint in the Phase 3 VERIFY trial for rusfertide in PV; and
- $50.0 million upon U.S. Food and Drug Administration (the "FDA") approval of NDA for rusfertide in PV (or $75.0 million if we exercise our full right to opt-out of the 50:50 U.S. profit and loss sharing arrangement).

We are also eligible to receive tiered royalties from 10% to 17% on ex-U.S. net sales of rusfertide and other specified second-generation injectable hepcidin memetic compounds (the "Licensed Products"). We and Takeda will also share equally in profits and losses (50% to us and 50% to Takeda of the Licensed Products in the first quarter United States. See Note 3 to the condensed consolidated financial statements included elsewhere in this Quarterly Report for further details related to the agreement, including our right to opt-out of 2022. We expect enrollment completion in the first quarter of 2024.

50:50 U.S. profit and loss sharing arrangement.

JNJ-2113 (formerly PN-235)

Our partnered Interleukin-23 receptor ("IL-23R") antagonist compound JNJ-2113, partnered with J&J Innovative Medicines ("JNJ"), formerly Janssen Biotech, Inc., is an orally delivered investigational drug that is designed to block

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biological pathways currently targeted by marketed injectable antibody drugs. Our orally stable peptide approach may offer a targeted therapeutic approach for gastrointestinal ("GI") and systemic compartments as needed. We believe that, compared to antibody drugs, JNJ-2113 has the potential to provide clinical improvement in an oral medication with increased convenience and compliance and the opportunity for the earlier introduction of targeted oral therapy.

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 (JNJ-67864238) and certain related compounds for all indications, including inflammatory bowel disease ("IBD"). PTG-200 was a first-generation investigational, orally delivered, IL-23R antagonist for JNJ has initiated 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; and in July 2021 to, among other things, enable Janssen to independently research and develop collaboration compounds for multiple indications in the IL-23 pathway and further align our financial interests.

During the fourth quarter of 2021, following a pre-specified interim analysis criteria, a portfolio decision was made by Janssen to advance second-generation product candidate JNJ-2113 (JNJ-77242113) based on its superior potency and overall pharmacokinetic and pharmacodynamic profile. A JNJ-2113 Phase 1 trial was completed in the fourth quarter of 2021.

In February 2022, Janssen initiated FRONTIER1, a 255-patient Phase 2b clinical trial of JNJ-2113 in moderate-to-severe plaque psoriasis, which was completed in December 2022. FRONTIER1 was a randomized, multicenter, double-blind, placebo-controlled study that evaluated three once-daily dosages and two twice-daily dosages of JNJ-2113 taken orally. The primary endpoint of the trial was the proportion of patients achieving PASI-75 (a 75% improvement in skin lesions as measured by the Psoriasis Area and Severity Index ("PASI")) at 16 weeks. In July 2023, we announced updated positive topline results from the trial, which were presented at the World Congress of Dermatology in Singapore. JNJ-2113 achieved the study's primary and secondary efficacy endpoints. A statistically significant greater proportion of patients who received JNJ-2113 achieved PASI-75 as well as PASI-90 and PASI-100 (90% and 100% improvement, respectively, in skin lesions as measured by the PASI) responses compared to placebo at Week 16 in all five of the trial's treatment groups. A clear dose response was observed across an eight-fold dose range.

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Treatment was well tolerated, with no meaningful difference in frequency of adverse events across treatment groups versus placebo.

In October 2023, Janssen initiated three JNJ-2113 studies, including: trials:

- ICONIC-LEAD (NCT06095115) – A 600-patient randomized, controlled Phase 3 trial to evaluate the safety and efficacy of JNJ-2113 compared with placebo in participants with moderate-to-severe plaque psoriasis, with PASI-90 (90% improvement in skin lesions as measured by the Psoriasis Area and Severity Index ("PASI")) and Investigator's Global Assessment ("IGA") score of 0 (clear) or 1 (almost clear) as co-primary endpoints;

- ICONIC-TOTAL (NCT06095102) – A 300-patient randomized, controlled Phase 3 trial to evaluate the efficacy and safety of JNJ-2113 compared with placebo for the treatment of plaque psoriasis in participants with at least moderate severity affecting special areas (scalp, genital, and/or palms of the hands and soles of the feet) with overall IGA score of 0 or 1 as the primary endpoint;

- ICONIC ADVANCE 1 (NCT06143878) – A 750-patient randomized, controlled Phase 3 trial to evaluate the effectiveness of JNJ-2113 in participants with moderate-to-severe plaque psoriasis compared to placebo and Sotyktu ("deucravacitinib"). The trial's primary co-endpoints are PASI-90 and IGA score of 0 or 1;

- ICONIC ADVANCE 2 (NCT06220604)– A 675-patient Phase 3 trial similarly designed to ICONIC ADVANCE 1; and

- ANTHEM-UC (NCT06049017) – A 240-patient Phase 2b randomized, controlled trial to evaluate the safety and effectiveness of JNJ-2113 compared with placebo in participants with moderate-to-severely active ulcerative colitis ("UC").

Additional Phase 3 studies are expected to be initiated in the first quarter of 2024 as part of the broader psoriasis ICONIC clinical program led by Janssen. All of the studies trials in the ICONIC program will use the once daily, 200 mg q.d. immediate release formulation of JNJ-2113 from the previously completed FRONTIER 1 study. trial. JNJ initiated FRONTIER 1, a 255-patient Phase 2b clinical trial of JNJ-2113 in moderate-to-severe plaque psoriasis, which was completed in December 2022. FRONTIER 1 was a randomized, multicenter, double-blind, placebo-controlled trial that evaluated three once-daily dosages and two twice-daily dosages of JNJ-2113 taken orally. The primary endpoint of the trial was the proportion of patients achieving PASI-75 (75% improvement in skin lesions as measured by the PASI) at 16 weeks. In July 2023, we announced updated positive topline results from the trial, which were presented by JNJ at the World Congress of Dermatology in Singapore. JNJ-2113 achieved the trial's primary and secondary efficacy endpoints. A statistically significant greater proportion of patients who received JNJ-2113 achieved PASI-75 as well as PASI-90 and PASI-100 (100% improvement in skin lesions as measured by the PASI) responses compared to placebo at week 16 in all five of the trial's treatment groups. A clear dose response was observed across an eight-fold dose range. Treatment was well tolerated, with no meaningful difference in frequency of adverse events across treatment groups versus placebo. Other Phase 2 studies trials of JNJ-2113 that Janssen has initiated include the SUMMIT study of JNJ-2113 trial for the treatment of moderate-to-severe plaque psoriasis which was completed in the second quarter of 2023, and FRONTIER 2, a long-term extension study. study, both of which were completed by JNJ in 2023.

WeAt JNJ's Enterprise Business Review in December 2023, JNJ highlighted JNJ-2113 as a potential first- and best-in class targeted oral IL-23 peptide antagonist with potential across multiple indications, including plaque psoriasis, psoriatic arthritis and inflammatory bowel disease, with potential peak year sales projection of $5.0 billion plus. JNJ IL-23 monoclonal antibody drugs Stelara and Tremfya generated $14.0 billion in revenues in 2023.

In February 2024, the JNJ-2113 Phase 2b FRONTIER 1 trial results in adults living with moderate-to-severe plaque psoriasis were published in the New England Journal of Medicine. In March 2024, data presented at the American Academy of Dermatology 2024 Annual Meeting showed that, in Phase 2b FRONTIER 2, JNJ-2113 maintained high rates of skin clearance through 52 weeks in adults with moderate-to-severe plaque psoriasis.

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On July 17, 2021, we entered into an Amended and Restated License and Collaboration Agreement with JNJ, which amended and restated the License and Collaboration Agreement, effective July 13, 2017, by and between the Company and JNJ, as amended by the first amendment, effective May 7, 2019 (together, the "JNJ License and Collaboration Agreement"). Under the JNJ License and Collaboration Agreement, we earned a $50.0 million milestone payment upon dosing of the third patient in the ICONIC-LEAD ICONIC-TOTAL Phase 3 trial in late October 2023, which we received in December 2023. Under our agreement with Janssen, We earned a $10.0

million milestone payment upon the dosing of the third patient in the ANTHEM Phase 2b trial in UC in December 2023, which we received in January 2024. To date, we have earned $172.5 million in nonrefundable payments from JNJ. We are eligible for up to approximately $795.0 million in future development and sales milestone payments, inclusive of the following potential upcoming milestones:

- we will qualify for a $10.0 million milestone payment upon the dosing of the third patient in the Phase 2b trial in UC;
- we will qualify for a $115.0 million $115.0 million milestone payment upon JNJ-2113 meeting the primary endpoint co-primary endpoints in a any one of the four ICONIC program Phase 3 trial; trials;
- we will qualify for a $35.0 million $35.0 million milestone payment upon the filing of a New Drug Application ("NDA") an NDA for JNJ-2113 with the U.S. Food and Drug Administration (the "FDA"); FDA;
- we will qualify for a $50.0 million $50.0 million milestone payment upon approval of the NDA by the FDA; and
- we will qualify for a $15.0 million $15.0 million milestone payment upon the advancement of JNJ-2113 into a Phase 3 trial in a second indication.

We remain eligible for up to approximately $805.0 million in future development and sales milestone payments, inclusive of those future development milestones discussed above, in addition to the $112.5 million in nonrefundable payments from Janssen already received to date and the $50.0 million that was achieved in the fourth quarter of 2023. We also remain eligible to receive upward tiering royalties on net product sales at percentages ranging from six percent to ten percent, with ten percent being applicable for net sales over $4.0 billion. See Note 3 to the royalty rate condensed consolidated financial statements included elsewhere in this Quarterly Report for over $4.0 billion in net sales.

PN-943

PN-943 is a wholly owned, investigational, orally delivered, gut-restricted alpha 4 beta 7 specific integrin antagonist for IBD. We completed a Phase 2 trial of PN-943 in patients with moderate to severe UC in early 2023. We

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do not intend to dedicate further internal resources to clinical development or contract manufacturing activities for our PN-943 clinical program.

additional information.

Discovery Platform

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. Our discovery pipeline has strategically focused on i) hematology and blood disorders and ii) inflammatory and immunomodulatory I&I diseases. For example, we have a pre-clinical stage program to identify an orally active hepcidin mimetic, which we believe will to be complementary to the injectable rusfertide for offering the best treatment options for PV, hereditary hemochromatosis and other potential erythropoietic and iron imbalance disorders.

In January 2024, we announced a new oral Interleukin-17 ("IL-17") peptide antagonist program targeting three IL-17 dimers (IL-17 AA, AF and FF) which may offer potential treatment options for hidradenitis suppurativa, spondyloarthritis, plaque psoriasis and psoriatic arthritis. Our preliminary results showed similar or better in vitro potency than the currently approved drugs Cosentyx® and Taltz®. We expect to nominate a development candidate ready for Investigational New Drug enabling studies by the end of 2024.

Business Update

We are currently operating in a period of economic uncertainty and capital markets disruption, which has been impacted by the direct and indirect effects of COVID-19, domestic and global monetary and fiscal policy, geopolitical instability, ongoing military conflicts, including between Russia and Ukraine and in Israel and surrounding areas, rising tensions between China and Taiwan, a recessionary environment, historically and high domestic and global inflation, the impact of a potential U.S. government shutdown and instability in banks and other financial institutions. We have experienced delays in our existing and planned clinical trials due to worldwide direct and indirect impacts related to COVID-19, and our interest rates. Our future results of operations and liquidity could be adversely impacted by future outbreaks of disease, epidemics and pandemics, including potential further delays in existing and planned clinical trials, continued difficulty in recruiting patients for these clinical trials, delays in manufacturing and collaboration activities and supply chain disruptions. The conflict in Ukraine has exacerbated market disruptions, including significant volatility in commodity prices, as well as supply chain interruptions, and has contributed to record inflation globally. interruptions. The U.S. Federal Reserve and other central banks may be unable to contain inflation through more restrictive monetary policy and inflation may increase or continue for a prolonged period of time. Inflationary factors, such as increases in the cost of clinical supplies, interest rates, overhead costs and transportation costs may adversely affect our operating results. Also, the failure

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Table of Silicon Valley Bank and other regional banks in the United States during the first half of 2023 has given rise to uncertainty in the security of amounts in deposit accounts uninsured by the Federal Deposit Insurance Corporation. Contents

We continue to monitor these events and the potential impact on our business. Although we do not believe that inflation has had a material adverse impact on our financial position or results of operations to date, we our financial position or results of operations may be adversely affected in the future due to numerous factors, including domestic and global monetary and fiscal policy, supply chain constraints, consequences associated with ongoing military conflicts, including between Russia and Ukraine and in Israel and surrounding areas, and other factors, and such factors may lead to increases in the cost of manufacturing our product candidates and delays in initiating trials.

Operations

We have incurred cumulative net losses in each year since from inception and we do not anticipate achieving sustained profitability in the foreseeable future. Our net loss was $34.1 million and $106.3 million for the three and nine months ended September 30, 2023, respectively. Our net loss was $31.2 million and $93.2 million for the three and nine months ended September 30, 2022, respectively. As through March 31, 2024 of September 30, 2023, we had an accumulated deficit of $643.0 million $408.4 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 and development expenses and other expenses related to our ongoing operations, product development, and pre-commercialization activities. As a result, we expect to continue to may incur losses in the future as we continue our the development of, and seek regulatory approval for, our product candidates.

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Janssen License and Collaboration Agreement

On July 27, 2021, we entered into an Amended and Restated License and Collaboration Agreement (the "Restated Agreement") with Janssen, which amended and restated the License and Collaboration Agreement, effective July 13, 2017, by and between us and Janssen (the "Original Agreement"), as amended by the first amendment, effective May 7, 2019 (the "First Amendment"). Prior to January 1, 2023, Janssen was a related party to us as Johnson & Johnson Innovation - JJDC, Inc. was a significant (greater than 5%) stockholder of the Company, and both companies are subsidiaries of Johnson & Johnson. Upon the effectiveness of the Original Agreement, we received a non-refundable, upfront cash payment of $50.0 million from Janssen. Upon the effectiveness of the First Amendment, we received a $25.0 million payment from Janssen in 2019. In the first quarter of 2020, we received a $5.0 million payment triggered by the successful nomination of a second-generation IL-23R antagonist development compound. In the fourth quarter of 2021, we received a $7.5 million milestone payment from Janssen triggered by completion of the data collection for JNJ-2113 Phase 1 activities. In the second quarter of 2022, we received a $25.0 million milestone payment in connection with the dosing of a third patient in FRONTIER1 during the first quarter of 2022. See Note 3 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 U.S. 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 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, and 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.

Revenue Recognition

Topic 606 requires us to allocate the arrangement consideration on a relative standalone selling price basis for each performance obligation after determining the transaction price of the contract and identifying the performance obligations to which that amount should be allocated. The relative standalone selling price is defined as the price at which an entity would sell a promised good or service separately to a customer. If other observable transactions in which we have sold the same performance obligation separately are not available, we estimate the standalone selling price of each performance obligation. Key assumptions to determine the standalone selling price may include forecasted revenues, development timelines, reimbursement rates for personnel costs, discount rates and probabilities of technical and regulatory success.

Whenever we determine that goods or services promised in a contract should be accounted for as a combined performance obligation over time, we determine the period over which the performance obligations will be performed and revenue will be recognized. Revenue is recognized using either the proportional performance method or on a straight-line basis if efforts will be expended evenly over time. Costs incurred or labor hours are typically used as the measure of performance. Management judgment is required in determining the level of effort required under an arrangement and the period over which we expect to complete our performance obligations. If we determine that the performance obligation is satisfied over time, any upfront payment received is initially recorded as deferred revenue on our consolidated balance sheets.

Certain judgments affect the application of our revenue recognition policy. For example, we record short-term and long-term deferred revenue based on our best estimate of when such revenue will be recognized. Short-term deferred revenue consists of amounts that are expected to be recognized as revenue in the next 12 months, and long-term deferred revenue consists of amounts that we do not expect will be recognized in the next 12 months. This

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estimate is based on our current operating plan and, if our operating plan should change in the future, we may recognize a different amount of deferred revenue over the next 12-month period.

There have been no other material changes to our critical accounting policies during the three and nine months ended September 30, 2023 March 31, 2024, 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 for the year ended December 31, 2022 December 31, 2023 filed with the SEC on March 15, 2023 February 27, 2024.

Components of Our Results of Operations

License and Collaboration Revenue

Our license and collaboration revenue is derived from payments we receive under the Restated Agreement our license and collaboration agreements with Janssen. Takeda and JNJ. See Note 3 to the condensed consolidated financial statements included elsewhere in this report Quarterly 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.

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Research and development expenses consist primarily of the following:

- expenses incurred under agreements with clinical trial 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 and non-clinical studies and clinical studies; trials;
- 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 administrative other supplies.

We recognize the amounts 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

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of a non-cash tax incentive. We recognize the amounts from grants under government programs as a reduction of research and development expenses when the related research costs are incurred.

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 trials 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 related expenses are incurred for our early-stage research and drug discovery projects as 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.

We expect our fourth quarter 2023 research and development expenses to remain relatively flat increase in the near term as compared to the first nine months of 2023 prior year period as we continue to focus our resources toward on (i) progressing our rusfertide program into later stage clinical trials and preparing for commercialization. We do not intend to dedicate further internal resources to clinical development or contract manufacturing activities for commercialization and ii) advancing our PN-943 clinical program. pre-clinical and drug discovery research programs. The process of conducting research, identifying potential product candidates and conducting pre-clinical studies and clinical trials necessary to obtain regulatory approval, and commencing pre-commercialization activities 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 cost of goods to be sold, 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.

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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-commercialization expenses, including 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 administrative supplies. We expect to continue to incur expenses supporting our continued operations as a public company, including expenses related to compliance with the rules and regulations of the SEC and those of the national securities exchange on which our securities are traded, insurance expenses, investor relations expenses, audit fees, 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.

Other Expense, Net

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

Results of Operations

Comparison of the Three Months Ended September 30, 2023 and 2022

	Three Months Ended September 30,		Dollar Change	% Change
	2023	2022		
	(Dollars in thousands)			
Operating expenses:				
Research and development (1)	$ 30,664	$ 25,402	$ 5,262	21
General and administrative (2)	7,662	6,901	761	11
Total operating expenses	38,326	32,303	6,023	19
Loss from operations	(38,326)	(32,303)	(6,023)	19
Interest income	4,252	1,157	3,095	268
Other expense, net	(31)	(86)	55	(64)
Net loss	$ (34,105)	$ (31,232)	$ (2,873)	9

(1) Includes $3.8 million and $3.9 million of non-cash stock-based compensation expense for the three months ended September 30, 2023 and 2022, respectively.

(2) Includes $3.0 million and $2.1 million of non-cash stock-based compensation expense for the three months ended September 30, 2023 and 2022, respectively.

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Results of Operations

Comparison of the Three Months Ended March 31, 2024 and 2023

	Three Months Ended March 31,		Dollar Change	% Change
	2024	2023		
	(Dollars in thousands)			
License and collaboration revenue	$ 254,953	$ —	$ 254,953	*
Operating expenses:				
Research and development (1)	33,734	27,416	6,318	23
General and administrative (2)	14,910	8,605	6,305	73
Total operating expenses	48,644	36,021	12,623	35
Income (loss) from operations	206,309	(36,021)	242,330	*
Interest income	4,376	2,491	1,885	76
Other expense, net	(19)	(195)	176	(90)

Income (loss) before income tax expense	210,666	(33,725)	244,391	*
Income tax expense	(3,326)	—	(3,326)	*
Net income (loss)	$ 207,340	$ (33,725)	$ 241,065	*

*Percentage not meaningful.

(1) Includes $5.3 million and $4.6 million of non-cash stock-based compensation expense for the three months ended March 31, 2024 and 2023, respectively.

(2) Includes $4.1 million and $3.0 million of non-cash stock-based compensation expense for the three months ended March 31, 2024 and 2023, respectively.

License and Collaboration Revenue

License and collaboration revenue increased from $0 for the three months ended March 31, 2023 to $255.0 million for the three months ended March 31, 2024. Revenue for the three months ended March 31, 2024 included $254.1 million of the $300.0 million transaction price for the Takeda Collaboration Agreement allocated to the delivery of the rusfertide license to Takeda upon effectiveness of the agreement in March 2024, and $0.9 million allocated to development services provided by us during the period based on the cost-based input method. For the three months ended March 31, 2023, we did not recognize any license and collaboration revenue.

Research and Development Expenses

	Three Months Ended September 30,		Dollar	%
	2023	2022	Change	Change
	(Dollars in thousands)			
Clinical and development expense — rusfertide (PTG-300)	$ 24,905	$ 15,828	$ 9,077	57
Clinical and development expense — PN-943	293	4,282	(3,989)	(93)
Clinical and development expense — JNJ-2113 (PN-235)	20	2	18	*
Clinical and development expense — other	—	(69)	69	(100)
Pre-clinical and drug discovery research expense	5,446	5,401	45	1
Grants and tax incentives expense reimbursement, net	—	(42)	42	(100)
Total research and development expenses	$ 30,664	$ 25,402	$ 5,262	21

*Percentage not meaningful.

	Three Months Ended March 31,		Dollar	%
	2024	2023	Change	Change
	(Dollars in thousands)			
Clinical and development expense — rusfertide	$ 24,513	$ 21,631	$ 2,882	13
Clinical and development expense — PN-943	99	959	(860)	(90)
Clinical and development expense — other	51	51	—	—
Pre-clinical and drug discovery research expense	9,071	4,775	4,296	90
Total research and development expenses	$ 33,734	$ 27,416	$ 6,318	23

Research and development expenses increased $5.3 million $6.3 million, or 21% 23%, from $25.4 million $27.4 million for the three months ended September 30, 2022 March 31, 2023 to $30.7 million $33.7 million for the three months ended September 30, 2023 March 31, 2024. The increase was primarily due to (i) an increase of $9.1 million $2.9 million in rusfertide clinical and contract manufacturing expenses primarily for the ongoing Phase 3 VERIFY clinical trial and (ii) an increase of $4.3 million in pre-clinical and drug discovery research program expense, partially offset by (ii) (iii) a decrease of $4.0 million $0.9 million in expenses for the PN-943 program where further development work was de-prioritized to optimize and focus resources toward the rusfertide program in PV. We

completed a Phase 2 trial of PN-943, an orally delivered gut-restricted alpha 4 beta 7 specific integrin antagonist, in patients with moderate to severe UC in early 2023.

We had 84 97 and 99 80 full-time equivalent research and development employees as of September 30, 2023 March 31, 2024 and 2022, 2023, respectively. Research and development personnel-related expenses for the three months ended September 30, 2023 decreased March 31, 2024 increased by $0.7 million $2.6 million as compared to the three months ended September 30, 2022 due primarily to a decrease March 31, 2023, including increases of $1.9 million in personnel-related expenses and $0.7 million in stock-based compensation expense.

General and Administrative Expenses

General and administrative expenses increased $0.8 million $6.3 million, or 11% 73%, from $6.9 million $8.6 million for the three months ended September 30, 2022 March 31, 2023 to $7.7 million $14.9 million for the three months ended September 30, 2023 March 31, 2024. This increase was primarily due primarily to increases a $4.6 million increase in advisory and legal fees related to the Takeda Collaboration Agreement, a $1.1 million increase in stock-based compensation expense and other a $0.9 million increase in personnel-related expenses, partially offset by decreases a $0.7 million decrease in consulting and outside services, marketing expense and other general expenses.

We had 27 and 23 full-time equivalent general and administrative employees as of September 30, 2023 March 31, 2024 and 2022, 2023, respectively.

Interest Income

Interest income increased $3.1 million $1.9 million from $1.2 million $2.5 million for the three months ended September 30, 2022 March 31, 2023 to $4.3 million $4.4 million for the three months ended September 30, 2023 March 31, 2024. This increase was due primarily to higher invested balances as well as higher yields on invested balances during a period of increasing interest rates compared to the prior year period.

Comparison of the Nine Months Ended September 30, 2023 and 2022

	Nine Months Ended September 30,		Dollar Change	% Change
	2023	2022		
	(Dollars in thousands)			
License and collaboration revenue	$ —	$ 26,581	$ (26,581)	(100)
Operating expenses:				
Research and development (1)	91,262	96,331	(5,069)	(5)
General and administrative (2)	25,439	25,107	332	1
Total operating expenses	116,701	121,438	(4,737)	(4)

Loss from operations	(116,701)	(94,857)	(21,844)	23
Interest income	10,656	1,809	8,847	489
Other expense, net	(245)	(151)	(94)	62
Net loss	$ (106,290)	$ (93,199)	$ (13,091)	14

(1) Includes $13.2 million and $11.3 million of non-cash stock-based compensation expense for the nine months ended September 30, 2023 and 2022, respectively.

(2) Includes $9.5 million and $7.4 million of non-cash stock-based compensation expense for the nine months ended September 30, 2023 and 2022, respectively.

License and Collaboration Revenue

License and collaboration revenue decreased $26.6 million, or 100%, from $26.6 million for the nine months ended September 30, 2022 to zero for the nine months ended September 30, 2023. License and collaboration revenue for the nine months ended September 30, 2022 included a $25.0 million milestone payment earned following the dosing of the third patient in the FRONTIER 1 clinical trial for JNJ-2113. We completed our performance obligation pursuant to the collaboration as of June 30, 2022.

Research and Development Expenses

	Nine Months Ended September 30,		Dollar	%
	2023	2022	Change	Change
	(Dollars in thousands)			
Clinical and development expense — rusfertide (PTG-300)	$ 74,387	$ 43,378	$ 31,009	71
Clinical and development expense — PN-943	1,487	33,642	(32,155)	(96)
Clinical and development expense — JNJ-2113 (PN-235)	74	237	(163)	(69)
Clinical and development expense — Other	(13)	756	(769)	(102)
Preclinical and drug discovery research expense	15,327	18,360	(3,033)	(17)
Grants and tax incentives expense reimbursement, net	—	(42)	42	(100)
Total research and development expenses	$ 91,262	$ 96,331	$ (5,069)	(5)

Research and development expenses decreased $5.1 million, or 5%, from $96.3 million for the nine months ended September 30, 2022 to $91.3 million for the nine months ended September 30, 2023. The decrease was primarily due to (i) a decrease of $32.2 million in expenses for the PN-943 program where further development work was de-prioritized to optimize and focus resources toward the rusfertide program in PV, and (ii) a decrease of $3.0 million in expenses related to pre-clinical and drug discovery research expense, partially offset by (iii) an increase of $31.0 million in rusfertide clinical and contract manufacturing expenses primarily for the Phase 3 VERIFY clinical trial.

We had 84 and 99 full-time equivalent research and development employees as of September 30, 2023 and 2022, respectively. Research and development personnel-related expenses for the nine months ended September 30, 2023 increased by $0.4 million as compared to the nine months ended September 30, 2022 due to an increase of $1.9

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million in stock-based compensation expense, partially offset by a decrease of $1.5 million in other personnel-related expenses.

General and Administrative Expenses

General and administrative expenses increased $0.3 million, or 1%, from $25.1 million for the nine months ended September 30, 2022 to $25.4 million for the nine months ended September 30, 2023 due primarily to an increase in stock-based compensation expense during the current year period, partially offset by one-time costs incurred during the first quarter of 2022.

We had 27 and 23 full-time equivalent general and administrative employees as of September 30, 2023 and 2022, respectively.

Interest Income Tax Expense

Interest income increased $8.8 million from $1.8 million Income tax expense was $3.3 million and $0 for the nine three months ended September 30, 2022 to $10.6 million March 31, 2024 and 2023, respectively. Income tax expense for the nine three months ended September 30, 2023. This increase March 31, 2024 is a result of taxable income resulting from the recognition of revenue in connection with the Takeda Collaboration Agreement. The effective tax rate was due primarily to higher invested balances as well as higher yields on invested balances during a period of increasing interest rates compared to 1.54% and 0% for the prior year period. three months ended March 31, 2024 and 2023, respectively.

Liquidity and Capital Resources

Sources of Liquidity

We had $322.6 million and $341.6 million in cash, cash equivalents and marketable securities at March 31, 2024 and December 31, 2023, respectively. Historically, we have funded our operations primarily from net proceeds from the sale of shares of our common stock and the receipt of payments under collaboration agreements.

Proceeds from Sales of Our Common Stock

In April 2023, we completed an underwritten public offering of 5,000,000 shares of our common stock at a public offering price of $20.00 per share and issued an additional 750,000 shares of common stock at a price of $20.00 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 approximately $107.8 million.

In August 2022, we entered into an Open Market Sale Agreement℠ (the "Sales Agreement"), pursuant to which we may offer and sell up to $100.0 million shares of our common stock from time to time in "at-the-market" offerings (the "2022 ATM Facility"). There were no sales of our common stock under the 2022 ATM Facility during the year three months ended December 31, 2022 March 31, 2024. During the three months ended March 31, 2023, we sold 1,749,199 shares of our common stock under the 2022 ATM Facility for net proceeds of $24.3 million, after deducting issuance costs. There were no sales of our common stock under the 2022 ATM Facility during the three months ended June 30, 2023 and September 30, 2023.

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In August 2018, we entered into a Securities Purchase Agreement with certain accredited investors (each, an "Investor" and, collectively, the "Investors"), pursuant to which we sold an aggregate of 2,750,000 shares of our common stock at a price of $8.00 per share, for aggregate net proceeds of $21.7 million, after deducting offering expenses payable by us. In a concurrent private placement, we issued the Investors warrants to purchase an aggregate of 2,750,000 shares of our common stock (each, a "Warrant" and, collectively, the "Warrants"). Each Warrant was exercisable from August 8, 2018 through August 8, 2023. Warrants to purchase

1,375,000 shares of our common stock had an exercise price of $10.00 per share and Warrants to purchase 1,375,000 shares of our common stock had an exercise price of $15.00 per share. The exercise price and number of shares of our common stock issuable upon the exercise of the Warrants (the "Warrant Shares") were 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 were exercisable on a "cashless" basis. In connection with the issuance and sale of the common stock and Warrants, we granted the Investors certain registration rights with respect to the Warrants and the Warrant Shares. The common stock and Warrants were classified as equity in accordance with Accounting

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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.

In August 2023, prior to the expiration of the Warrants, we entered into certain agreements with the Investors and their affiliates under which we agreed to allow the Warrants to be exercised in exchange for pre-funded warrants representing the same number of Warrant Shares underlying the Warrants with an exercise price of $0.001 per share (the "Pre-Funded Warrants"). Subsequent to the execution of the agreements and prior to the expiration of the Warrants, all outstanding Warrants were exercised for gross proceeds of $34.4 million in exchange for 44,748 shares of our common stock and Pre-Funded Warrants to purchase 2,705,252 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 Pre-Funded Warrants) with an exercise price of $0.001 per share. The Pre-Funded Warrants will expire upon the day they are exercised in full. The Pre-Funded Warrants are exercisable at any time prior to expiration except that the Pre-Funded Warrants cannot be exercised by the Investors if, after giving effect thereto, the Investors would beneficially own more than 9.99% of our common stock, subject to certain exceptions. The common stock and Pre-Funded Warrants were classified as equity in accordance with ASC 480 and the net proceeds from the transaction were recorded as a credit to additional paid-in capital. In accordance with Accounting Standards Codification Topic 260, *Earnings Per Share*, outstanding Pre-Funded 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. During the three months ended March 31, 2024, Pre-Funded Warrants to purchase 84,992 shares were net exercised, resulting in the issuance of 84,989 shares of common stock. As of September 30, 2023 March 31, 2024, none of the Pre-Funded Warrants have been exercised. to purchase 2,620,260 were outstanding.

Receipt of Payments Under Collaboration Agreements

We have received $112.5 million in non-refundable payments In March 2024, we earned a $300.0 million upfront payment from Janssen since Takeda upon the inception closing of the Restated Takeda Collaboration Agreement, which was received in 2017 through the date of this report as follows: April 2024.

- upon effectiveness of the Original 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;
- 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;
- In October 2021, we became eligible to receive a $7.5 million milestone payment triggered by completion of the data collection for JNJ-2113 (formerly PN-235) Phase 1 activities, which was received during the fourth quarter of 2021;

- In March 2022, we became eligible to receive a $25.0 million milestone payment in connection with the dosing of the third patient in the Phase 2b clinical trial of JNJ-2113 in moderate-to-severe plaque psoriasis, which was received during the second quarter of 2022; and

- In late October 2023, we became eligible to receive a $50.0 million milestone payment in connection with the dosing of the third patient in the ICONIC-LEAD Phase 3 clinical trial of JNJ-2113 in moderate-to-severe plaque psoriasis. We have also received payments for services provided under the collaboration agreement and we may make in-kind payment reimbursements to Janssen for certain costs they have incurred pursuant to the cost sharing terms of the agreement.

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Pursuant to the Restated Takeda Collaboration Agreement, we may be eligible to receive clinical development, regulatory and sales milestones, if and when achieved. Upcoming potential development milestones for second-generation products under the Takeda Collaboration Agreement include:

- $25.0 million upon successful achievement of the primary endpoint in the Phase 3 VERIFY trial for rusfertide in PV; and

- $50.0 million upon FDA approval of an NDA for rusfertide in PV (or $75.0 million if we exercise our full right to opt-out of the 50:50 U.S. profit and loss sharing arrangement in exchange for enhanced economics).

We have earned a total of $112.5 million in non-refundable payments from JNJ from the inception of the JNJ License and Collaboration Agreement in 2017 through December 31, 2022. In addition, we earned the following milestone payments under the JNJ License and Collaboration Agreement during the year ended December 31, 2023:

- in October 2023, we earned a $50.0 million milestone payment in connection with the dosing of the third patient in the ICONIC-TOTAL Phase 3 clinical trial of JNJ-2113 in moderate-to-severe plaque psoriasis, which was received in December 2023; and

- in December 2023, we earned a $10.0 million payment for services in connection with the dosing of the third patient in the ANTHEM Phase 2b clinical trial of JNJ-2113 in ulcerative colitis, which was received in January 2024.

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We have also received payments for services provided under the collaboration agreement and we may make in-kind payment reimbursements to JNJ for certain costs they have incurred pursuant to the cost sharing terms of the agreement.

Pursuant to the JNJ License and Collaboration Agreement, we may be eligible to receive clinical development, regulatory and sales milestones, if and when achieved. Upcoming potential development and regulatory milestones under the Janssen License and Collaboration Agreement include:

- $115.0 million upon a Phase 3 clinical trial for a second-generation compound for any indication meeting its primary clinical endpoint;

- $35.0 million upon the filing of an NDA for a second-generation compound with the FDA;

- $50.0 million upon FDA approval of an NDA for a second-generation compound;

- $10.0 million upon the dosing of the third patient in the first Phase 2 clinical trial for any second-generation compound for a second indication (i.e. an indication different than the indication which triggered the $25.0 million milestone received during the second quarter of 2022 described above); and

- $15.0 million upon the dosing of the third patient in a Phase 3 clinical trial for a second-generation compound for a second indication.

Capital Requirements

As of September 30, 2023 March 31, 2024, we had $322.7 million $322.6 million of cash, cash equivalents and marketable securities and an accumulated deficit of $643.0 million $408.4 million. Our capital expenditures were $0.6 million $0.2 million and $0.8 million $0.6 million for the nine three months ended September 30, 2023 March 31, 2024 and the year ended December 31, 2022 December 31, 2023, respectively. Our primary uses of cash are to fund our operating expenses, including our research and development expenditures and general and administrative costs and pre- commercialization costs. Cash used in operating activities is impacted by the timing of when we pay these expenses. As of the date of this filing, we believe, based on our current operating plan and assumptions, We expect that our existing cash, cash equivalents and marketable securities will be sufficient to meet fund our anticipated operating and capital expenditure requirements operations for at least the next 12 months. We have twelve months from the date of this Quarterly Report based this estimate on assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect if, for instance, our planned pre-clinical current operating plans and clinical trials are successful or expanded, our product candidates enter new and more advanced stages of clinical development, we experience significant delays or difficulties in commencing, enrolling or completing clinical studies, our newer product clinical trials advance beyond the discovery stage or various other factors. We expect that our cash burn will approximate current levels for the remainder of the year, but will increase in 2024. As we continue to focus our resources toward progressing our rusfertide program into later stage clinical trials and preparing for commercialization, we do not intend to dedicate further internal resources to clinical development or contract manufacturing activities for our PN-943 clinical program. financial forecasts.

We anticipate that we will need to raise substantial may require additional funding to advance rusfertide through clinical development and toward potential regulatory approval our early discovery pipeline and to develop, acquire, or in-license other potential product candidates. Our future funding requirements will depend on many factors, including:

- the progress, timing, scope, results and costs of advancing our clinical trials for our product candidates, including the ability to enroll patients in a timely manner for our clinical trials;

- the costs of and our ability to obtain clinical and commercial supplies for our current product candidates and any other product candidates we may identify and develop;

- our ability to successfully commercialize the our current product candidates and any other product candidates we may identify and develop;

- the success of our existing or future collaboration with third parties;

- the selling and marketing costs associated with our current product candidates and any other product candidates we may identify and develop, including the costs and timing of expanding our sales and marketing capabilities;

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- the achievement of development, regulatory and sales milestones resulting in payments to us from Janssen JNJ under the Restated JNJ License and Collaboration Agreement, Takeda under the Takeda 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 from JNJ under the Restated JNJ License and Collaboration Agreement on worldwide net sales of IL-23 receptor antagonist compounds, or Takeda under the Takeda Collaboration Agreement upon regulatory approval or clearance, if any;

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- 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 discoveries of product candidates;
- the time and costs necessary to respond to technological and market developments;
- the extent to which we may acquire or in-license other product candidates and technologies;
- the 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 of our business.

Such additional funding may come from various sources, including raising additional capital, seeking access to debt, and seeking additional collaborative or other arrangements with partners, but such funding may not be available on terms acceptable to us, if at all. As discussed in Part II, Item1A. Item 1A. “Risk Factors,” we are currently operating in a period of economic uncertainty and capital markets disruption, which has been significantly impacted by domestic and global monetary and fiscal policy, geopolitical instability, inflationary pressures and banking and other financial institution instability, high interest rates, among other factors. A future recession or market correction, including those due to significant geopolitical or macroeconomic events, could materially affect our business and our access to credit and financial markets.

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 could be diluted, and the terms of these securities could include liquidation or other preferences that could adversely affect our stockholders’ rights. If we raise additional capital through debt financing, we could 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. For additional information, see Part II, Item 1A. “Risk Factors” – “Risks Related to our Financial Position and Capital Requirements.”

31***Cash Flows***

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The following table summarizes our cash flows for the periods indicated:

	Nine Months Ended September 30,		Three Months Ended March 31,	
	2023	2022	2024	2023
Condensed Consolidated Statements of Cash Flows Data:	(Dollars in thousands)			
Condensed Consolidated Statements of Cash Flows Data:				

Condensed Consolidated Statements of Cash Flows Data:								
Condensed Consolidated Statements of Cash Flows Data:								
Condensed Consolidated Statements of Cash Flows Data:								
Condensed Consolidated Statements of Cash Flows Data:								
Condensed Consolidated Statements of Cash Flows Data:								(Dollars in thousands)
Cash used in operating activities	$	(87,196)	$	(76,502)	$	(27,429)	$	(34,347)
Cash provided by investing activities	$	22,029	$	87,533	$	6,071	$	9,826
Cash provided by financing activities	$	169,950	$	18,285	$	7,199	$	26,463
Stock-based compensation	$	22,692	$	18,690	$	9,352	$	7,584

Cash Used in Operating Activities

Cash used in operating activities for the nine three months ended September 30, 2023 March 31, 2024 was $87.2 million $27.4 million, consisting primarily of our net loss income of $106.3 million $207.3 million and $9.4 million of stock-based compensation, partially offset by a net change of $3.1 million $243.3 million in net operating assets and liabilities. The change in net operating assets and liabilities was driven by a change of $290.0 million in receivable from collaboration partner partially offset by certain non-cash items, including $22.7 million $45.1 million in deferred revenue, both of stock-based compensation expense. which related to the $300.0 million upfront payment we earned upon the effectiveness of the Takeda Collaboration Agreement in March 2024. The $10.7 $6.9 million increase decrease in cash flow used in operating activities during the nine three months ended September 30, 2023 March 31, 2024, as compared to the nine three months ended September 30, 2022 March 31, 2023, was primarily due to a $13.1 million increase

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$241.1 million change in our net loss income and a $3.6 million $1.8 million increase in discount accretion on marketable securities, stock-based compensation expense, partially offset by a $4.0 million increase $235.3 million net change in stock-based compensation expense. net operating assets and liabilities.

Cash Provided by Investing Activities

Cash provided by investing activities for the nine three months ended September 30, 2023 March 31, 2024 was $22.0 million $6.1 million, consisting of primarily of proceeds from maturities of marketable securities of $115.7 million $72.0 million, partially offset by purchases of marketable securities of $93.1 million $65.7 million. The $65.5 million $3.8 million decrease in cash provided by investing activities for the nine three months ended September 30, 2023 March 31, 2024, as compared to the nine three months ended September 30, 2022 March 31, 2023, was primarily related to a decrease in the net activity of purchases and maturities of marketable securities.

Cash Provided by Financing Activities

Cash provided by financing activities for the nine three months ended September 30, 2023 March 31, 2024 was $170.0 million $7.2 million, consisting primarily of net cash proceeds of $107.8 million from the April 2023 public offering of our common stock, $24.3 million from sales of our common stock under the 2022 ATM Facility, $34.4 million from the exercise of the Warrants in exchange for issuance of Pre-funded Warrants and common stock, and $4.3 million in proceeds $7.8 million from the issuance of common stock upon exercise exercises of stock options and purchases of common stock under our employee stock purchase plan. plan ("ESPP"), partially offset by $0.6 million in tax withholding payments related to net settlement of restricted stock units. The $151.7 million increase $19.3 million decrease in cash provided by financing activities for the nine three months ended September 30, 2023 March 31, 2024, as compared to the nine three months ended September 30, 2022 March 31, 2023, was primarily due to a $107.8 million increase in net cash proceeds from the public offerings, a $9.7 million increase $24.3 million decrease in ATM sales of our common stock, and a $34.4 million partially offset by $5.5 million increase in net cash proceeds from the issuance of common stock upon exercise of options and purchases of common stock under the Warrants. ESPP.

Contractual Obligations and Other Commitments

Takeda Collaboration Agreement

Under the Takeda Collaboration Agreement, we are obligated for expenditures related to completion of our Phase 3 clinical trial for rusfertide in PV and, if successful, an NDA filing with the FDA. The timing and actual amounts may vary from estimates depending on numerous factors, some of which are outside of our control and some of which are contingent upon the success of certain development and regulatory activities. The timing and amount of such payments are not determinable as of the date of the Quarterly Report on Form 10-Q.

During the three and nine months ended September 30, 2023 March 31, 2024, there were no other material changes to our material cash requirements, including commitments for capital expenditures, 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, 2022 December 31, 2023 filed with the SEC on March 15, 2023 February 27, 2024.

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 interest-earning investments and inflation risk affecting labor costs and clinical trial costs.

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Interest Rate Fluctuation Risk

We had $322.7 million $322.6 million and $237.4 million $341.6 million in cash, cash equivalents and marketable securities at September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023, respectively. Our cash and cash equivalents consist of cash, money market funds, commercial paper and government bonds. Marketable securities consist of certificates of deposit, corporate bonds, commercial paper and government bonds. A portion of our investments are interest-bearing instruments carrying a degree of interest rate risk. However, because our investments are of high-quality credit rating and short term in duration, we believe that our exposure to interest rate risk is not significant and that a hypothetical 100 basis point change in interest rates would not have a significant impact on the total value of our portfolio.

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Approximately $1.2 million $0.4 million and $2.5 million $0.9 million of our cash balance was located in Australia at September 30, 2023 March 31, 2024 and December 31, 2022 December 31, 2023, 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 our 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 the results of our operations.

Inflation Fluctuation Risk

The inflationary environment has fluctuated over the period covered by this report. Inflation generally affects us by increasing our costs, such as the cost of labor and research and development contract costs. We do not believe inflation has had a material effect on the results of our operations during the three and nine months ended September 30, 2023 March 31, 2024.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Management, under the supervision and with the participation of our Chief Executive Officer (Principal Executive Officer) and Chief Financial Officer (Principal Financial Officer), has evaluated the effectiveness 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 report. 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 report, our disclosure controls and procedures were effective at the reasonable assurance level.

Limitations on Effectiveness of Controls and Procedures and Internal Control over Financial Reporting

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

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

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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, financial condition or cash flows.

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

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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

Below is a summary of the principal factors that make an investment in our common stock speculative or risky. This summary does not address all of the risks that we face. Additional discussion of the risks summarized in this risk factor summary, and other risks that we face, can be found below under the heading "Item 1A. Risk Factors" and should be carefully considered, together with other information in this Quarterly Report on Form 10-Q and our other filings with the SEC, before making an investment decision regarding our common stock.

- We have no approved products and no historical commercial 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, including being required by an independent data monitoring committee or regulatory authorities to delay or halt or clinical trials, or if such side effects or adverse events are sufficiently severe or prevalent, order us to suspend or cease altogether further development of our product candidates.
- 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 may require substantial additional funding.
- Raising additional capital may cause dilution to our existing stockholders.
- We rely on Janssen JNJ to continue the development of product candidates subject to our license and collaboration with Janssen, JNJ, and to successfully commercialize any resulting products. products, and we rely on Takeda to successfully commercialize any products resulting from our collaboration agreement with Takeda.
- Our existing or future collaborations with third parties may not be successful.

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- 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.
- If we are ultimately unable to obtain regulatory approval for our product candidates in the United States or other jurisdictions, our business will be substantially harmed.
- 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.
- If we commercialize our product candidates abroad, we will be subject to the risks of doing business outside of the United States.

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- We face significant competition from other biotechnology and pharmaceutical companies.
- We may face risks to our business arising from outbreaks of disease, epidemics and pandemics, such as the COVID-19 pandemic, including risks to our ongoing and planned clinical trials and pre-clinical and discovery research.
- Unstable market and economic conditions, including elevated and sustained inflation, may have serious adverse consequences on our business, financial condition and stock price.
- 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.
- 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.
- Our stock price has been and will likely continue to be volatile and may decline, regardless of our operating performance.

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Risks Related to Clinical Development

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

We are a biopharmaceutical company with a somewhat 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 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 or current or future licensees or collaborative partners, market and macroeconomic conditions 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

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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 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 (the "FDA") 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") an NDA from the FDA, or in any foreign countries until approval by corresponding regulatory authorities. We will need to successfully conduct and complete large, 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, such as our ongoing VERIFY Phase 3 trial evaluating rusfertide for the treatment of 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 prior to commercialization. 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, our stock price dropped significantly in September 2021 following the announcement of a full clinical hold imposed by the FDA on our rusfertide clinical studies. Our stock price also dropped significantly in April 2022 following the announcement of our voluntary withdrawal of Breakthrough Therapy Designation for rusfertide and the announcement of topline data from our Phase 2 clinical trial evaluating PN-943 in UC.

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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 will be required 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 not yet completed a Phase 3 clinical trial or submitted an NDA. As a result, we have no corporate history or track record of successfully completing 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.

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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. For example, we initially experienced slower than expected patient enrollment in VERIFY, a global Phase 3 clinical trial of rusfertide in PV. Clinical trials can be delayed for a variety of reasons, including if a clinical trial is modified, suspended or terminated by us. For example, in keeping with our organizational prioritization of rusfertide in PV, plans to initiate trials of rusfertide in other indications have been paused. Clinical trials can also be delayed 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.

For example, our rusfertide clinical studies were subject to a three-week clinical hold by the FDA beginning in September 2021. The clinical hold was triggered by a non-clinical finding in a 26-week rasH2 transgenic mouse model indicating benign and malignant subcutaneous skin tumors. Also, in April 2022, the FDA indicated that it intended to rescind Breakthrough Therapy Designation for rusfertide in PV, and we voluntarily withdrew our request. For additional information, see the risk factor entitled “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” below.

In addition, there are a significant number of global clinical trials in hematologic disorders that are currently ongoing, especially in Phases 2 and 3, making it highly competitive and challenging to recruit subjects. Additionally, other Other companies targeting the same patient populations as our clinical trials for such medicines may make it more difficult for us to complete enrollment in our clinical trials. Furthermore, any negative results we may report in clinical trials of our product candidate may make it difficult or impossible to recruit and retain patients in other ongoing or subsequent 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. In addition, we are subject to risks and uncertainties as a result of the ongoing military conflict in Ukraine and Russia. For example, in 2022 we closed down clinical trial sites in Russia and Ukraine at which a limited number of subjects were enrolled in our PN-943 Phase 2 IDEAL trial.

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

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of these product candidates will be delayed. Any of these occurrences may harm our business, financial condition and prospects significantly.

If we are unable to discover and develop new product candidates, our business will be adversely affected.

As part of our strategy, we seek to discover and develop new product candidates. 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.

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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, for our product candidates that 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.

For example, on September 16, 2021, in September 2021, our clinical studies for rusfertide were placed on a brief full clinical hold by the FDA. On October 8, 2021, the FDA lifted the full clinical hold and dosing in all clinical studies of rusfertide could be resumed after we provided the FDA with all requested information as the basis for a Complete Response and subsequent removal of the clinical hold. In particular, we provided the requested individual patient clinical safety reports, updated the investigator brochure and patient informed consent forms, performed a comprehensive review of the most recent safety database, and included new safety and stopping rules in the study protocols. The clinical hold was initially triggered by following a non-clinical finding in a 26-week rasH2 transgenic mouse model indicating benign and malignant subcutaneous skin tumors. The rasH2 signal also prompted a re-examination of the four

cases of cancer observed across all rusfertide Any similar findings in human clinical trials involving over 160 patients, and a comprehensive review may adversely impact regulatory approval, product labeling or commercialization of the safety database, including cases of suspected unexpected serious adverse reactions. rusfertide.

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 historically focused on research programs and product candidates mainly on the development of rusfertide and the product candidates subject to our Janssen collaboration and, through early 2022, PN-943. Going forward, we JNJ collaboration. We have no plans to devote further resources to PN-943 as part of our an ongoing commitment to optimize and focus resources toward our rusfertide program in PV. In addition, in

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keeping with our organizational prioritization of rusfertide in PV, plans to initiate trials of rusfertide in additional disease indications have been paused. As a result, we may forego or delay the 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 annual operating losses every each year since inception and expect to may continue to incur operating losses for the foreseeable future. As of September 30, 2023 March 31, 2024, we had an accumulated deficit of $643.0 million $408.4 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 a number of years, if ever, and we have not yet successfully completed registrational or pivotal clinical trials for our product candidates. 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 collaborations with Janssen, JNJ, Takeda, 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.

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We expect to may 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 may 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 that the Restated JNJ License and Collaboration Agreement with Janssen or the Takeda Collaboration Agreement is terminated, we may not receive any additional fees or milestone payments under that agreement. these agreements. Absent the funding support obtained under the Restated Agreement, these agreements, 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 September 30, 2023 March 31, 2024, we had cash, cash equivalents and marketable securities of $322.7 million $322.6 million. Based upon our current operating plan and expected expenditures we believe that our existing cash, cash equivalents, and marketable securities will be sufficient to fund our operations for at least the next 12 months. However, we expect that we will may need to have access to substantial additional funds in the future in order to complete clinical development or commercialize our product candidates to a point where our operations generate net cash inflows.

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 have in the past and may in the future seek additional funding through a combination of equity offerings, including the use of the 2022 ATM facility, Facility, 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

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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 additional 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 will experience additional dilution and, as a result, our stock price may decline.

Risks Related to our Reliance on Third Parties

If Janssen JNJ does not elect to continue the development of JNJ-2113, (formerly PN-235), or if Takeda does not elect to develop and commercialize rusfertide, our business and business prospects would be adversely affected.

JNJ-2113, the product candidate in development pursuant to our Janssen JNJ collaboration, and rusfertide, the product candidate in development pursuant to the Takeda Collaboration Agreement, may prove to have undesirable or unintended side effects or other characteristics adversely affecting its safety, efficacy or cost effectiveness that could prevent or limit its 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 Restated JNJ License and Collaboration Agreement, with Janssen, Janssen JNJ 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 JNJ will generally have control over the further clinical development of JNJ-2113 and any other licensed compounds. Janssen's JNJ's decisions with respect to such development will affect the timing and availability of potential future payments under the agreement, if any. For example, during the fourth quarter of 2021, following a pre-specified interim analysis criteria, a portfolio decision was made by Janssen JNJ to stop further development of both PTG-200 and PN-232 in favor of JNJ-2113.

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Under the terms of the Takeda Collaboration Agreement, Takeda may terminate the agreement for convenience in its entirety or as to a major region by providing advance written notice following the earliest of (i) the receipt of Phase 3 data with respect to the VERIFY clinical trial, (ii) the third anniversary of the effective date of the agreement or (iii) the occurrence of certain specified adverse events related to the clinical development of rusfertide.

If the Restated JNJ License and Collaboration Agreement with Janssen or the Takeda Collaboration Agreement is terminated early, or if Janssen's JNJ's or Takeda'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 and adversely affected.

We may have disagreements with Janssen JNJ during the term of the Janssen JNJ License and Collaboration Agreement or Takeda under the Takeda 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 JNJ regarding the development of JNJ-2113 or other matters under the Restated JNJ License and Collaboration Agreement with Janssen, and Takeda regarding the development of rusfertide or other matters under the Takeda Collaboration Agreement, such as the interpretation of the such agreement or ownership of proprietary rights. Also, because the period of collaborative development under the agreement has ended, Janssen JNJ has sole decision-making authority for product candidates resulting from the collaboration, which could lead to disputes with Janssen. JNJ. Disagreements with Janssen JNJ or Takeda 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 Our current and future development and commercialization collaborations, any collaboration arrangements we enter into in the future may not be successful.

Other than our Restated collaboration with JNJ License and Collaboration Agreement and our collaboration with Janssen, Takeda under the Takeda Collaboration Agreement, we have no active collaborations for any of our product candidates. Even if we establish other Our collaborations with JNJ and Takeda and any future 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 We do not maintain significant rights or control of future development and commercialization of any product candidate subject activities under our collaboration with JNJ, or in ex-U.S. territories under our collaboration with Takeda. This could lead to the collaboration and potential disputes could develop in the future over the terms of the collaboration collaborations and the respective rights of the parties. parties, and these risks and uncertainties could be present with respect to our potential future collaborations as well.

If our strategic collaborations do not result in the successful development and commercialization of product candidates or if one of our collaborators fails to act fulfill its obligations under the collaboration agreement or terminates its agreement with us, we may not receive any future research funding milestone, royalty or milestone or royalty other payments under the applicable collaboration agreement. In addition, if a collaboration is terminated, it may result in a need for additional capital to pursue further development or commercialization of the applicable product candidates.

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. We and our CROs are required to comply with good clinical practice requirements ("GCPs"), GCPs, which are regulations and guidelines promulgated by the FDA, the European Medicines Agency ("EMA") 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, the 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 for 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 practices ("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 and 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, geopolitical conflict, outbreaks of disease, epidemics and pandemics, such as the COVID-19 pandemic, or otherwise, we could experience delays, disruptions, suspensions or termination of our clinical trial 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

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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

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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, or our interpretation of the data submitted in support of regulatory approval;
- 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 or that a product candidate's clinical and other benefits outweigh its safety risks;
- 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;

- 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 or 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.

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We may fail to obtain orphan drug designations from the FDA and/or the EMA 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 EMA. 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.

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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. products, and have only a limited number of employees engaged in those activities. In order to commercialize or co-commercialize any of our product candidates that receive marketing approval, we will have to build adequate marketing, sales, distribution, managerial and other non-technical capabilities or make arrangements with third parties to perform these services, and we services. We may not be successful in doing so. In the event of the 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. 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 As we have done with Takeda with respect to our product candidates, rusfertide, 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 systems. In the case of the Restated JNJ License and Collaboration Agreement with Janssen, or the Takeda Collaboration Agreement, we may elect to exercise our Co-Detailing Option (allows us right to elect to provide up to 30% of the selling effort in the United States for any IL-23R antagonist compounds approved for commercial sale), co-detail products, 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. We expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare therapies, which could result in reduced demand for us.

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

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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. See Item 1. “Business – Government Regulation” in our Annual Report on Form 10-K for the year ended December 31, 2023 for additional information.

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.

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We may fail or elect not to commercialize our product candidates, even if approved.

We cannot be sure that, if our clinical trials for any of our product candidates are successfully completed, we will be able to submit an NDA to the FDA or that any NDA we submit will be approved by the FDA in a timely manner, if at all. After completing clinical trials for a product candidate in humans, a drug dossier is prepared and submitted to the FDA as an NDA, and includes all pre-clinical studies and clinical trial data relevant to the safety and effectiveness of the product at the suggested dose and duration of use for the proposed indication as well as manufacturing information, in order to allow the FDA to review such drug dossier and to consider a product candidate for approval for commercialization in the United States. If we are unable to submit an NDA with respect to any of our current product candidates, if any NDA we submit is not approved by the FDA, or we elect not to file an NDA, or if we are unable to obtain any required state and local distribution licenses or similar authorizations, we will be unable to commercialize that product. The FDA can and does reject NDAs and require additional clinical trials, even when product candidates achieve favorable results in Phase 3 clinical trials. Also, we may be subject to pricing pressures from competitive products that could make it difficult or impossible for us to commercialize the product candidate successfully. If we fail to commercialize any of our product candidates, our business, financial condition, results of operations and prospects may be materially and adversely affected.

The commercial success of any current or future product candidate will depend upon the degree of market acceptance by physicians, patients, third-party payors and others in the medical community.

We or our collaboration partners in any potential commercial launch of our product candidates may not be successful in achieving widespread patient or physician awareness or acceptance of such product candidate. Even though we expect that our product candidate will be priced responsibly, if approved, there is no guarantee that it or any other product that we bring to the market directly or through a strategic partner will gain market acceptance by physicians, patients, third-party payors and others in the medical community. The degree of market acceptance of any of our product candidates, if approved for commercial sale, will depend on a number of factors, including but not limited to:

- the safety and efficacy of the product in clinical trials, and potential advantages over competing treatments;
- the publication of unfavorable safety or efficacy data concerning our product by third parties;
- the prevalence and severity of any side effects, including any limitations or warnings contained in a product's approved labeling;
- the clinical indications for which approval is granted;

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- recognition and acceptance of our product candidates over our competitors' products;

- prevalence of the disease or condition for which the product is approved;
- the cost of treatment, particularly in relation to competing treatments;
- the willingness of the target patient population to try our therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support and timing of market introduction of competitive products;
- the extent to which the product is approved for inclusion on formularies of hospitals and managed care organizations;

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- publicity concerning our products or competing products and treatments;
- the extent to which third-party payors provide coverage and adequate reimbursement for the product candidate, or any other product candidates we may pursue, if approved;
- our ability to maintain compliance with regulatory requirements; and
- labeling or naming imposed by FDA or other regulatory agencies.

Even if a product candidate we may develop in the future displays an equivalent or more favorable efficacy and safety profile in pre-clinical and clinical trials, market acceptance of the product candidate will not be fully known until after it is launched and may be negatively affected by a potential poor safety experience and the track record of other product candidates. Our efforts, or those of any strategic licensing or collaboration partner, to educate the medical community and third-party payors on the benefits of our product candidates may require significant resources, may be under-resourced compared to large well-funded pharmaceutical entities and may never be successful. If ay product candidates we may develop in the future are approved but fail to achieve an adequate level of acceptance by physicians, patients, third-party payors and others in the medical community, we will not be able to generate sufficient revenue to become or remain profitable.

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 or our collaboration partners 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 November 2021, the FDA approved 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. 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 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. See Item 1, “Business – Competition” in our Annual Report on Form 10-K for the year ended December 31, 2023 for additional information.

Outbreaks of disease, epidemics and pandemics such as the COVID-19 pandemic, have and could continue to adversely impact our business, including our ongoing and planned clinical trials and pre-clinical and discovery research.

We have experienced delays in our existing and planned clinical trials due to worldwide impacts related to the COVID-19 pandemic, and our future results of operations and liquidity could be adversely impacted by direct and indirect impacts of epidemics and pandemics. We have and could in the future 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; and delays in manufacturing and receiving the supplies, materials and services needed to conduct clinical trials and pre-clinical research.

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.

Unstable market and economic macroeconomic conditions, including elevated and sustained inflation, may have serious adverse consequences on our business, financial condition and stock price.

As has been widely reported, we are currently operating in a period of economic macroeconomic uncertainty and capital markets disruption, which has been significantly impacted by domestic and global monetary and fiscal policy, geopolitical instability, including ongoing military conflicts between Russia and Ukraine and in Israel and surrounding areas, rising tensions between China and Taiwan, and historically high domestic and global inflation. interest rates. In particular, the conflict in Ukraine has exacerbated market disruptions, including significant volatility in commodity prices, as well as supply chain interruptions, and has contributed to record inflation globally. The U.S. Federal Reserve and other central banks may be unable to contain inflation through more restrictive monetary policy and inflation may increase or continue for a prolonged period of time. Inflationary factors, such as increases in the cost of clinical supplies, interest rates, overhead costs and transportation costs may adversely affect our operating results. We continue to monitor these events and the potential impact on our business. Although we do not believe that inflation has had a material impact on our financial position or results of operations to date, we our financial position or results of operations may be adversely affected in the future due to numerous

factors, including macroeconomic and market conditions, domestic and global monetary and fiscal policy, supply chain constraints, consequences associated with COVID-19, and the ongoing conflicts between Russia and Ukraine and in Israel and surrounding areas, and the impact of a potential U.S. government shutdown, other factors, and such factors may lead to increases in the cost of manufacturing our product candidates and delays in initiating trials. In addition, global credit and financial markets have experienced extreme volatility and disruptions in the past several years and the foregoing factors have led to and may continue to cause diminished liquidity and credit availability, declines in consumer confidence, declines in economic growth, uncertainty about economic stability and increased inflation.

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There can be no assurance that further deterioration in credit and financial markets and confidence in economic conditions will not occur. A future recession or market correction or other significant geopolitical events could materially affect our business and the value of our common stock. Our general business strategy may be adversely affected by any such economic downturn, volatile business environment or continued unpredictable and unstable market conditions. If the current equity and credit markets deteriorate, or do not improve, it may make any necessary debt or equity financing more difficult, more costly, and more dilutive. Failure to secure any necessary financing in a timely manner and on favorable terms could have a material adverse effect on our growth strategy, financial performance and stock price and could require us to delay or abandon clinical development plans. In addition, there is a risk that one or more of our current service providers, manufacturers and other partners may not survive these difficult economic times, which could directly affect our ability to attain our operating goals.

We maintain our cash at financial institutions, often in balances that exceed federally-insured federally insured limits. The failure of financial institutions could adversely affect our ability to pay our operational expenses or make other payments.

Our cash held in non-interest-bearing and interest-bearing accounts generally exceeds the Federal Deposit Insurance Corporation (the "FDIC") insurance limits. If such banking institutions were to fail, we could lose all or a portion of those amounts held in excess of such insurance limitations. For example, the FDIC took control of Silicon

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Valley Bank on March 10, 2023. The Federal Reserve subsequently announced that account holders would be made whole. However, the FDIC may not make all account holders whole in the event of future bank failures. In addition, even if account holders are ultimately made whole with respect to a future bank failure, account holders' access to their accounts and assets held in their accounts may be substantially delayed. Any material loss that we may experience in the future or inability for a material time period to access our cash and cash equivalents could have an adverse effect on our ability to pay our operational expenses or make other payments, which could adversely affect our business.

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

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- 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

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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 we or we our collaboration partners are unable to comply with these regulations, our ability to earn potential royalties from worldwide net sales of Janssen product candidates under our collaboration product candidates agreements 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 arrangements or cause Janssen our collaboration partners to terminate the Restated Agreement with Janssen, related 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.

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. Additionally, the United States has recently experienced historically high levels of inflation and an acute workforce shortage generally, which has created a hyper-competitive wage environment that may increase our operating costs. Any or all of these factors may limit our ability to continue to

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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 in the future, and we may experience difficulties in managing this growth.

As of September 30, 2023 March 31, 2024, we had 111 124 full-time equivalent employees, including 84 97 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.

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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 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, partners, 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. Our systems are potentially vulnerable to data security breaches, by employees or others, that which 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, email compromise or other 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. waste. 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.

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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 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

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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, extreme weather, 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. wildfires. 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

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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 as increasingly high barriers are being erected to the entry of new products into the healthcare markets. 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, 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

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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.

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. patent covering rusfertide expires in 2034 but is eligible for extension of up to five years for a portion of the time spent in development. 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

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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.

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

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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. 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.

Issued patents and patent applications may be challenged in the courts and in the patent office in the United States and abroad. An adverse determination in any such challenge 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

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from using or commercializing our platform technology and products. Any of the foregoing such adverse result or determination could have a material adverse effect on our business, financial condition and results of operations and prospects. operations.

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 hepcidin mimetics or IL-23R, 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 our collaboration partners or us to litigation, or otherwise preventing the commercialization of product candidates in the relevant jurisdiction(s); or
- requiring Janssen our collaboration partners or us to obtain licenses to the disputed patents, cease using the disputed technology or develop or obtain alternative technologies.

An adverse outcome in a patent dispute could severely harm our collaboration with Janssen collaborations or cause Janssen our collaboration partners to terminate the Restated Agreement. their respective agreements.

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. 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. If any third-party patents were to be 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. 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.

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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.

In addition, 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 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").

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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.

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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 may 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, 2023 January 1, 2024 through September 30, 2023 March 31, 2024, the reported sale price of our common stock has fluctuated between $10.62 $21.43 and $30.10 $33.34 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 Quarterly Report on Form 10-Q. 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 required 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) ("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, 2023 was greater than $700.0 million, and our independent registered public accounting firm is required to attest to the effectiveness of our internal control over financial reporting beginning with our Annual Report reporting.

Maintaining adequate internal controls in place so that we can produce accurate financial statements on Form 10-K for the fiscal year ending December 31, 2023. If we have a material weakness, we would receive an adverse opinion regarding our internal control over financial reporting from our independent registered public accounting firm.

timely basis is a costly and time-consuming effort that will need to be evaluated frequently. 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. In addition, if we have a material weakness, we will receive an adverse opinion regarding our internal control over financial reporting from our independent registered public accounting firm. 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. If we are not able to comply with the requirements of Section 404 or if we or our independent registered public accounting firm are unable to attest to the effectiveness of our internal control over financial reporting, investors may lose confidence in the accuracy

and completeness of our financial reports, the market price of our stock could decline and we could be subject to sanctions or investigations by Nasdaq, the SEC, or other regulatory authorities, which would require additional financial and management resources.

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 ("Securities Act"), 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.

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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 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, Board, 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

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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", 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, 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.

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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

(a) Entry into a Material Definitive Agreement

None. On May 6, 2024, we amended our facility lease agreement (the lease as amended, the "Amended Lease") with BMR-Pacific Research Center LP to lease 60,575 rentable square feet of office and laboratory space located within the Newark, California

facility the Company has occupied since 2017. The term of the Amended Lease commences on July 1, 2024 (or such later date when tenant improvements in newly leased office space within the facility are substantially

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complete). The term of the Amended Lease is 65 months. The initial monthly base rent under the Amended Lease is $3.53 per square foot. Base rent will increase 3.5% annually. The Amended Lease provides for an agreed-upon period of rent abatement. We are responsible for our proportional share of operating expenses and tax obligations throughout the lease term. No additional security deposit was required pursuant to the Amended Lease.

The foregoing description of the Amended Lease does not purport to be complete and is qualified in its entirety by reference to the Amended Lease, a copy of which will be filed as an exhibit to the Company's quarterly report on Form 10-Q for the period ending June 30, 2024.

(c) Trading Plans

During the fiscal quarter ended March 31, 2024, no director or Section 16 officer adopted or terminated any Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (in each case as defined in Item 408(a) of Regulation S-K.

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	3.2b	8/1/2016
10.1+	License and Collaboration Agreement by and between Protagonist Therapeutics, Inc. and Takeda Pharmaceuticals USA, Inc. dated January 31, 2024				
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

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3.2	Amended and Restated Bylaws	S-1/A	333-212476	3.2b	8/1/2016
10.1+	Form of Pre-Funded Warrant				
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				
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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				
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.

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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: November 2, 2023 May 7, 2024

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

Date: November 2, 2023 May 7, 2024

By: /s/ Asif Ali
Asif Ali
Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 10.1

[***] = CERTAIN CONFIDENTIAL INFORMATION CONTAINED IN THIS DOCUMENT, MARKED BY BRACKETS, HAS BEEN OMITTED BECAUSE IT IS BOTH (i) NOT MATERIAL AND (ii) IS THE TYPE THAT THE REGISTRANT TREATS AS PRIVATE OR CONFIDENTIAL.

PROTAGONIST THERAPEUTICS, INC. LICENSE AND COLLABORATION AGREEMENT

by and between

Protagonist Therapeutics, Inc.

and

Takeda Pharmaceuticals USA, Inc.

Dated as of January 31, 2024

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LICENSE AND COLLABORATION AGREEMENT

PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK THIS LICENSE AND COLLABORATION AGREEMENT

Number of Shares: [ ]
(subject to adjustment)

Warrant No. Original Issue Date: [ ]

(this "**Agreement**") is entered into as of January 31, 2024 (the "**Execution Date**"), by and between Takeda Pharmaceuticals USA, Inc., a Delaware corporation having a place of business at 95 Hayden Avenue, Lexington, MA 02421, United States ("**Takeda**"), and Protagonist Therapeutics, Inc., a Delaware corporation, (the having a place of business at 7707 Gateway Blvd., Suite 410, Newark, CA 94560 ("**Protagonist**"). Takeda and Protagonist are sometimes referred to herein individually as a "*Company***Party**") and collectively as the "**Parties**".

INTRODUCTION

WHEREAS, hereby certifies that, Takeda is a pharmaceutical company in the business of research, developing, and commercializing new treatments in multiple therapeutic areas, including rare diseases.

WHEREAS, Protagonist is a biopharmaceutical company developing peptide-based therapeutic drugs to address hematology and blood disorders, including Rusfertide (as defined below).

WHEREAS, Takeda and Protagonist desire to collaborate with respect to the Development and Commercialization of the Licensed Products in the United States, and Takeda desires to obtain and Protagonist is willing to grant exclusive rights to Develop and Commercialize the Licensed Products in the Ex-U.S. Territory, on the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the respective representations, warranties, covenants and agreements contained herein, and for good and other valuable consideration, the receipt and sufficiency adequacy of which are hereby acknowledged, [ ] or its permitted registered assigns (the "*Holder*"), is entitled, subject to Protagonist and Takeda agree as follows:

ARTICLE I
DEFINITIONS

1.1 **Definitions.** For the terms set forth below, to purchase from the Company up to a total of [ ] shares of common stock, $0.00001 par value per share (the "*Common Stock*"), of the Company (each such share, a "*Warrant Share*" and all such shares, the "*Warrant Shares*") at an exercise price per share equal to $0.001 per share (as adjusted from time to time as provided in Section 9 herein, the "*Exercise Price*"), upon surrender purpose of this Pre-Funded Warrant to Purchase Common Stock (including any Pre-Funded Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the "*Warrant*") at any time and from time to time on or after the date hereof (the "*Original Issue Date*") and through the date on which this Warrant is exercised in full (the "*Expiration Date*"), and subject to Agreement, the following terms, and conditions. This Warrant is one of a series of warrants (collectively, the "*Warrants*") issued upon exercise of certain Class A Warrants and Class B Warrants of the Company, dated August 8, 2018.

1. Definitions. For purposes of this Warrant, the following terms whether used in singular or plural form, shall have the following meanings:

respective meanings set forth below:

(a) 1.1.1"***Acquirer***" *means, with respect to a Change of Control of a Party, the Third Party that acquires such Party or its direct or indirect controlling Affiliate,* or that acquires all or substantially all of the assets of such Party or its direct or indirect controlling Affiliate, including any Affiliates of such Third Party as determined immediately prior to the closing of such Change of Control.

1.1.2 "**Acquirer Competing Program**" has the meaning set forth in Section 1.1.225.

1.1.3 "**Act**" means the United States Federal Food, Drug and Cosmetic Act, as amended.

1.1.4 "**Action**" means any legal action, claim, suit or proceeding.

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1.1.5 "**Additional LP Development**" has the meaning set forth in Section 4.2(b).

1.1.6 "**Additional Product**" has the meaning set forth in Section 2.9.

1.1.7 "**Additional Product Transaction**" has the meaning set forth in Section 2.9.

1.1.8 "**Affiliate**" means, with respect to a Person, any other Person that, directly or indirectly, through one (1) or more intermediaries, controls, is controlled by controlling or is under common control with a Holder, but only for so long as such control shall continue. Person. For purposes of this definition, "control" (including, and, with correlative meanings, the terms "controlled by," "controlling" by" and "under common control with" means (a) the possession, directly or indirectly, of the power to direct the management or policies of a Person, whether through the ownership of voting securities, by contract relating to voting rights or corporate governance, or otherwise; or (b) the ownership, directly or indirectly, of at least fifty percent (50%) of the voting securities or other ownership interest of a Person (or, with respect to a limited partnership or other similar entity, its general partner or controlling entity). The Parties acknowledge that in the case of certain entities organized under the Laws of certain countries outside of the United States, the maximum percentage ownership permitted by Applicable Law for a foreign investor may be less than fifty percent (50%), and that in such case such lower percentage will be substituted in the preceding sentence; *provided that* such foreign investor has the power to direct the management and policies of such entity. For clarity, a Person may be or become an Affiliate of another Person and may cease to be an Affiliate of such Person, in each case, during the Term of this Agreement.

1.1.9 "**Agreement**" has the meaning set forth in the Preamble, and shall include, for the avoidance of doubt, all schedules hereto.

1.1.10 "**Alliance Manager**" has the meaning set forth in Section 3.10(a).

1.1.11 "**Applicable Accounting Standards**" means (a) with respect to Takeda, International Financial Reporting Standards ("**IFRS**"), (b) with respect to Protagonist, United States generally accepted accounting principles ("**GAAP**"), and (c) with respect to any Affiliate or Sublicensee, GAAP or IFRS, as applicable, in each case as generally and consistently applied throughout Takeda's or its Affiliate's or Sublicensee's organization.

1.1.12 "**Applicable Laws**" means all federal, state, local, national and supra-national laws, statutes, rules, and regulations, including any rules, regulations, guidelines, or other requirements of the Regulatory Authorities, including GCP, GLP, GMP, and GPP, major national securities exchanges or major securities listing organizations, and orders, judgments, injunctions, ordinances or other pronouncements having the binding effect of law of any Governmental Authority, that may be in effect from time to time during the Term and applicable to a particular activity or country or other jurisdiction hereunder.

1.1.13 "**Approved Commercialization Subcontractors**" means (a) with respect to Takeda, the Persons set forth in Section I of Schedule 1.1.13, and (b) with respect to Protagonist, the Persons set forth in Section II of Schedule 1.1.13.

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1.1.14 "**Approved Development Subcontractors**" means (a) with respect to Takeda, the Persons set forth in Section I of Schedule 1.1.14 and (b) with respect to Protagonist the Persons set forth in Section II of Schedule 1.1.14.

1.1.15 "**Approved Manufacturing Subcontractors**" means (a) with respect to Takeda, the Persons set forth in Section I of Schedule 1.1.15, and (b) with respect to Protagonist, the Persons set forth in Section II of Schedule 1.1.15.

1.1.16 "**Arising IP**" means Arising Patents and Arising Know-How.

1.1.17 "**Arising Know-How**", with respect to a Party, means any and all Know-How conceived, discovered, developed, or otherwise made solely by or on behalf of such Party or any of its Affiliates, Sublicensees or Subcontractors during the Term under or in connection with this Agreement, where such Party is Takeda, "**Arising Takeda Know-How**" and, where such Party is Protagonist, "**Arising Protagonist Know-How**". For clarity, "Arising Know-How" excludes any Joint Know-How.

1.1.18 "**Arising Patents**", with respect to a Party, means any and all Patent Rights claiming Arising Know-How of such Party. For clarity, "Arising Patents" excludes any Joint Patents.

1.1.19 "**Arising Protagonist IP**" means, collectively, the Arising Protagonist Know-How and the Arising Protagonist Patents.

1.1.20 "**Arising Protagonist Know-How**" has the meaning set forth in Section 1.1.17.

1.1.21 "**Arising Protagonist Patents**" means any and all Arising Patents claiming Arising Protagonist Know-How.

1.1.22 "**Arising Takeda IP**" means, collectively, the Arising Takeda Know-How and the Arising Takeda Patents.

1.1.23 "**Arising Takeda Know-How**" has the meaning set forth in Section 1.1.17.

1.1.24 "**Arising Takeda Patents**" means any and all Arising Patents claiming Arising Takeda Know-How.

1.1.25 "**Assumed Pre-OIOO Date U.S. Regulatory Activities**" has the meaning set forth in Section 5.1(a)(i).

1.1.26 "**Audit Arbitrator**" has the meaning set forth in Section 8.11.

1.1.27 "**Bankrupt Party**" has the meaning set forth in Section 12.10.

1.1.28 "**Blocking New Technology**" has the meaning set forth in Section 2.10(b)(ii)A.

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1.1.29 "**Breaching Party**" has the meaning set forth in Section 12.4(a).

1.1.30 "**Business Day**" means a day on which banking institutions in New York, New York and Tokyo, Japan are open for business.

1.1.31 "**Calendar Quarter**" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31 of each Calendar Year; *provided that* (a) the first Calendar Quarter of the Term shall begin on the Effective Date and end on the first to occur of March 31, June 30, September 30 or December 31 thereafter and (b) the last Calendar Quarter of the Term shall end on the last day of the Term.

1.1.32 "**Calendar Year**" means each successive period of twelve (12) months commencing on January 1 and ending on December 31; *provided that* (a) the first Calendar Year of the Term shall begin on the Effective Date and end on the first December 31 thereafter and (b) the last Calendar Year of the Term shall end on the last day of the Term.

1.1.33 "**Change of Control**" means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities (whether directly or pursuant to any option, warrant or other similar arrangement) or other comparable equity interests.

(b) "*Commission*" means the United States Securities and Exchange Commission.

(c) "*Closing Sale Price*" means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets, or, if no last trade price is reported for such security by Bloomberg Financial Markets, the average of the bid and ask prices, of any market makers for such security as reported in the "pink sheets" by Pink Sheets LLC. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, following: (a) the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors' determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) "*Principal Trading Market*" means the national securities exchange or other trading market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date, shall be The Nasdaq Global Market.

(e) "*Securities Act*" means the Securities Act of 1933, as amended.

(f) "*Standard Settlement Period*" means the standard settlement period, expressed in a number of Trading Days, for the Company's Principal Trading Market or quotation system with respect to the Common Stock that is in effect on the date of delivery of an applicable Exercise Notice, which as of the Original Issuance Date was "T+2".

(g) "*Trading Day*" means any weekday on which the Principal Trading Market is open for trading.

(h) "*Transfer Agent*" means American Stock Transfer & Trust Company, LLC, the Company's transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

(i) "*VWAP*" means, for any security as of any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a trading market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Principal Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:00 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a trading market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported in the "Pink Sheets" published by OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

2. Registration of Warrants. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "*Warrant Register*"), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any registered assignee to which this Warrant is permissibly assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary. This Warrant may be, at the option of the Holder, either (x) represented by an original Warrant certificate or (y) issued by book-entry registration in the Warrant Register. For the avoidance of doubt, any Warrant issued by book-entry registration in the Warrant Register shall nonetheless be subject to the terms and conditions of such Warrant certificate to the same extent as if such Warrant were represented by an original Warrant certificate.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Notwithstanding the foregoing, no surrender of a Warrant shall be required if such Warrant is represented by book-entry registration in the Warrant Register. Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a "*New Warrant*") evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder

has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company's own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by Section 10 of this Warrant at any time and from time to time on or after the Original Issue Date and through and including 5:30 P.M. New York City time, on the Expiration Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the "*Exercise Notice*"), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a "cashless exercise" if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an "*Exercise Date*." The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder nor shall any medallion guarantee (or other type of guarantee or notarization) of any Exercise Notice be required. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares (if any).

5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than the number of Trading Days comprising the Standard Settlement Period), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with The Depository Trust Company ("*DTC*") through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the "*FAST Program*") or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, or any natural person or legal entity (each, a "*Person*") permissibly so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If within the Standard Settlement Period after the Exercise Date, the Company fails to deliver to the Holder or its designee the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder's or its designee's balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such third Trading Day after the Exercise Date and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "*Buy-In*"), then the Company shall (1) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (A) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (B) the price at which the sell order giving rise to such purchase obligation was executed, and (2) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of $11,000 to cover a Buy-In with respect to an attempted exercise of this Warrant with an aggregate sale price giving rise to such purchase obligation of $10,000, under clause (1) of the immediately preceding sentence the Company shall be required to pay the Holder $1,000. In connection with the foregoing, the Holder shall (i) use its reasonable efforts to notify the Company in advance of any pending exercise of this Warrant in order to enable to the Company to deliver the Warrant Shares within the Standard Settlement Period and (ii) provide the Company written notice within two Business Days after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. The provisions of this Section 5(b) shall be the only remedy available to the Holder in the event the Company fails to deliver to the Holder or its designee the required number of Warrant Shares in the manner required pursuant to Section 5(a) and a Buy-In occurs. Irrespective of whether there is a Buy-In, no remedy shall be available, notwithstanding the requirements of Section 5(a), unless and

until the Company fails to deliver to the Holder or its designee the required number of Warrant Shares within the Standard Settlement Period after the Exercise Date.

(c) To the extent permitted by law and subject to Section 5(b), the Company's obligations to

issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such shares, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. Reservation of Warrant Shares. The Company covenants that it will at all times while this Warrant is outstanding reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and nonassessable. The Company will take all such action as may be necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed, or of any contract by which the Company is bound.

9. Certain Adjustments. The number of Warrant Shares issuable upon exercise of this Warrant is subject to adjustment from time to time as set forth in this Section 9.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the number of Warrant Shares then underlying this Warrant shall be divided by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall

become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the number of Warrant Shares shall be recomputed accordingly as of the close of business on such record date and thereafter the Warrant Shares shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) Pro Rata Distributions. If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph), (iii) options, convertible securities, rights or warrants to subscribe for, purchase or otherwise acquire any security, or (iv) cash or any other asset (in each case, "*Distributed Property*"), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein (*provided*, that to the extent that the Holder's right to participate in any such distribution would result in the Holder (including its Attribution Parties (as defined below)) exceeding the Beneficial Ownership Limitation (as defined below), then the Holder shall not be entitled to participate in such distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such distribution (and beneficial ownership) to such extent) and the portion of such distribution shall be held in abeyance for the benefit of the Holder until such time or times as (all or a portion) of its right thereto would not result in the Holder (including its Attribution Parties) exceeding the Beneficial Ownership Limitation, at which time or times the Holder shall be granted (all or such portion of) such distribution (and any distributions declared or made on such initial distribution or on any subsequent distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

(c) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock who tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a "*Fundamental Transaction*"), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein (the "*Alternate Consideration*"). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (i) the Alternate Consideration is solely cash and the Company provides for the simultaneous "cashless exercise" of this Warrant pursuant to Section 10 below or (ii) prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser of assets of the Company) shall assume the obligation to deliver to the Holder, such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

(d) Calculations. All calculations under this Section 9 shall be made to the nearest share.

(e) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to

such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company's transfer agent.

(f) Notice of Corporate Events. If, while this Warrant is outstanding, (i) the Company declares a dividend (or any other distribution in whatever form) on the Common Stock, (ii) the Company declares a special nonrecurring cash dividend on or a redemption of the Common Stock, (iii) the approval of any stockholders of the Company is required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer disposition of all or substantially all of the assets of such Person or its direct or indirect controlling Affiliate to a Third Party, other than to an entity of which more than fifty percent (50%) of the Company, voting capital stock are owned after such sale or disposition by shareholders of such Person or its direct or indirect controlling Affiliate (in either case, whether directly or indirectly through any parent entity); or (b) (i) the acquisition by a Third Party, alone or together with any of its Affiliates, other than an employee benefit plan (or related trust) sponsored or maintained by such Person or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (iv) the Company authorizes the voluntary or involuntary dissolution, liquidation or winding up of its Affiliates, of more than fifty percent (50%) of the affairs outstanding shares of the Company, then, in each case, the Company shall deliver by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least ten (10) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose voting capital stock of such dividend, distribution, redemption, rights Person or warrants, its direct or if indirect controlling Affiliate, or (ii) the acquisition, merger or consolidation of such Person or its direct or indirect controlling Affiliate with or into another Person, other than, in the case of this clause (b), an acquisition or a record is not to be taken, the date as merger or consolidation of such Person or its controlling Affiliate in which the holders of shares of voting capital stock of such Person or its controlling Affiliate, as the Common Stock case may be, immediately prior to such acquisition, merger or consolidation will beneficially own, directly or indirectly, at least fifty percent (50%) of record the shares of voting capital stock of the acquiring Third Party or the surviving corporation in such acquisition, merger or consolidation, as the case may be, immediately after such acquisition, merger or consolidation, and in each case (a) or (b), whether through a single transaction or a series of related transactions.

1.1.34 "**Clinical Trial**" means (a) any Phase 1 Clinical Trial, Phase 2 Clinical Trial, Phase 2b Clinical Trial or Phase 3 Clinical Trial, (b) such other tests and studies in human subjects that are required by Applicable Law or otherwise recommended by the Regulatory Authorities, to obtain or maintain Regulatory Approvals for a product for one or more indications, and (c) any open label extension study of a product; *provided, however*, that, solely for the purposes of determining milestone payments required under Article VIII, "Clinical Trial" shall exclude any investigator initiated sponsored research.

1.1.35 "**CMC Development**" means all research and development activities conducted in respect of the Manufacture of the Licensed Products, including chemistry, manufacturing and control (CMC), test method development and stability testing, device development, process development, manufacturing scale-up, qualification and validation, quality assurance and quality control processes and techniques.

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1.1.36 "**Co-Detail and Co-Scientific Exchange Opt-Out Option**" has the meaning set forth in Section 7.7(a).

1.1.37 "**Co-Detail and Co-Scientific Exchange Option**" has the meaning set forth in Section 7.7(a).

1.1.38 "**Co-Promotion Agreement**" has the meaning set forth in Section 7.7(c).

1.1.39 "**Combination Product**" means any product that (a) comprises a Licensed Compound and one (1) or more other active component(s), whether packaged together or co-formulated in the same therapeutic formulation, or (b) meets the criteria of a "combination product" by the FDA pursuant to 21 C.F.R. §3.2(e) or its foreign

equivalent, and in each case ((a) and (b)) is sold as a single unit for a single price, but excluding devices, drug delivery vehicles, adjuvants, solubilizers and excipients.

1.1.40 "**Commercialization**" or "**Commercialize**" means, with respect to a product, any and all activities directed to the preparation for sale or sale of such product, including activities related to marketing, advertising, promoting, detailing, distributing, importing, having imported, exporting, having exported, using, selling or offering to sell, or seeking to obtain reimbursement for, such product, whether before or after Regulatory Approval for such product has been obtained, but excluding, in each case, any activities directed to Manufacturing, Development or Scientific Exchange Activities.

1.1.41 "**Commercialization Event**" has the meaning set forth in Section 3.6(c)(v)A.

1.1.42 "**Commercialization Wind-Down Period**" has the meaning set forth in Section 12.11(f)(iii).

1.1.43 "**Commercially Reasonable Efforts**" means, with respect to the efforts to be entitled expended, or considerations to be undertaken, by a Party or its Affiliate with respect to any objective, activity or decision to be undertaken hereunder [***].

1.1.44 "**Confidential Information**", with respect to a Party, means all Know-How and other information that is of a confidential or proprietary nature to such dividend, distributions, redemption, Party (including Know-How and information of Third Parties) and that is disclosed to the other Party or its Affiliates under this Agreement, in any form (written, oral, electronic, photographic, or otherwise). Confidential Information includes Know-How or other information (whether or not patentable) regarding such Party's technology, products, business information, business objectives, reports and audits under this Agreement, as well as all proprietary materials (and data and information associated therewith) of such Party. Confidential Information shall include: (a) the terms and conditions of this Agreement, which shall be the Confidential Information of both Parties; and (b) Confidential Information disclosed by either Party pursuant to the Confidentiality Agreement, which shall be the Confidential Information of such Party.

1.1.45 "**Confidentiality Agreement**" means that certain Confidentiality Agreement by and between Protagonist and Millennium Pharmaceuticals, Inc., dated of as July 15, 2021, as amended on August 13, 2021 and August 14, 2022.

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1.1.46 "**Control**" or "**Controlled**" means, with respect to any (a) Know-How, Patents, or other Intellectual Property rights, or warrants (b) product, compound, or component thereof, the legal authority or right (whether by ownership, license, or otherwise, but without taking into account any rights granted by one (1) Party to the other Party pursuant to this Agreement) of a Party to grant rights of access and use, a license, or a sublicense, in each case of the scope granted to such other Party pursuant to this Agreement of or under (i) in the case of the foregoing clause (a), such Know-How, Patents, or other Intellectual Property rights, or (ii) in the case of the foregoing clause (b), Patents that claim or cover or Know-How or other Intellectual Property rights that are incorporated in or embody such product, compound, or component ((i) and (ii) collectively, the "**Intellectual Property Rights**"), in each case ((i) and (ii)), to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and other Party, without (x) breaching the date terms of any agreement with a Third Party in existence as of which it is expected the time such Party would be required

hereunder to grant such rights of access and use, license, or sublicense, (y) misappropriating the proprietary or trade secret information of a Third Party, or (z) violating any Applicable Laws. [***]

1.1.47 "**Co-Promotion Agreement**" has the meaning set forth in Section 7.7(c).

1.1.48 "**Cover**" or "**Covered**" means that, holders with respect to any Patent Right and product (including a Licensed Product) in the Territory, but for a license or sublicense granted to Takeda, its Affiliates or its Sublicensees under any claim included in such Patent Right, the Development, Manufacture, Commercialization, and other Exploitation of such product (including a Licensed Product) in the Common Stock of record shall be entitled to exchange their shares of Field in the Common Stock for securities, cash Territory by Takeda, its Affiliates or other property deliverable upon its Sublicensees would infringe such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein claim, or in the delivery thereof case of a claim that has not yet issued, would infringe such claim if it were to issue.

1.1.49 "**CRO**" means contract research organization.

1.1.50 "**Data Read-Out**" means, with respect to the VERIFY Clinical Trial, the date that [***].

1.1.51 "**Detail**" means, with respect to a Licensed Product, the communication by a Sales Representative to a medical professional during a sales call (a) involving face-to-face contact or by means of an e-detail or detailing through video, (b) describing in a fair and balanced manner the FDA-approved indicated uses and other relevant characteristics of such Licensed Product, (c) using Promotional Materials in an effort to increase the prescribing and/or hospital ordering preferences of such Licensed Product for its regulatory-approved indicated uses, and (d) made at such medical professional's office, in a hospital, at marketing meetings sponsored by a Party for such Licensed Product or other appropriate venues conducive to pharmaceutical product informational communication where the principal objective is to place an emphasis, either primary or secondary, on such Licensed Product and not simply to discuss such Licensed Product with such medical professional. For the avoidance of doubt, (a) discussions at conventions or other meetings not specifically sponsored by a Party for a Licensed Product or (b) the drop off of a Licensed Product sample made by a Sales Representative shall not affect constitute "Detail" or "Detailing".

1.1.52 "**Detail Costs**" means with respect to a Detail provided by either Party in the validity U.S., the cost-per-Detail as set forth in the budget within the applicable Joint Commercialization Plan, which cost-per-Detail shall be based on the position of the Licensed Product during such Detail.

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1.1.53 "**Develop**" or "**Development**" means, with respect to a product, discovery, research, preclinical development, clinical development, and regulatory activities with respect to such product, including test method development and development stability testing, design, compatibility testing, toxicology, animal efficacy studies, formulation, quality assurance/quality control development, statistical analysis, clinical studies, regulatory affairs, regulatory approval (including the preparation and submission of applications for such regulatory approval) and registration, chemical development, whether before or after regulatory approval for such product has been obtained; but excluding, in each case, any CMC Development or any activities directed to Commercialization or Manufacturing.

1.1.54 "**Development Event**" means, with respect to the Development of a Licensed Product, [***].

1.1.55 "**Disclosing Party**" has the meaning set forth in Section 10.2(a).

1.1.56 "**Disputes**" has the meaning set forth in Section 14.2(a).

1.1.57 "**Distribution Costs**" means, to the extent not included in a Party's Manufacturing Costs, the [***] incurred, and the [***] recorded as an expense by a Party or any of its Affiliates, in accordance with its Applicable Accounting Standards, during the Term of and pursuant to this Agreement (as agreed to by the Parties from time to time), [***], but expressly excluding [***].

1.1.58 "**Distribution Matters**" means all issues and decisions regarding the distribution of the Licensed Products, including decisions as to whether and with which wholesalers, specialty pharmacies and distributors to contract, and the terms of contracts with such wholesalers and distributors.

1.1.59 "**Divest**" means, with respect to a Protagonist Competing Program or a Takeda Competing Program, as the case may be, a divestiture of such Protagonist Competing Program or Takeda Competing Program to a Third Party by sale, license or otherwise; *provided that*, if such divestiture is made by way of one (1) or more licenses or sublicenses, then the divesting Party and its Affiliates shall not hold or retain any rights to Develop, Manufacture, Commercialize or otherwise Exploit such Protagonist Competing Program or Takeda Competing Program, as applicable, including the right to consult with respect to, or otherwise participate in, any decisions, or otherwise collaborate with any Third Party, with respect to the Development, Manufacture, Commercialization or other Exploitation of such Protagonist Competing Program or Takeda Competing Program, as applicable (other than with respect to reasonable transition periods or as may be required by relevant Governmental Authorities in connection with such divestiture). "**Divestiture**" has a correlative meaning.

1.1.60 "**Dollars**" and "**$**" means United States dollars.

1.1.61 "**Drug Approval Application**" means a Biologics License Application (BLA), NDA, Marketing Authorization Application (MAA) or similar application or submission filed with a Regulatory Authority in a country or group of countries to obtain Regulatory Approval for a biological, pharmaceutical or other therapeutic or prophylactic product in that country or in

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that group of countries, and all supplements and amendments that may be filed with respect to the foregoing.

1.1.62 "**Effective Date**" has the meaning set forth in Section 12.1(b).

1.1.63 "**EMA**" means the European Medicines Agency and any successor Regulatory Authority having substantially the same function.

1.1.64 "**Enrollment**" means the [***].

1.1.65 "**[***]**" has the meaning set forth in Section 4.5(b)(ii).

1.1.66 "**European Countries**" means [***].

1.1.67 "**European Union**" means the organization of member states as it may be constituted from time to time, which as of the Execution Date consists of Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus,

Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

1.1.68 "**Execution Date**" has the meaning set forth in the Preamble.

1.1.69 "**Executive Officer**" means, for Protagonist, its Chief Executive Officer or another senior executive designee with decision-making authority and responsibilities comparable thereto, and for Takeda, a designated senior executive officer above Vice President with decision-making authority and responsibilities related to the issue which is being referred to the Executive Officers. In the event that the position of any of the Executive Officers identified in this Section 1.1.69 no longer exists due to a Change of Control, corporate action reorganization, corporate restructuring or the like, then the applicable Executive Officer will be replaced with another executive officer with decision-making authority and responsibilities comparable to the eliminated Executive Officer.

1.1.70 "**Existing Patents**" has the meaning set forth in Section 11.2(a).

1.1.71 "**Expense Report**" has the meaning set forth in Section 8.7(a).

1.1.72 "**Expert**" has the meaning set forth in Section 14.2(c)(i).

1.1.73 "**Exploit**" or "**Exploitation**" means to Develop, have Developed, use, Manufacture, have Manufactured, sell, have sold, offer for sale, Commercialize, import, export, register, and otherwise exploit a product.

1.1.74 "**Ex-U.S. Territory**" means all countries in the world excluding the United States.

1.1.75 "**FDA**" means the United States Food and Drug Administration or any successor Regulatory Authority having substantially the same function.

1.1.76 "**Field**" means any and all indications and uses in humans or animals.

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1.1.77 "**Field Medical Team**" means account medical leads (AMLs) and medical science liaisons (MSLs).

1.1.78 "**Finance Officers**" has the meaning set forth in Section 8.7(a).

1.1.79 "**Firewall**" means, with respect to any Licensed Compound or Licensed Product under this Agreement, Protagonist or Takeda, as applicable, and a Protagonist Competing Program or Takeda Competing Program, respectively, of an Acquirer of such Party: (a) to ensure that no personnel (whether employees, consultants, Third Party contractors, or others (for the purposes of this definition, "**Personnel**")) working on or involved with the clinical Development or Commercialization of the product constituting such Protagonist Competing Program or Takeda Competing Program, as applicable, has access to non-public plans or non-public information relating to the Development or Commercialization of any Licensed Compound or Licensed Product; (b) to ensure that Personnel that are performing or are otherwise involved in activities under this Agreement shall not simultaneously work on, or subsequently be assigned to work on, such Protagonist Competing Program or Takeda Competing Program, as applicable; (c) to ensure that no Confidential Information of Takeda or Protagonist relating to any Licensed Compound or Licensed Product is shared with or accessed or used by Personnel that are working on, respectively, a Protagonist Competing Program and a Takeda Competing Program; and (d) to provide information

reasonably requested by the other Party relating to the foregoing items (a) through (c), and to reasonably cooperate to enable such Party to verify that such restrictions are in place and sufficient to achieve the foregoing (a) through (c). For clarity, the foregoing restrictions shall not prevent employees of either Party that are at or above the vice president level (with respect to Protagonist), and at or above the senior director level (with respect to Takeda), as applicable, or members of the Board of Directors of either Party, from receiving financial, scientific, technical, strategy, or patent-related information about Licensed Compounds or Licensed Products under this Agreement; *provided that* such employees or members of the Board of Directors do not perform any day-to-day responsibilities for either such Licensed Compounds or Licensed Products or a Protagonist Competing Program or Takeda Competing Program, as applicable, and that Protagonist or Takeda, as the case may be, ensures such employees and members of its Board of Directors understand and comply with Protagonist's or Takeda's, respectively, obligations of confidentiality and non-use as set forth in this Agreement.

1.1.80 "**First Commercial Sale**" means, with respect to a Licensed Product and a country, the first [***].

1.1.81 "**FTE**" means the equivalent of the work of one (1) employee full time for one (1) Calendar Year (consisting of at least a total of [***] hours per Calendar Year) of work directly related to the Development, Commercialization or Manufacturing of a Licensed Compound or Licensed Product. No additional payment shall be made with respect to any person who works more than [***] hours per Calendar Year and any person who devotes less than [***] hours per Calendar Year (or such other number as may be agreed by the JDC or JCC, as applicable) shall be treated as an FTE on a pro rata basis based upon the actual number of hours worked divided by [***].

1.1.82 "**FTE Costs**" means, with respect to a Party for any period, the applicable FTE Rate multiplied by the applicable number of FTEs of such Party performing Development, Commercialization or Manufacturing activities for a Licensed Product during such period in

accordance with its applicable Joint Global Development Plan or Joint Commercialization Plan, as applicable, or otherwise as set forth in this Agreement.

1.1.83 "**FTE Rate**" means (a) for [***] personnel, [***] Dollars ($[***]) per one (1) full [***] FTE per Calendar Year, and (b) for all [***] personnel, [***] Dollars ($[***]) per one (1) such FTE per Calendar Year, which rates in both subsections (a) and (b) include all direct and indirect costs of the performing Party's FTE, including personnel and travel expenses. Starting [***], (i) the foregoing rate in clauses (a) and (b) will adjust on January 1 of each Calendar Year by an amount equal to the increase, if any, in the Consumer Price Index for All Urban Consumers (CPI-U) for the U.S. City Average, calculated by the Bureau of Labor Statistics during the immediately preceding Calendar Year, and (ii) the rate in clause (b) will be also subject to annual reassessments and recommendations of the Joint Finance Committee as approved by the JSC. Notwithstanding the foregoing, for any Calendar Year during the Term that is less than a full year, the referenced rate in clauses (a) and (b) will be proportionately reduced to reflect such portion of such full Calendar Year.

1.1.84 "**GAAP**" has the meaning set forth in Section 1.1.11.

1.1.85 "**Generic Product**" means, means, on a Licensed Product-by-Licensed Product and country-by-country basis, a product that (a) contains the same active ingredient(s) as such Licensed Product, (b) is approved

for use in such country by the applicable Regulatory Authority in such country [***]. For purposes of this Agreement, biosimilar products are Generic Products.

1.1.86 "**Good Clinical Practices**" or "**GCP**" means the applicable then-current standards for clinical activities for pharmaceuticals or biologicals, as set forth in the Act and any regulations or guidance documents promulgated thereunder, as amended from time to time, together with, with respect to work performed in a country other than the U.S., any similar standards of good clinical practice as are required by any Regulatory Authority in such country, to the extent such standards are not less stringent than applicable U.S. standards or ICH Guidelines, including ICH E6.

1.1.87 "**Good Laboratory Practices**" or "**GLP**" means the applicable then-current standards for laboratory activities for pharmaceuticals or biologicals, as set forth in the Act and any regulations or guidance documents promulgated thereunder, as amended from time to time, together with, with respect to work performed in a country other than the U.S., any similar standards of good laboratory practice as are required by any Regulatory Authority in such country.

1.1.88 "**Good Manufacturing Practices**" or "**GMP**" means the applicable then-current standards for conducting Manufacturing activities for pharmaceuticals or biologicals (or active pharmaceutical ingredients) as are required by any applicable Regulatory Authority in the Territory, to the extent such standards are not less stringent than applicable U.S. standards as provided in, but not limited to, 21 C.F.R. Parts 210 and 211, or ICH Guidelines, including ICH Q7.

1.1.89 "**Good Publication Practices**" or "**GPP**" means the applicable then-current recommendations for publishing company-sponsored biomedical research published by the Annals of Internal Medicine.

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1.1.90 "**Governmental Authority**" means any applicable government authority, court, tribunal, arbitrator, agency, department, legislative body, commission or other instrumentality of (a) any government of any country or territory, (b) any nation, state, province, county, city or other political subdivision thereof, or (c) any multinational or supranational body.

1.1.91 "**HSR Act**" means the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

1.1.92 "**HSR Filing**" has the meaning set forth in Section 12.1(a).

1.1.93 "**IND**" means an application submitted to a Regulatory Authority to initiate human clinical trials, including (a) an Investigational New Drug application or any successor application or procedure filed with the FDA, (b) any equivalent of a U.S. Investigational New Drug application in any country outside the United States, and (c) all supplements and amendments that may be filed with respect to the foregoing.

1.1.94 "**Indemnified Party**" has the meaning set forth in Section 13.4.

1.1.95 "**Indemnifying Party**" has the meaning set forth in Section 13.4.

1.1.96 "**Indication**" means a separate and distinct disease or medical condition in humans for a pharmaceutical or biological product that: [***].

1.1.97 "**Initial Indication**" means polycythemia vera (PV).

1.1.98 "**Initiation**" means, with respect to a Clinical Trial, the [***] with the applicable Licensed Product pursuant to the protocol for such Clinical Trial.

1.1.99 "**In-License Agreement**" has the meaning set forth in Section 11.2(b).

1.1.100 "**In-Licensed Patents**" has the meaning set forth in Section 11.2(b).

1.1.101 "**Inventory Build Costs**" means the Manufacturing Costs incurred in connection with the production or acquisition of supplies of a Licensed Product prior to First Commercial Sale of such Licensed Product, to the extent that (a) such costs and expenses are not incurred in connection with the performance of a Clinical Trial and would ordinarily be included as a cost of Development under Applicable Accounting Standards and (b) such supplies are able to be sold in the Commercialization of such Licensed Product.

1.1.102 "**Intellectual Property**" means all intellectual property and proprietary rights, including (a) all Patent Rights, (b) all trademarks, service marks, trade dress, logos, slogans, brand names, trade names, domain names, and business and product names, and all applications and registrations therefor, and all extensions and renewals thereof, and all goodwill of the business connected with the use of and symbolized by the foregoing, (c) all copyrights and copyrightable works, all mask works, industrial designs, and protectable designs, and all applications and registrations therefor, and all extensions and renewals thereof, (d) all Know-How and confidential business information (including designs, industrial models, manufacturing, engineering and technical drawings, specifications, customer and supplier lists, customer data, pricing and cost

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information, and business and marketing plans and proposals), and (e) all rights to use all of the foregoing and all other rights in, to, and under the foregoing.

1.1.103 "**IP Expert**" means an independent Third Party expert who is an attorney having practiced United States patent law for at least [***] (or who has such other similar credentials as agreed by the Parties) selected by the Parties through the JIPC within [***] of the Effective Date, and, unless otherwise agreed in writing by the Parties, is not a current or former employee, contractor, agent or consultant of either Party or any of its Affiliates.

1.1.104 "**IP Head**" means (a) with respect to Takeda, the representative designated by Takeda via the JIPC and (b) with respect to Protagonist, the representative designated by Protagonist via the JIPC, in each case, as confirmed by the Parties to the JSC.

1.1.105 "**IP Strategic Reason**" means a reason to [***].

1.1.106 "**IRA**" has the meaning set forth in Section 8.6(d)(v).

1.1.107 "**Japan Clinical Supply Agreement**" has the meaning set forth in Section 6.2(a)(ii).

1.1.108 "**JCC**" has the meaning set forth in Section 3.3(a).

1.1.109 "**JDC**" has the meaning set forth in Section 3.2(a).

1.1.110 "**JIPC**" has the meaning set forth in Section 9.5(a).

1.1.111 "**Joint Commercialization Plan**" has the meaning set forth in Section 7.3.

1.1.112 "**Joint Committee**" means the JSC, the JDC, the JCC, the Joint Manufacturing Working Group, the Joint Finance Committee, or any committees formed by the JSC pursuant to Section 3.1(d), as applicable.

1.1.113 "**Joint Finance Committee**" has the meaning set forth in Section 8.8.

1.1.114 "**Joint Global Development Plan**" has the meaning set forth in Section 4.2(a).

1.1.115 "**Joint IP**" has the meaning set forth in Section 9.1(c).

1.1.116 "**Joint Know-How**" has the meaning set forth in Section 9.1(d).

1.1.117 "**Joint Manufacturing Working Group**" has the meaning set forth in Section 3.1(e).

1.1.118 "**Joint Patent**" has the meaning set forth in Section 9.1(d).

1.1.119 "**JSC**" has the meaning set forth in Section 3.1(a).

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1.1.120 "**Know-How**" means any intangible information, including data, inventions, practices, methods, protocols, formulas, knowledge, know-how, trade secrets, processes, results, assays, skills, experience, techniques, governmental or regulatory information (including all regulatory materials submitted or required to be specified submitted to a Regulatory Authority, or received from a Regulatory Authority, in connection with a clinical trial, manufacturing or marketing authorization), and results of experimentation and testing, including pharmacological, toxicological and pre-clinical and clinical data and analytical and quality control data, patentable or otherwise.

1.1.121 "**Knowledge**" means, with respect to a Party, after performing reasonably diligent investigation, the actual knowledge of the chief executive officer; the president; any executive vice president, senior vice president or vice president of research, intellectual property or regulatory affairs; the chief scientific officer; the internal patent counsel; the general counsel; or the chief medical officer; in each case, of such Party, or any personnel holding positions equivalent to such job titles (but only to the extent such positions exist at such Party).

1.1.122 "**Licensed Compound**" means the following molecules: (a) the compound known internally at Protagonist as "PTG-300"; (b) the second generation injectable hepcidin mimetic compounds Controlled by Protagonist existing as of the Execution Date as listed on Schedule 1.1.122 (the "**Second Generation Compounds**", and together with PTG-300, the "**Rusfertide Program**"); (c) any injectable hepcidin mimetic compounds arising from research conducted by Protagonist during the [***] period after the Effective Date; and (d) any active metabolite, salt, ester, hydrate, solvate, free acid form, free base form, crystalline form, co-crystalline form, amorphous form, pro-drug (including ester pro-drug) form, polymorph, or tautomer of the foregoing.

1.1.123 "**Licensed Know-How**" means any and all Know-How that is (a) Controlled by Protagonist or any of its Affiliates as of the Effective Date or during the Term and (b) necessary or reasonably useful for the Development, Manufacture, Commercialization, or other Exploitation of the Licensed Compounds or Licensed

Products in the Field in the Territory, including Know-How within the Protagonist Background IP, the Arising Protagonist Know-How and Protagonist's interest in the Joint Know-How.

1.1.124 "**Licensed Patents**" means any and all Patent Rights that are (a) Controlled by Protagonist or any of its Affiliates as of the Effective Date or during the Term and (b) necessary or reasonably useful for the Development, Manufacture, Commercialization, or other Exploitation of the Licensed Compounds or Licensed Products in the Field in the Territory, including Patent Rights within the Protagonist Background IP, the Arising Protagonist Patents and Protagonist's interest in the Joint Patents.

1.1.125 "**Licensed Product**" means (a) the product containing the compound known internally at Protagonist as "PTG-300" ("**Rusfertide**"), and (b) any and all products containing any other Licensed Compound in any injectable formulation, dosage strength or other injectable product presentation, in each case ((a) and (b)), whether alone or in combination with one or more other active ingredients, including for clarity a Combination Product.

1.1.126 "**Licensed Technology**" means, collectively, the Licensed Know-How and the Licensed Patents.

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1.1.127 "**Losses**" means liabilities, damages, costs, fees and expenses, and losses, including reasonable litigation expenses and attorneys' fees.

1.1.128 "**Major Markets**" means [***].

1.1.129 "**Manufacture**" or "**Manufacturing**" means, with respect to a product and as applicable, any and all activities associated with the production, manufacture, supply, processing, filling, packaging, labeling, shipping, and storage of such product or any components thereof, including process and formulation development, process validation, stability testing, manufacturing scale-up, preclinical, clinical and commercial manufacture and analytical development, product characterization, quality assurance and quality control development, testing and release, manufacturing development, and packaging development, but excluding any CMC Development or any activities directed to Development, Scientific Exchange Activities or Commercialization of such product.

1.1.130 "**Manufacturing Costs**" means, with respect to a Licensed Product Manufactured by a Party:

(a) if such Licensed Product is Manufactured by such Party's Third Party manufacturer, (i) such Party's actual Third Party costs solely and specifically related to the Manufacture of such Licensed Product, and (ii) any FTE Costs incurred by such Party allocated thereto, including for Manufacturing oversight and quality assurance with respect thereto as determined in accordance with Applicable Accounting Standards; or

(b) if, in the case of Takeda, such Licensed Product is Manufactured by Takeda itself, the actual, fully-burdened cost incurred in the performance of such Manufacturing, including direct material cost, direct labor and benefits, variances, write-off and inventory provisions, disposal cost, and the proportionate share of indirect manufacturing costs, including fixed asset depreciation but excluding capital expenditures, which, for clarity, will be included on an amortized basis. Such fully-burdened cost shall be calculated in accordance with Takeda's Applicable Accounting Standards. For clarity, Manufacturing Costs shall exclude corporate overhead and any other costs not allocable to the Manufacture of the Licensed Products.

1.1.131 "**Manufacturing Technology Transfer**" has the meaning set forth in Section 6.3.

1.1.132 "**Manufacturing Technology Transfer Plan**" has the meaning set forth in Section 6.3.

1.1.133 "**Material Adverse Product Effect**" means (a) a Safety Concern, or (b) a material adverse effect on the strategy and success of the Development or Commercialization, as applicable, of the Licensed Compound or Licensed Product in its Indication as a result of the disputed matter or proposed change, respectively, proposed under its applicable Joint Global Development Plan or Joint Commercialization Plan, respectively.

1.1.134 "**MHRA**" means the United Kingdom's Medicines and Healthcare products Regulatory Agency and any successor Regulatory Authority having substantially the same function.

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1.1.135 "**Net Revenue**" means, to the extent allocable to a Licensed Product in the U.S., and, if applicable, for one or more such Licensed Products: (a) the total Net Sales of all such Licensed Products in the U.S. *plus* (b) Other Income received in connection with such Licensed Product in the U.S. Net Revenues will be accounted for in accordance with Applicable Accounting Standards, as consistently applied by the applicable Party in the U.S.

1.1.136 "**Net Sales**" means with respect to a Licensed Product, the gross amount invoiced in a country in the Territory by or on behalf of Takeda or its Affiliates or its Sublicensees (each of the foregoing Persons, a "**Selling Party**") for the sale or other disposition of such Licensed Product in such notice. country to Third Parties (including Third Party Distributors), *less* the following deductions calculated in accordance with the Applicable Accounting Standards, consistently applied throughout the Territory by the relevant Selling Party, to the extent allocated to such Licensed Product and actually taken, paid, accrued, allocated or allowed based on good faith estimates, and not otherwise recovered by or reimbursed to the Selling Party, as set forth below:

(a) cash, trade, or quantity discounts, charge-back payments, and rebates actually granted to trade customers, managed health care organizations, pharmaceutical benefit managers, group purchasing organizations, and national, state or local governments;

(b) credits, rebates, or allowances actually allowed upon prompt payment or on account of claims, damaged goods, rejections, or returns of such Licensed Product, including in connection with recalls and retroactive price reductions;

(c) amounts actually written off as uncollectible to the extent consistent with the Selling Party's business practices for its other products; *provided, however,* that such amounts shall be added back to Net Sales if and when actually collected;

(d) that portion of the annual fee on prescription drug manufacturers imposed by the Patient Protection and Affordable Care Act, Pub. L. No. 111-148 (as amended) and reasonably allocable to the sale of such Licensed Product;

(e) packaging, freight, postage, shipping, transportation, warehousing, handling and insurance charges, in each case, actually allowed or paid for delivery of such Licensed Product, and any customary payments with respect to such Licensed Product actually made to wholesalers or other distributors, in each case, actually

allowed or paid for distribution and delivery of such Licensed Product, to the extent billed on the gross sales invoice or recognized; and

(f) Taxes to the extent included in the gross amount invoiced (excluding income, franchise or similar taxes of any kind), duties, tariffs, mandated contribution, or other governmental charges levied on the sale of such Licensed Product, including VAT (net of reimbursement of any value added taxes actually received), excise taxes and sales taxes, that the Selling Party allocates to sales of such Licensed Product in accordance with its standard policies and procedures consistently applied across its products, as applicable.

All allocations of discounts, allowance, credits, rebates and other deductions must be reasonable. Notwithstanding the foregoing, amounts received or invoiced by Takeda, or its Affiliates, or their respective Sublicensees for the sale of such Licensed Product among Takeda or its Affiliates, or their respective Sublicensees, for resale will not be included in the computation of

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Net Sales hereunder, *provided that* Net Sales will be based only on any subsequent sales or dispositions to a non-Selling Party. In any event, any amounts received or invoiced by Takeda or its Affiliates, or their respective Sublicensees, will be accounted for only once. For purposes of determining Net Sales, a Product will be deemed to be sold when recorded as a sale by Takeda or its Affiliates, or their respective Sublicensees, in accordance with such Selling Party's applicable Accounting Standards. For clarity, a particular deduction may only be accounted for once in the calculation of Net Sales. To the extent that any notice Selling Party receives consideration other than or in addition to cash upon the sale or disposition of a Licensed Product to a non-Selling Party, Net Sales will be calculated based on the average price charged for such Licensed Product, during the preceding royalty period, or in the absence of such sales, based on the Selling Party's reasonable determination of the fair market value of such Licensed Product. For clarity, Net Sales will not include amounts or other consideration received by a Selling Party from a non-Selling Party in consideration of the grant of a sublicense or co-promotion or distribution right to such non-Selling Party, *provided that* such consideration is not in lieu of all or a portion of the transfer price of the Licensed Product.

Net Sales will exclude any samples of Licensed Product transferred or disposed of for Clinical Trials or at or below costs of goods therefor for any so-called treatment investigational new drug sales, named patient sales, expanded access program, compassionate or emergency use sales or compassionate purpose, or any indigent program or promotional or educational purposes, in all cases if such sale or disposition is at or below costs of goods therefor.

In the case of any Combination Product sold in a given country in the Territory and reporting period, Net Sales for the purpose of determining royalties and sales milestone events of such Combination Product in such country will be calculated by multiplying actual Net Sales of such Combination Product in such country by the fraction A/(A+B), where A is the invoice price of the Licensed Product included in such Combination Product if sold separately as a stand-alone Licensed Product in such country, and B is the total invoice price of the other active component(s) in the Combination Product, if sold separately in the same Indication in such country.

If, on a country-by-country basis in a particular reporting period, the Licensed Product included in the Combination Product is sold separately as a stand-alone Licensed Product in the same Indication in such country, but the other active component(s) included in the Combination Product are not sold separately in the same Indication in such country, then Net Sales for the purpose of determining royalties and sales milestone events of the Combination

Product for such country will be calculated by multiplying actual Net Sales of the Combination Product in such country by the fraction A/C, where A is the invoice price of the Licensed Product if sold separately as a stand-alone Licensed Product in such country, and C is the invoice price of the Combination Product in such country.

If, on a country-by-country basis in a particular reporting period, the Licensed Product included in the Combination Product is not sold separately as a stand-alone Licensed Product in the same Indication in such country, but the other active component(s) included in the Combination Product are sold separately in the same Indication in such country, then Net Sales for the purpose of determining royalties and sales milestone events of the Combination Product for such country will be calculated by multiplying actual Net Sales of the Combination Product in such country by the fraction (C-B)/C, where B is the invoice price of the other active component(s) included in such

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Combination Product if sold separately in the same Indication in such country, and C is the invoice price of the Combination Product in such country.

If neither the Licensed Product nor the other active component(s) included in the Combination Product are sold separately in the same Indication in a given country, then Net Sales for the purpose of determining royalties and sales milestone events in such country will be determined by agreement of the Parties based on the relative contribution of the Licensed Product and the other active component(s) in the Combination Product.

1.1.137 "**NDA**" means any New Drug Application as described in 21 C.F.R. § 314, or any corresponding application for Regulatory Approval in any country or jurisdiction other than the United States.

1.1.138 "**New Technology**" has the meaning set forth in Section 2.10(b)(i).

1.1.139 "**New Technology Agreements**" has the meaning set forth in Section 11.4(c).

1.1.140 "**Non-Bankrupt Party**" has the meaning set forth in Section 12.10.

1.1.141 "**Non-Breaching Party**" has the meaning set forth in Section 12.4(a).

1.1.142 "**Opt-In/Out Date**" means the date that is the earliest of (a) the date on which Takeda receives an Opt-Out Notice from Protagonist, (b) the date on which the Rusfertide Opt-Out Period expires without Takeda having received an Opt-Out Notice from Protagonist exercising the Rusfertide Opt-Out Right during such period, or (c) in the case of a Rusfertide Failure prior to the commencement of the Rusfertide Opt-Out Period, [***] following such event, but in no event earlier than [***].

1.1.143 "**Opt-Out Notice**" has the meaning set forth in Section 4.4(b).

1.1.144 "**Opt-Out Product(s)**" has the meaning set forth in Section 4.4(c).

1.1.145 "**Opt-Out Right**" means, as the context requires, the Rusfertide Opt-Out Right or a Partial Opt-Out Right, as applicable.

1.1.146 "**Opt-Out Wind-Down Activities**" has the meaning set forth in Section 4.4(c)(i).

1.1.147 "**Opt-Out Wind-Down Costs**" has the meaning set forth in Section 4.4(c)(i).

1.1.148 "**Opt-Out Wind-Down Period**" has the meaning set forth in Section 4.4(c)(i).

1.1.149 "**Other Income**" means, with respect to a Licensed Product, any payment received by a Party or its Affiliate from a Sublicensee prior to Protagonist's exercise of the Rusfertide Opt-Out Right impacting such Licensed Product or a Partial Opt-Out Right with respect to such Licensed Product in consideration for the grant of rights (including an option to obtain

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rights) to Develop, Manufacture, Commercialize or otherwise Exploit such Licensed Product in the U.S.; *provided, however*, that Other Income will not include any such payments received by such Party or its Affiliate from a Sublicensee as a *bona fide* payment or reimbursement specifically for or in respect of: [***]. Other Income expressly excludes [***].

1.1.150 "**Out-of-Pocket Costs**" means, with respect to certain activities for a Licensed Product hereunder, amounts paid to permitted Subcontractors (without mark-up) by a Party or its Affiliates under an arm's length arrangement between such Party or its Affiliate and such Subcontractor for services or material provided by such Subcontractor in performance of such activities assigned to such Party under this Warrant constitutes, Agreement.

1.1.151 "**Owned Patents**" has the meaning set forth in Section 11.2(b).

1.1.152 "**Partial Opt-Out Right**" has the meaning set forth in Section 4.4(a).

1.1.153 "**Party**" or contains, material, non-public information regarding "**Parties**" means Protagonist or Takeda.

1.1.154 "**Patent Costs**" means the Company direct Out-Of-Pocket Costs (including the reasonable fees and expenses paid to outside legal counsel and other Third Parties, and filing and maintenance fees paid to Governmental Authorities) recorded as an expense by a Party or any of its Affiliates in accordance with Applicable Accounting Standards after the subsidiaries, Effective Date, during the Company shall simultaneously file such notice Term of and pursuant to this Agreement, (a) in connection with the Commission prosecution and maintenance of rights, including costs of patent interference, opposition, reissue, or re-examination proceedings and filing and registration fees with respect to the Licensed Patents or Joint Patents, in each case to the extent that they claim the composition of matter, article of manufacture, method of use or treatment, or method of manufacture of a Licensed Product in the Territory, and (b) the costs of litigation (enforcement or defense) or other proceedings, under the Licensed Patents or Joint Patents, in each case only to the extent related to a Licensed Product in the Territory and not reimbursed by a Third Party.

1.1.155 "**Patent Rights**" means patents, patent applications, provisional and non-provisional patent applications, patent cooperation treaty (PCT) applications, utility models and utility model applications, design patents or registered industrial designs and design applications or applications for registration of industrial designs, and all substitutions, divisionals, continuations, continuation-in-part applications, continued prosecution applications, requests for continued examinations, patents-of-addition, reissues, reexaminations, renewals, extensions and restorations by existing or future extension or restoration mechanisms (including any supplementary protection certificate or equivalents thereof), inventor's certificates or letters patent, and all other counterparts and substantially equivalent form of government issued right substantially similar to any of the foregoing in any country of the world.

For clarity, any Patent Rights shall include any future Patent Rights that claim priority to or common priority with such Patent Rights.

1.1.156 "**Person**" means any corporation, limited or general partnership, limited liability company, joint venture, trust, unincorporated association or organization, sole proprietorship, Governmental Authority, or any other entity or body, or an individual.

1.1.157 "**Phase 1 Clinical Trial**" means a human clinical trial of the safety, tolerability, pharmacological activity and pharmacokinetics of a product, that is prospectively

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designed to generate sufficient data (if successful) to commence a Phase 2 Clinical Trial (or foreign equivalent) of such product, as further defined in 21 C.F.R. § 312.21(a) or the corresponding regulation in jurisdictions other than the United States.

1.1.158 "**Phase 2 Clinical Trial**" means a human clinical trial of the initial efficacy, safety and dose range of a product, that is prospectively designed to generate sufficient data (if successful) to commence a Phase 3 Clinical Trial (or foreign equivalent) of such product, as further defined in 21 C.F.R. 312.21(b) or the corresponding regulation in jurisdictions other than the United States.

1.1.159 "**Phase 2b Clinical Trial**" means a human clinical trial of the feasibility, safety, dose ranging and efficacy of a product, that is prospectively designed to generate sufficient data (if successful) to commence a Phase 3 Clinical Trial (or foreign equivalent) of such product, as further defined in 21 C.F.R. 312.21(b) or the corresponding regulation in jurisdictions other than the United States. A Phase 2b Clinical Trial shall be deemed initiated upon the dosing of the first patient.

1.1.160 "**Phase 3 Clinical Trial**" means a human clinical trial that is prospectively designed to demonstrate whether a product is safe and effective for use in humans in a manner to meet the evidentiary requirements sufficient to obtain Regulatory Approval to market such product in patients having the disease or condition being studied as described in U.S. 21 C.F.R. § 312.21(c), or an equivalent Clinical Trial required by a Regulatory Authority in jurisdictions other than the United States.

1.1.161 "**Phase 4 Clinical Trial**" means: (a) a post-approval clinical trial for a Licensed Product with respect to any Indication for which Regulatory Approval has been received or that is required or agreed to be conducted as a condition of receiving Regulatory Approval in a country; as well as (b) any marketing study, epidemiological study, modeling and pharmacoeconomic study, investigator-initiated clinical trial or post-marketing surveillance study of a Licensed Product or a registry study, in each case (of this clause (b)) that is not intended for use as a basis for obtaining Regulatory Approval (including expanded Product Labeling) with respect to such Licensed Product.

1.1.162 "**Phase 4 Costs**" means those [***] and the [***] recorded as an expense by a Party or any of its Affiliates in accordance with its Applicable Accounting Standards, during the Term of and pursuant to this Agreement, prior to Protagonist's exercise of the Opt-Out Right, that are directly attributable or reasonably allocable to a Current Phase 4 Clinical Trial, wherever conducted, of a Licensed Product but solely in support of obtaining and maintaining Regulatory Approval for such Licensed Product in the U.S. to Commercialize such Licensed Product in the U.S. in accordance with its applicable Joint Commercialization Plan. Phase 4 Costs shall include [***].

1.1.163 "**PhRMA Code**" means the Code of the Pharmaceutical Research and Manufacturers of America.

1.1.164 "**PMDA**" means Japan's Pharmaceuticals and Medical Devices Agency and any successor Regulatory Authority having substantially the same function.

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1.1.165 "**Pre-OIOO Date Development Activities**" has the meaning set forth in Section 4.1(a).

1.1.166 "**Pricing and Reimbursement Approval**" means an approval, agreement, determination or other decision by the applicable Governmental Authority of a country or jurisdiction that establishes prices charged to end-users for pharmaceutical or biologic products at which a particular pharmaceutical or biologic product will be reimbursed by the Regulatory Authority or other applicable Governmental Authority in such country or jurisdiction.

1.1.167 "**Pricing Matters**" means, with respect to a Licensed Product for which Protagonist has not exercised an Opt-Out Right, the [***], in each case, in respect of such Licensed Product.

1.1.168 "**Product Information**" has the meaning set forth in Section 10.1.

1.1.169 "**Product Labeling**" means, with respect to a Licensed Product, (a) the Regulatory Authority-approved full prescribing information for such Licensed Product, including any required patient information, and (b) all labels and other written, printed, or graphic matter upon a container, wrapper, or any package insert utilized with or for such Licensed Product.

1.1.170 "**Product Trademark**" means any trademark or service mark for use in connection with the distribution, marketing, promotion and sale of Licensed Products, or accompanying logos, trade dress or indicia of origin, but specifically excluding the corporate names and logos of the Parties and their Affiliates.

1.1.171 "**Promotional Materials**" means all written, printed, graphic, digital, electronic, audio or video matter, including journal advertisements, sales visual aids, leave-behind items, formulary binders, reprints, direct mail, direct-to-consumer advertising, internet postings and sites and broadcast advertisements, for use or used by Sales Representatives of either Party or their respective Affiliates in connection with any promotion of a Licensed Product.

1.1.172 "**Protagonist**" has the meaning set forth in the Preamble.

1.1.173 "**Protagonist Background IP**" has the meaning set forth in Section 9.1(b)(i).

1.1.174 "**Protagonist Competing Program**" has the meaning set forth in Section 2.7(a)(i)A.

1.1.175 "**Protagonist Indemnitee**" has the meaning set forth in Section 13.2.

1.1.176 "**Publications**" means any and all publications, abstracts, posters and other presentations in scientific or medical journals or forums of data and results generated from activities in furtherance of this Agreement.

1.1.177 "**PVA**" has the meaning set forth in Section 5.6.

1.1.178 "**Receiving Party**" has the meaning set forth in Section 10.2(a).

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1.1.179 "**Redomiciliation**" means a reincorporation or other action resulting in a change in Tax residence of the applicable Party, its assignee or any Person making a payment on behalf of such Party, or the formation of a branch of any such Party or Person in a jurisdiction other than the United States, but only to the extent that a payment under this Agreement is made by such Party that changed its Tax residence or branch.

1.1.180 "**Region**" means each of (a) the U.S., (b) Europe (including all members of the European Economic Area, the United Kingdom, and Switzerland), (c) Japan, (d) People's Republic of China, and (e) other countries and regions in the rest of the world.

1.1.181 "**Regulatory Approval**" means, with respect to a country or other jurisdiction in the Territory, any and all approvals (including Drug Approval Applications), licenses, registrations, or authorizations of the Regulatory Authority of such country or other jurisdiction necessary to Commercialize a product in such country or other jurisdiction, excluding, where applicable, Pricing and Reimbursement Approval in such country or other jurisdiction.

1.1.182 "**Regulatory Authority**" means any Governmental Authority (e.g., the FDA, EMA, PMDA and MHRA) regulating or otherwise exercising authority with respect to activities contemplated in this Agreement, including the Exploitation of the Licensed Compounds or the Licensed Products in the Territory.

1.1.183 "**Regulatory Documentation**" means all (a) applications (including all INDs and Drug Approval Applications and other regulatory filings), registrations, licenses, authorizations, and approvals (including Regulatory Approvals, Pricing and Reimbursement Approvals and Product Labeling) and designations (including designations of a product as an "orphan" drug or its equivalent outside of the United States), (b) correspondence, communication, materials, documentation and reports submitted to or received from Regulatory Authorities (including meeting requests, pre-meeting submissions, minutes and official contact reports relating to any communications with any Regulatory Authority) and all supporting documents with respect thereto, including all regulatory drug lists, advertising and promotion documents, adverse event files, and complaint files, and (c) clinical data and other data contained or relied upon in any of the foregoing, in each case ((a), (b), and (c)) relating to Developing, Manufacturing, obtaining marketing authorization, marketing, selling or otherwise Commercializing a Licensed Product in the Territory.

1.1.184 "**Regulatory Exclusivity**" means with respect to any country or other jurisdiction in the Territory and a Licensed Product, an additional market protection, other than Patent Rights protection, granted by a Regulatory Authority in such country or other jurisdiction which confers exclusive marketing rights or data exclusivity rights with respect to such Licensed Product in such country or other jurisdiction (e.g., new chemical entity exclusivity, new use or indication exclusivity, new formulation exclusivity, orphan drug exclusivity, pediatric exclusivity, or any applicable data exclusivity).

1.1.185 "**Regulatory Expenses**" means those [***] incurred and the [***] recorded as an expense by a Party or any of its Affiliates in accordance with its Applicable Accounting Standards, during the Term and pursuant to this Agreement, prior to Protagonist's exercise of the Opt-Out Right, that are directly attributable or reasonably allocable to the preparation of regulatory submissions for, and the obtaining and maintenance of Regulatory

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Approval of, a Licensed Product in the U.S., including compliance with Regulatory Approvals and requirements of such Regulatory Authorities, adverse event recordation and reporting and regulatory affairs activities, in accordance with the regulatory strategy specified for such Licensed Product in its Joint Global Development Plan or Joint Commercialization Plan, as applicable.

1.1.186 "**Related Party(ies)**" means Takeda's Affiliates and Sublicensees.

1.1.187 "**Replacement Licensed Product**" means the first (1st) Licensed Product being advanced for Development or Commercialization by Takeda or its Affiliates or Sublicensees after Rusfertide has suffered a Rusfertide Failure and containing a different Licensed Compound from Rusfertide.

1.1.188 "**Revenue Report**" has the meaning set forth in Section 8.7(b).

1.1.189 "**Reversion License**" has the meaning set forth in Section 12.11(d)(i).

1.1.190 "**Reversion Trademarks**" has the meaning set forth in Section 12.11(f)(vi).

1.1.191 "**Royalty Term**" has the meaning set forth in Section 8.6(c).

1.1.192 "**Rules**" has the meaning set forth in Section 14.2(c)(i).

1.1.193 "**Rusfertide**" has the meaning set forth in Section 1.1.125.

1.1.194 "**Rusfertide Failure**" means [***].

1.1.195 "**Rusfertide IND**" means that certain Investigational New Drug Application No. 152414.

1.1.196 "**Rusfertide NDA**" means an NDA for Rusfertide for the Initial Indication filed with the FDA.

1.1.197 "**Rusfertide OLE**" means that certain open label extension trial for Rusfertide ongoing as of the Execution Date having Protocol No. PTG-300-21 and titled "An Extension Study to Evaluate the Long-term Safety of Rusfertide (PTG-300) in Subjects with Polycythemia Vera".

1.1.198 "**Rusfertide Opt-Out First-Half Payment**" has the meaning set forth in Section 8.3.

1.1.199 "**Rusfertide Opt-Out Payment**" has the meaning set forth in Section 8.3.

1.1.200 "**Rusfertide Opt-Out Period**" has the meaning set forth in Section 4.4(a).

1.1.201 "**Rusfertide Opt-Out Right**" has the meaning set forth in Section 4.4(a).

1.1.202 "**Rusfertide Opt-Out Second-Half Payment**" has the meaning set forth in Section 8.3.

1.1.203 "**Rusfertide PV Development Program**" means the ongoing VERIFY Clinical Trial for the Initial Indication and related Clinical Trials, as set forth in the Joint Global Development Plan for Rusfertide.

1.1.204 "**Safety Concern**" means, with respect to any Licensed Product, (a) any safety concern [***] in connection with, as applicable, Development or Commercialization activities with respect to such Licensed Product.

1.1.205 "**Sales and Marketing Costs**" means those [***] incurred and the [***] recorded as an expense by a Party or any of its Affiliates in accordance with its Applicable Accounting Standards, during the Term of and pursuant to this Agreement, prior to Protagonist's exercise of the Opt-Out Right pursuant to Section 4.4, in the performance of the sales and marketing activities for a Licensed Product set forth in its applicable Joint Commercialization Plan to the extent in accordance with Applicable Law and applicable industry codes, including the PhRMA Code, including: [***].

1.1.206 "**Sales Representative**" means a pharmaceutical sales representative engaged or employed by either Party to conduct Detailing and other promotional efforts in the U.S. in accordance with the terms of this Agreement with respect to a Licensed Product for which Protagonist has not exercised an Opt-Out Right.

1.1.207 "**Scientific Exchange Activities**" means activities performed by or on Form 8-K. The Holder behalf of a Party's or its Affiliates' medical affairs departments directed to interacting with physicians and other healthcare professionals who utilize or conduct research related to a drug or biological product, including medical and scientific information and response to external inquiries or complaints, post-approval investigator initiated research and or scientific research agreements, life cycle management activities and clinical research, medical education, Health Economics and Outcomes Research (HECOR, HEMAR), Investigator Initiated Research (IIR), symposia, advisory boards, educational grants and fellowships, medical affairs clinical trial management, publications group, medical communications group and field medical education group. For purposes of this Agreement, Scientific Exchange Activities may be included in Development or, although not involving the promotion, marketing or sales of any Licensed Product, in Commercialization based on the definitions of those terms or the Joint Global Development Plan or the Joint Commercialization Plan. For the avoidance of doubt, Scientific Exchange Activities do not include any activities involving the marketing, promotion or sale of any product. To engage in "**Scientific Exchange**" means to conduct Scientific Exchange Activities by Field Medical Team.

1.1.208 "**Selling Party**" has the meaning set forth in Section 1.1.136.

1.1.209 "**Shared Commercialization Costs**" means:

(a) the [***] and the [***] that are directly attributable or reasonably allocable, in accordance with such Party's Applicable Accounting Standards, to the performance by or on behalf of a Party or its Affiliates of Commercialization activities for a Licensed Product in the U.S. and incurred by or on behalf of such Party or any of its Affiliates in accordance with the applicable Joint Commercialization Plan and the amounts budgeted for the performance of such activities in such Joint Commercialization Plan, whether incurred by such Party or its Affiliates

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prior to or after receipt of Regulatory Approval, including Sales and Marketing Costs and Distribution Costs;

(b) Detail Costs;

(c) Inventory Build Costs of a Licensed Product for use in the U.S. under its applicable Joint Commercialization Plan;

(d) Manufacturing Costs to be treated as Shared Commercialization Costs pursuant to Section 6.3(c) and in accordance with the applicable Joint Commercialization Plan, including [***];

(e) Patent Costs to be treated as Shared Commercialization Costs pursuant to Section 9.12;

(f) Shared Scientific Exchange Costs;

(g) costs associated with recall or withdrawal of Licensed Products in the U.S. to be treated as Shared Commercialization Costs pursuant to Section 5.5, calculated on an FTE cost and Out-of-Pocket Cost basis;

(h) (i) [***], and (ii) any and all amounts paid to any other Third Party for New Technology to be treated as Shared Commercialization Costs pursuant to Section 2.10(b);

(i) Losses from Third Party Claims to be treated as Shared Commercialization Costs pursuant to Section 13.3;

(j) Regulatory Expenses to be treated as Shared Commercialization Costs pursuant to Section 5.3;

(k) Phase 4 Costs;

(l) Costs associated with patient assistance programs, including in relation to patient advocacy, calculated on an FTE cost and Out-of-Pocket Cost basis;

(m) Product liability insurance with respect to Licensed Products in the U.S. in the event the Parties obtain a joint policy; and

(n) any other costs and expenses of a Party or its Affiliates, that are directly attributable or reasonably allocable to the Commercialization of Licensed Products in the U.S., in accordance with the Shared Commercialization Budget of the Joint Commercialization Plan.

Shared Commercialization Costs specifically exclude any [***].

If any cost or expense is directly attributable or reasonably allocable to more than one Shared Commercialization Cost category above, then such cost or expense will only be counted once (i.e., as a Shared Commercialization Cost with respect to only one such category). No cost or expense included as a Shared Commercialization Cost will: (A) also be included as Shared

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Development Cost; or (B) be an amount for which one Party or the other is solely responsible under this Agreement.

1.1.210 "**Shared Commercialization Budget**" has the meaning set forth in Section 7.3(a).

1.1.211 "**Shared Development Budget**" has the meaning set forth in Section 4.2(a).

1.1.212 "**Shared Development Costs**" means:

(a) the [***] and the [***] that are directly attributable or reasonably allocable, in accordance with such Party's Applicable Accounting Standards, to the performance by or on behalf of a Party or its Affiliates of Development activities and incurred by or on behalf of such Party or any of its Affiliates in accordance with its applicable Joint Global Development Plan and the amounts budgeted for the performance of such activities in such Joint Global Development Plan;

(b) the [***] and the [***] that are directly attributable or reasonably allocable, in accordance with such Party's Applicable Accounting Standards, to the performance by or on behalf of a Party or its Affiliates of CMC Development activities and incurred by or on behalf of such Party or any of its Affiliates in accordance with its applicable Joint Global Development Plan and the amounts budgeted for the performance of such activities in such Joint Global Development Plan;

(c) (i) Inventory Build Costs of a Licensed Product for use under its applicable Joint Global Development Plan and (ii) other Manufacturing Costs not included in the foregoing clause (i) and treated as Shared Development Costs pursuant to Section 6.3(c) and in accordance with its applicable Joint Global Development Plan and the amounts budgeted in such Joint Global Development Plan;

(d) costs associated with recall or withdrawal of such Licensed Product in the U.S. to be treated as Shared Development Costs pursuant to Section 5.5, calculated on an FTE Cost and Out-of-Pocket Cost basis;

(e) Patent Costs to be treated as Shared Development Costs pursuant to Section 9.12;

(f) (i) [***], and (ii) any and all amounts paid to any other Third Party for New Technology to be treated as Shared Development Costs pursuant to Section 2.10(b);

(g) Regulatory Expenses to be treated as Shared Development Costs pursuant to Section 5.3;

(h) Losses from Third Party Claims to be treated as Shared Development Costs pursuant to Section 13.3; and

(i) any other costs and expenses of a Party or its Affiliates, that are directly attributable or reasonably allocable to the Development of Licensed Products in support of seeking,

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obtaining and maintaining Regulatory Approval in the U.S., in accordance with this Agreement, and are mutually agreed by the Parties through the JSC.

Shared Development Costs specifically [***].

If any cost or expense is directly attributable or reasonably allocable to more than one Shared Development Cost category above, then such cost or expense will only be counted once (i.e., as a Shared Development Cost with

respect to only one such category). No cost or expense included as a Shared Development Cost will: (A) also be included as a Shared Commercialization Cost, or (B) be an amount for which one Party or the other is solely responsible under this Agreement.

1.1.213 "**Shared Operating Profit (or Loss)**" means, for a given period of time, Net Revenue of a Licensed Product for the U.S. during such period, *less* the sum of: (a) Shared Development Costs for such Licensed Product *plus* (b) Shared Commercialization Costs for such Licensed Product, in each case ((a) and (b)) incurred during such time period. For clarity, Shared Operating Profit (or Loss) will be determined prior to application of any income Taxes, and if such terms are used individually, "**Shared Operating Profit**" will mean a positive Shared Operating Profit (or Loss), and "**Shared Operating Loss**" will mean a negative Shared Operating Profit (or Loss). Shared Operating Profit (or Loss) will be recognized and calculated in accordance with Applicable Accounting Standards.

1.1.214 "**Shared Program Activities**" means any activities for a Licensed Product, with respect to which Protagonist has not exercised an Opt-Out Right, conducted by either Party or any of its Affiliates, Sublicensees or Subcontractors during the Term consisting of (a) Development of such Licensed Product, consistent with the corresponding Joint Global Development Plan for such Licensed Product, (b) Commercialization of such Licensed Product in the U.S. consistent with the corresponding Joint Commercialization Plan for such Licensed Product, or (c) the Manufacture of such Licensed Product for use in any of the activities set forth under clause (a) or (b).

1.1.215 "**Shared Program Damages**" means any Losses incurred in connection with any Third Party Claim, as well as any attorneys' fees and costs of litigation incurred by either Party (or any of the Takeda Indemnitees or Protagonist Indemnitees, as applicable) from Third Party Claims that arise from or are related to the performance of Shared Program Activities, other than Losses arising out of (a) any breach of, or inaccuracy in, any representation or warranty made by a Party in this Agreement, or any breach or violation of any covenant or agreement of a Party in this Agreement, or (b) the negligence or willful misconduct by or of a Party or any of its respective Affiliates, Sublicensees or Subcontractors or any of their respective directors, officers, employees or agents in the performance of such Party's obligations or exercise of its rights under this Agreement.

1.1.216 "**Shared Resources**" has the meaning set forth in Section 7.6.

1.1.217 "**Shared Scientific Exchange Costs**" means those [***] incurred and the [***] incurred by or on behalf of Takeda (or Protagonist, if it has exercised the Co-Detail and Co-Scientific Exchange Option and not exercised the Co-Detail and Co-Scientific Exchange Opt-Out Option) in accordance with its Applicable Accounting Standards consistent with the Joint Global

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Development Plan or Joint Commercialization Plan, as applicable, during the Term of and pursuant to this Agreement, prior to the effective date of Protagonist's exercise of the applicable Opt-Out Right, that are directly attributable or reasonably allocable to the performance of Scientific Exchange Activities by or on behalf of Takeda or Protagonist, in each case, with respect to the applicable Licensed Product in the U.S.

Shared Scientific Exchange Costs specifically exclude [***].

If any cost or expense is directly attributable or reasonably allocable to more than one Scientific Exchange Cost category above, then such cost or expense will only be counted once (i.e., as a Scientific Exchange Cost with

respect to only one such category). No cost or expense included as a Scientific Exchange Cost will: (a) also be included as a Shared Development Cost; or (b) be an amount for which one Party or the other is solely responsible under this Agreement.

1.1.218 "**Significant Trial**" means, with respect to Rusfertide, a new Clinical Trial that, at the time of commencement, would be reasonably expected to (a) cost in excess of $[***], or (b) last longer than [***].

1.1.219 "**Subcontractor**" means a Third Party contractor (including CROs, contract manufacturing organizations (CMOs), or Third Party distributors) engaged by a Party or its Affiliates on a fee-for-service basis to perform certain services or activities on behalf of and for the benefit of such Party or its Affiliates or exercise certain rights on behalf of such Party or its Affiliates, in each case, under this Agreement.

1.1.220 "**Sublicensee**" means, with respect to either Party, a Third Party (*excluding* any Subcontractor that is granted any such sublicense or other rights solely for the purpose of performing specific limited services or activities solely on behalf of and for the benefit of such Party or its Affiliate) to which such Party or its Affiliate has granted or grants rights under the rights granted to such Party pursuant to this Agreement to Develop, Manufacture, Commercialize or otherwise Exploit a Licensed Product, or any further sublicensee of such rights (regardless of the number of tiers, layers or levels of sublicenses of such rights) in accordance with Section 2.3.

1.1.221 "**Successful Completion**" means, with respect to a Clinical Trial, as evidenced in a Clinical Study Report, the successful achievement of the [***] for such Clinical Trial.

1.1.222 "**Takeda**" has the meaning set forth in the Preamble.

1.1.223 "**Takeda Background IP**" has the meaning set forth in Section 9.1(b)(ii).

1.1.224 "**Takeda Competing Program**" has the meaning set forth in Section 2.7(a)(i)A.

1.1.225 "**Takeda Competitor**" means, with respect to a Change of Control involving Protagonist during the Term, [***] (such program, an "**Acquirer Competing Program**").

1.1.226 "**Takeda Indemnitee**" has the meaning set forth in Section 13.1.

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1.1.227 "**Tax**" or "**Taxes**" means any form of tax or taxation, levy, duty, charge, social security charge, contribution or withholding of whatever nature (including any related fine, penalty, surcharge or interest) imposed by, or payable to, any government, state or municipality, or any local, state, federal or other fiscal, revenue, customs, or excise authority, body or official in the Territory.

1.1.228 "**Term**" has the meaning set forth in Section 12.1.

1.1.229 "**Territory**" means worldwide.

1.1.230 "**Third Party**" means any Person other than Protagonist or Takeda and their respective Affiliates.

1.1.231 "**Third Party Claim**" means any claim, demand, suit, action or other proceeding by any Third Party.

1.1.232 "**Third Party Infringement Claim**" has the meaning set forth in Section 9.9.

1.1.233 "**Third Party Product Infringement**" has the meaning set forth in Section 9.8(a).

1.1.234 "**Transition Plan**" has the meaning set forth in Section 9.8(a).

1.1.235 "**United States**" or "**U.S.**" means the United States of America and its territories and possessions.

1.1.236 "**US Enforcement Strategy**" has the meaning set forth in Section 9.5(c)(i).

1.1.237 "**US Patent Strategy**" has the meaning set forth in Section 9.5(c)(i).

1.1.238 "**Valid Claim**" means (a) a claim of an issued and unexpired Patent Right that has not been revoked or held unenforceable, unpatentable, or invalid by a decision of a court or other Governmental Authority of competent jurisdiction that is not appealable or has not been appealed within the time allowed for appeal, or (b) a claim of a pending patent application that has not been cancelled, withdrawn, abandoned, or finally rejected by a Governmental Authority action from which no appeal can be taken and that has not been pending for more than [***]. If a claim of a patent application that ceased to be a Valid Claim under clause (b) of the preceding sentence because of the passage of time later issues as part of a patent within clause (a) of the preceding sentence, then such claim shall remain entitled again be considered a Valid Claim effective as of the issuance of such patent.

1.1.239 "**VERIFY Clinical Trial**" means the Phase 3 Clinical Trial identified as VERIFY, NCT number: NCT05210790, under the Rusfertide PV Development Program.

1.1.240 "**Working Group**" has the meaning set forth in Section 3.11.

1.1.241 "**[***]**" means [***].

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1.1.242 "**[***]**" means that certain [***].

ARTICLE II
GRANT OF LICENSE RIGHTS

2.1 **License Grant to exercise Takeda; Protagonist Retained Rights.**

(a) **License Grants to Takeda.**

(i)Subject to the terms and conditions of this Warrant Agreement, and exercisable during the period commencing on the Effective Date and terminating on the Opt-In/Out Date, Protagonist hereby grants to Takeda a non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(b)) (A) license under the Licensed Technology to perform Commercialization activities for Rusfertide in the Field and to Manufacture and have Manufactured Rusfertide in support of such Commercialization activities, which license will be (1) co-exclusive with Protagonist and its Affiliates in the U.S. and (2) exclusive (including with respect to Protagonist

and its Affiliates) in the Ex-U.S. Territory, (B) co-exclusive license with Protagonist and its Affiliates in the U.S. under the Licensed Technology to perform the Assumed Pre-OIOO Date U.S. Regulatory Activities, which license shall be exercisable solely from and after Takeda's exercise of its assumption right pursuant to Section 5.1(a)(ii), and (C) exclusive license under the Licensed Technology to perform Development activities in Japan for Rusfertide in the Field.

(ii)Subject to the terms and conditions of this Agreement (including Protagonist's retained rights under Section 2.1(b)), and exercisable during the period commencing on the Opt-In/Out Date and continuing during the Term, Protagonist hereby grants to Takeda a non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(b)) license under the Licensed Technology to Develop, Manufacture, Commercialize and otherwise Exploit the Licensed Compounds and the Licensed Products in the Field, which license will be (A) co-exclusive with Protagonist and its Affiliates in the U.S. (and shall become exclusive (including with respect to Protagonist and its Affiliates) after Protagonist completes the performance of the wind-down and transition activities provided for under Section 4.4(c) (1) if Protagonist exercises the Rusfertide Opt-Out Right, with respect to all Licensed Compounds and Licensed Products, or (2) in the case Protagonist exercises a Partial Opt-Out Right, solely with respect to the Licensed Product that is the subject of such Partial Opt-Out Right), and (B) exclusive (including with respect to Protagonist and its Affiliates) and royalty-bearing in the Ex-U.S. Territory.

(b) **Protagonist Retained Rights**. Notwithstanding the exclusive licenses granted to Takeda pursuant to Section 2.1(a), and without limiting the generality of Section 2.5, Protagonist and its Affiliates will retain the right to use and practice the Licensed Technology, with the right to license (through multiple tiers) to Protagonist's Affiliates and Third Parties, (i) as long as Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to a Licensed Product to perform its Development obligations, as set forth in and subject to the applicable Joint Global Development Plan for such Licensed Product, in the Ex-U.S. Territory, and (ii) to Manufacture and have Manufactured in the Territory clinical requirements of Rusfertide for all Development activities under the Rusfertide PV Development Program, subject to and in accordance with the terms of this Agreement.

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2.2 **License Grant to Protagonist**. As long as Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to such Licensed Product, Takeda hereby grants to Protagonist with respect to the applicable Licensed Product (a) a co-exclusive, non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(a)), royalty-free, fully paid-up license under Takeda Arising IP and Takeda's interest in the Joint IP for the purposes of performing its Development obligations, as set forth in and subject to the applicable Joint Global Development Plan for such Licensed Product, in the Territory, and, solely where such Licensed Product is Rusfertide, its Manufacturing obligations pursuant to Section 6.2; (b) a co-exclusive, non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(a)), royalty-free, fully paid-up license under Takeda Arising IP and Takeda's interest in the Joint IP for the purposes of performing its Commercialization obligations, as set forth in and subject to the applicable Joint Commercialization Plan for such Licensed Product, in the United States; (c) a non-exclusive, non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(a)), royalty-free, fully paid-up license under the Takeda Background IP (to the extent made available by Takeda to Protagonist in connection with this Agreement) for the purposes of performing its Development obligations, as set forth in and subject to the applicable Joint Global Development Plan for such Licensed Product, in the Territory; and (d) a non-exclusive, non-transferable (except as provided in Section 14.3), sublicensable (as permitted in Section 2.3(a)), royalty-free, fully paid-up license under the Takeda Background IP (to

the extent made available by Takeda to Protagonist in connection with this Agreement) for the purposes of performing its Commercialization obligations, as set forth in and subject to the applicable Joint Commercialization Plan for such Licensed Product, in the United States.

2.3 **Scope of Permissible Sublicensing**.

(a) **Protagonist.**

(i)*To Subcontractors*. Protagonist may grant a sublicense of the rights granted by Takeda to Protagonist (A) under Sections 2.2(a) and 2.2(c), to a Subcontractor engaged in accordance with Section 4.8 to perform Protagonist's responsibilities or exercise Protagonist's rights, in each case, under the applicable Joint Global Development Plan, and (B) under Sections 2.2(b) and 2.2(d), to a Subcontractor engaged in accordance with Section 7.9 to perform Protagonist's responsibilities or exercise Protagonist's rights, in each case, under the applicable Joint Commercialization Plan.

(ii)*To Affiliates and Other Third Parties*. Protagonist may grant a sublicense of the rights granted by Takeda to Protagonist under Section 2.2, which sublicensed rights may be further sublicensable through multiple tiers, to: (A) without the prior consent of Takeda, an Affiliate of Protagonist, *provided that* such sublicense to an Affiliate of Protagonist will immediately terminate if and when such party ceases to be an Affiliate of Protagonist, or (B) with the prior consent of Takeda, such consent not to be unreasonably withheld, conditioned or delayed, any Third Party that is not a Subcontractor.

(iii)*Responsibilities*. With respect to any sublicense granted pursuant to Section 2.3(a)(i) or Section 2.3(a)(ii), Protagonist will (A) remain responsible for the work allocated to, and payment to, such Subcontractor or Sublicensee to the same extent it would if it had done such work itself and compliance by such Subcontractor or Sublicensee with the applicable provisions of this Agreement, and Takeda will have the right to proceed directly against Protagonist

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without any obligation to first proceed against such Subcontractor or Sublicensee, as applicable, (B) require that such Subcontractor or Sublicensee undertakes in writing to assign or exclusively license back (with the right to sublicense) to Protagonist all Intellectual Property with respect to the Licensed Compounds or Licensed Products conceived, discovered, developed, or otherwise made in the course of performing any such work, (C) require that such Subcontractor or Sublicensee undertakes in writing commercially reasonable obligations of confidentiality and non-use regarding Confidential Information that are substantially the same as those undertaken by the Parties with respect to Confidential Information pursuant to Article X hereof, and (D) without limitation of the foregoing clause (C), include in any such sublicense terms consistent with Protagonist's obligations to Takeda under this Agreement.

(b) **Takeda.**

(i)*To Subcontractors*. Takeda may grant a sublicense of the rights granted by Protagonist to Takeda under Section 2.1(a)(i) or Section 2.1(a)(ii) to a Subcontractor engaged in accordance with Section 4.8, Section 6.5 or Section 7.9, as applicable, to perform Takeda's responsibilities or exercise Takeda's rights, in each case, under the applicable Joint Global Development Plan or Joint Commercialization Plan.

(ii)*To Affiliates and Other Third Parties*. Takeda may grant a sublicense of the rights granted by Protagonist to Takeda in Section 2.1(a)(ii), which sublicensed rights may be further sublicensable through multiple tiers to: (A) an Affiliate of Takeda, without the prior consent of Protagonist (which sublicensed rights may be further sublicensable through multiple tiers), *provided that* such sublicense to an Affiliate of Takeda will immediately terminate if and when such party ceases to be an Affiliate of Takeda; (B) any Third Party for the Ex-U.S. Territory, without the prior consent of Protagonist (which sublicensed rights may be further sublicensable through multiple tiers); and (C) [***].

(iii)*Responsibilities*. With respect to any sublicense granted pursuant to Section 2.3(b)(i) or Section 2.3(b)(ii), Takeda will (A) remain responsible for the work allocated to, and payment to, such Subcontractor or Sublicensee to the same extent it would if it had done such work itself and compliance by such Subcontractor or Sublicensee with the applicable provisions of this Agreement, and Protagonist will have the right to proceed directly against Takeda without any obligation to first proceed against such Subcontractor or Sublicensee, as applicable, (B) require that such Subcontractor or Sublicensee undertakes in writing to assign or exclusively license back (with the right to sublicense) to Takeda all Intellectual Property with respect to the Licensed Compounds or Licensed Products conceived, discovered, developed, or otherwise made in the course of performing any such work, (C) require that such Subcontractor or Sublicensee undertakes in writing commercially reasonable obligations of confidentiality and non-use regarding Confidential Information that are substantially the same as those undertaken by the Parties with respect to Confidential Information pursuant to Article X hereof, and (D) without limitation of the foregoing clause (C), include in any such sublicense terms consistent with Takeda's obligations to Protagonist under this Agreement.

2.4 **Combinations**. Notwithstanding any other provision of this Agreement, for purposes of the licenses grants under Section 2.1(a) and Section 2.2, with respect to any Licensed Product that is a Combination Product, such license will not include a license to any other active

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components of such Combination Product Controlled by Protagonist or any of its Affiliates or Controlled by Takeda or any of its Affiliates, as the case may be.

2.5 **No Other Rights**. Except as otherwise expressly provided in this Agreement, under no circumstances shall a Party or any of its Affiliates, as a result of this Agreement, obtain any ownership, interest, license or other right (whether by implication, estoppel or otherwise) in any Know-How, Patent Rights or other Intellectual Property rights of the other Party or any of such other Party's Affiliates, including items owned, controlled or developed by the other Party, or provided by the other Party to the receiving Party at any time pursuant to this Agreement. Neither Party nor any of its Affiliates will use or practice any Know-How or Patent Rights licensed to such Party or any of its Affiliates outside the scope of or otherwise not in compliance with the rights and licenses granted to such Party and its Affiliates under this Agreement.

2.6 **Licensed Know-How Transfer**. Within [***] of the Effective Date, Protagonist shall disclose and make available to Takeda all Licensed Know-How (other than Regulatory Documentation whose transfer shall be undertaken as provided in Section 5.2(a) and Licensed Know-How and tangible materials relating to the process for Manufacture of Licensed Compounds and Licensed Products whose transfer shall be undertaken as provided in Section 6.6) that is necessary or reasonably useful for the Exploitation of the Licensed Compounds and Licensed Products in the Field in the Territory (a) in the format that the same exist and (b) that is Controlled by Protagonist as of the Effective Date. Takeda shall provide to Protagonist copies of all Arising Takeda Know-How and Know-How

within the Takeda Background IP, in each case, that is licensed to Protagonist pursuant to Section 2.2 to enable Protagonist to perform its Development obligations, as set forth in and subject to the corresponding Joint Global Development Plan for a Licensed Product, in the Territory, and its Commercialization obligations, as set forth in and subject to the corresponding Joint Commercialization Plan for a Licensed Product, in the United States.

2.7 **Exclusivity.**

(a) **Protagonist Exclusivity.**

(i)*General.*

A.During the Term, Protagonist shall not, and shall cause its Affiliates not to, alone or with or through Third Parties, Develop (except for pre-clinical in vitro research activities), Manufacture, or Commercialize any injectable hepcidin mimetic compound or product in the Field in the Territory (other than the Licensed Compounds or Licensed Products in accordance with this Agreement) (a "**Protagonist Competing Program**").

B.During the Term, if Protagonist (directly or indirectly) conducts [***].

(ii)*Change of Control of Protagonist*. If, as a result of a Change of Control of Protagonist, Protagonist or any of its Affiliates merges or consolidates with, or is acquired by, an Acquirer that is engaged in a Protagonist Competing Program as of the closing of such Change of Control or initiates a Protagonist Competing Program thereafter, then the existence of such Protagonist Competing Program and the Acquirer's performance of activities in connection

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therewith following the Change of Control shall not render Protagonist in breach of Section 2.7(a)(i)A so long as Protagonist Firewalls such Protagonist Competing Program from any and all activities under this Agreement. Further, Takeda shall have the rights afforded to it under Section 2.8 if such Acquirer's Protagonist Competing Program satisfies the definition of an "Acquirer Competing Program."

(iii)*Acquisitions by Protagonist*. Protagonist shall not be in breach of Section 2.7(a)(i)A if during the Term Protagonist acquires a Third Party (whether by merger with such Third Party or acquisition of all or substantially all of the stock or assets of such Third Party) that is engaged in a Protagonist Competing Program as of the closing of such acquisition; *provided that* (A) Protagonist notifies Takeda in writing within [***] after the public announcement of such acquisition, and either terminates or Divests such Protagonist Competing Program within [***] after the closing of such acquisition and (B) Protagonist Firewalls such Protagonist Competing Program from any and all activities under this Agreement until it is terminated or Divested in accordance with the foregoing clause (A). Notwithstanding any provision to the contrary set forth in this Agreement, no rights in, to, or under any Confidential Information, Know-How or any other Intellectual Property or proprietary rights in such Protagonist Competing Program shall be granted to Takeda; *provided that* Protagonist and its Affiliates do not use any such Confidential Information, Know-How or other Intellectual Property or proprietary rights in such Protagonist Competing Program in connection with any activities conducted hereunder with respect to any Licensed Compounds or Licensed Products and otherwise complies with this Section 2.7(a)(iii).

(b) **Takeda Exclusivity.**

(i)*General*. During the Term, Takeda shall not, and shall cause its Affiliates not to, [***] (a "**Takeda Competing Program**").

(ii)*Change of Control of Takeda.* If, as a result of a Change of Control of Takeda, Takeda or any of its Affiliates merges or consolidates with, or is acquired by, an Acquirer that is engaged in a Takeda Competing Program as of the closing of such Change of Control or initiates a Takeda Competing Program thereafter, then the existence of such Takeda Competing Program and the Acquirer's performance of activities in connection therewith following the Change of Control shall not render Takeda in breach of Section 2.7(b)(i) so long as [***] under this Agreement.

(iii)*Acquisitions by Takeda*. Takeda shall not be in breach of Section 2.7(b)(i) if during the Term Takeda acquires a Third Party (whether by merger with such Third Party or acquisition of all or substantially all of the stock or assets of such Third Party) that is engaged in a Takeda Competing Program as of the closing of such acquisition; *provided that* (A) Takeda notifies Protagonist in writing within [***] after the public announcement of such acquisition, and either terminates or Divests such Takeda Competing Program within [***] after the closing of such acquisition and (B) Takeda [***] in accordance with the foregoing clause (A). Notwithstanding any provision to the contrary set forth in this Agreement, no rights in, to, or under any Confidential Information, Know-How, or any other Intellectual Property or proprietary rights in such Takeda Competing Program shall be granted to Protagonist; *provided that* Takeda and its Affiliates do not use any such Confidential Information, Know-How, or other Intellectual Property or proprietary rights in such Takeda Competing Program in connection with any activities

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conducted hereunder with respect to any Licensed Compounds or Licensed Products and otherwise complies with this Section 2.7(b)(iii).

2.8 **Protagonist Change of Control with Takeda Competitor.**

(a) Protagonist (or its successor) shall provide Takeda with written notice of a Change of Control (or transaction that will be a Change of Control upon its closing) of Protagonist within [***] following the signing date of the agreement(s) for such transaction. Following such signing date in case of Change of Control pursuant to a transaction having a simultaneous signing and closing, or, in the case of a transaction that will be a Change of Control upon its closing, following such transaction's applicable closing date, as applicable, if the Acquirer in such Change of Control transaction is a Takeda Competitor, then, in addition to its rights pursuant to Protagonist's obligations under Section 2.7(a)(ii), Takeda shall have the right, but not the obligation, by providing written notice to Protagonist, to:

(i)[***];

(ii)[***];

(iii)[***]; and

(iv)[***].

(b) If an Acquirer of Protagonist is not a Takeda Competitor (at the time of the consummation of such Change of Control) but later undertakes Development or Commercialization of a product that would qualify as a

Protagonist Competing Program, then Takeda shall have the right, but not the obligation, by providing written notice to Protagonist, to take any or all of the actions set forth in Section 2.8(a).

(c) For clarity, the Rusfertide Opt-Out Right, or if applicable a Partial Opt-Out Right, if not yet expired or exercised at the time of such Change of Control of Protagonist, shall continue to be operative following such Change of Control.

2.9 **Rights For Additional Products**. If, during the Term, subject to Protagonist's obligations under Section 2.7(a), Protagonist intends to grant rights to a Third Party to Develop or Commercialize any of [***] (each, an "**Additional Product**" and such rights, an "**Additional Product Transaction**") in the Field in the Territory, then (on a compound-by-compound basis) Protagonist will notify Takeda in writing, which notice shall include [***] (collectively such information, the "**AP Transaction Information Package**")) and Takeda will have [***] from Takeda's receipt of such notice and AP Transaction Information Package to elect for the Parties [***] for up to [***] (or such longer period of time as agreed upon in writing between the Parties). If the Parties are unable to reach agreement and execute such definitive agreement within such [***] (or such longer period of time as agreed upon in writing between the Parties), then Protagonist shall have the right (but not the obligation) to [***]. For clarity, Takeda's rights set forth under this Section 2.9 shall [***].

2.10 **Third Party In-Licenses; Payments.**

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(a) **Existing In-License Agreements**. Each Party will be solely responsible for all upfront, milestone, royalty and other payments of any kind associated with any license agreement or other agreement of such Party or any of its Affiliates that exists as of the Effective Date under which such Party or such Affiliate has obtained rights to any Protagonist Background IP or Takeda Background IP, as applicable; *provided*, *however*, that, with respect to Protagonist as such Party and the [***], for which any and all amounts paid to [***] pursuant to the terms of such [***] in connection with the Exploitation of Rusfertide in the U.S. for which Protagonist has not elected an Opt-Out Right will be shared by the Parties as Shared Development Costs or Shared Commercialization Costs, as applicable. For clarity, (i) if Protagonist has exercised the Rusfertide Opt-Out Right, or any Partial Opt-Out Right, then Protagonist will be responsible for and will bear any and all amounts owed to [***] under the [***] with respect to the Exploitation of Rusfertide and all other Licensed Products, or such other Licensed Product, respectively, and (ii) in all cases, Protagonist will be responsible for and will bear any and all amounts owed to [***] under the [***] with respect to the Exploitation of Rusfertide or any other Licensed Product in the Ex-U.S. Territory.

(b) **New Technology.**

(i)*New Technology*. After the Effective Date, either Party may identify and propose to the JSC any Patents or Know-How owned or controlled by a Third Party [***] in a country of the Territory ("**New Technology**").

(ii)*Inclusion Process; Cost Allocation*.

A.If Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to the Licensed Product for which the New Technology is being proposed, the JSC will determine whether to approve the inclusion of such New Technology under this Agreement with respect to activities under the Joint Global Development Plan or the Joint Commercialization Plan corresponding to

such Licensed Product. If the JSC so approves including such New Technology under this Agreement, then (1) the JSC will determine which Party will negotiate and enter into the license agreement with the applicable Third Party for such New Technology (which license agreement will include the Ex-U.S. Territory to the extent requested by Takeda), (2) the prior written consent (not to be unreasonably withheld, conditioned or delayed) of the non-negotiating Party of such license agreement must be secured before its execution, and (3) following execution of such license agreement, such New Technology will be included as Licensed Technology or Takeda Background IP, as the case may be, under this Agreement, and the portion of payments payable to the applicable Third Party under such license agreement for rights that are reasonably allocable to the Development of such Licensed Product under its applicable Joint Global Development Plan will be shared by the Parties as Shared Development Costs or that are reasonably allocable to the Commercialization of such Licensed Product in the U.S. under its applicable Joint Commercialization Plan will be shared by the Parties as Shared Commercialization Costs. If the JSC does not so approve including such New Technology under this Agreement with respect to activities under the Joint Global Development Plan or the Joint Commercialization Plan corresponding to such Licensed Product, and one Party believes that such New Technology [***] under such Joint Global Development Plan or Joint Commercialization Plan (such New Technology, "**Blocking New Technology**"), then the resolution procedure of Section 2.10(b)(ii)(B) will

apply. For clarity, with respect to New Technology other than Blocking New Technology, the Party proposing to acquire rights to such New Technology will have the right to obtain a license to such New Technology, but the other Party will not be bound by any agreement related to such New Technology or have any rights under, or cost-sharing obligations with respect to, such New Technology, unless such other Party agrees to include such New Technology under this Agreement as set forth in this Section 2.10(b).

B.If a Party disputes whether certain New Technology is [***] may refer the matter to the Parties' respective IP Heads. The IP Heads will meet promptly to discuss and resolve the matter within [***] Business Days after the referral of such matter to such IP Heads. If the IP Heads cannot agree on a resolution to the matter within such [***] Business Day period, then either Party may refer such matter for resolution to the IP Expert within [***] Business Days after the IP Heads have failed to resolve such matter. The Parties will share all costs and expenses incurred in connection with the engagement of the IP Expert equally (50:50). Within [***] days of having been referred such matter, the IP Expert will deliver its written decision to the Parties (including a detailed report as to such IP Expert's rationale for such decision), and such decision will be binding on the Parties. [***], then such New Technology will be included as Licensed Technology or Takeda Background IP, as the case may be, and licensed to the applicable other Party pursuant to the terms of this Agreement, and any and all of the amounts paid to such Third Party in consideration for the use of such New Technology [***].

C.If (1) Protagonist has exercised the Rusfertide Opt-Out Right, (2) Protagonist has exercised a Partial Opt-Out Right with respect to the Licensed Product for which the New Technology is being proposed, or (3) with respect to New Technology solely for the Ex-U.S. Territory, Takeda will have the sole right, but not the obligation, to obtain a license to such New Technology from the applicable Third Party and will be solely responsible for all upfront, milestone, royalty and other payments of any kind owed to such Third Party under such license, subject to Section 8.6(d)(i) to the extent applicable.

ARTICLE III
GOVERNANCE

3.1 **Joint Steering Committee**.

(a) **Formation**. [***] after the Effective Date, but in no event later than [***] after the Effective Date, the Parties shall establish a joint steering committee (the "**JSC**") to oversee the activities of the Parties under this Agreement. The JSC shall be comprised of [***] representatives from each Party. Each Party's JSC representatives shall be employees of such Party and have appropriate technical credentials, experience, knowledge, and authority within such Party's organization for service on the JSC in light of the functions, responsibilities and authority of the JSC. The JSC may change its size from time to time by agreement of the Parties at the JSC, *provided that* the JSC will consist at all times of an equal number of representatives of each of Protagonist and Takeda. Each Party may replace any or all its representatives on the JSC with employee individual(s) of appropriate credentials, experience, knowledge and authority at any time upon written notice to the other Party. Additional employee representatives or consultants may, from time to time, by mutual consent of the Parties, be invited to attend JSC meetings in a non-

voting capacity, subject to such representatives' and consultants' (or such consultant's employer) undertaking confidentiality obligations in a written agreement no less stringent than the requirements of ARTICLE X.

(b) **JSC Chairperson**. The JSC shall be co-chaired, with one chairperson designated by Protagonist and one chairperson designated by Takeda, whose responsibilities shall include conducting meetings, including, when feasible, ensuring that objectives for each meeting are set and achieved. Responsibility for running each meeting of the JSC will alternate between the co-chairpersons from meeting-to-meeting, with Protagonist's chairperson running the first meeting.

(c) **JSC Responsibilities**. The JSC shall have the following responsibilities with respect to this Agreement:

(i)monitor, review, discuss and coordinate the overall progress of the Parties under the Joint Global Development Plan for Rusfertide and, as applicable, any Joint Global Development Plans for Licensed Products other than Rusfertide, and the Joint Commercialization Plan for Rusfertide and, as applicable, any Joint Commercialization Plans for Licensed Products other than Rusfertide;

(ii)review, discuss and determine whether to approve the occurrence of a Rusfertide Failure;

(iii)provide a forum for, and facilitate communications between, the Parties with respect to the collaboration under this Agreement;

(iv)establish, but not delegate decision making authority to, such additional subcommittees as it deems necessary to achieve the objective and intent of this Agreement;

(v)unless Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right (in which limited case the discontinuation shall apply solely with respect to the applicable Licensed Product that would be the subject of such plans and activities):

A.review, discuss and determine whether to approve any amendment to (1) the Joint Global Development Plan for Rusfertide (including, as applicable, the corresponding Shared Development Budget and associated regulatory strategy), including to add any Clinical Trial or Indications as described in Section 4.2(b), as recommended by the JDC, and (2) the Joint Commercialization Plan for Rusfertide (including, as applicable, the corresponding Shared Commercialization Budget and associated distribution strategy) as recommended by the JCC,

B.for any Licensed Product other than Rusfertide, as applicable, review, discuss and determine whether to approve its applicable Joint Global Development Plan (including the corresponding Shared Development Budget and associated regulatory strategy) for such Licensed Product, and all annual and interim amendments thereto, as such plans and amendments may be submitted to the JSC by the JDC as described in Section 4.2(a),

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C.for any Licensed Product other than Rusfertide, as applicable, review, discuss and determine whether to approve its applicable Joint Commercialization Plan (including the corresponding Shared Commercialization Budget and associated distribution strategy) for such Licensed Products, and all annual and interim amendments thereto, as recommended by the JCC, as such plans and amendments may be submitted to the JSC by the JCC as described in Section 7.3,

D.approving any annual reassessments of the FTE rate specified in clause (b) of Section 1.1.83, as recommended by the Joint Finance Committee;

E.undertaking the activities assigned to the JSC in connection with New Technology described in Section 2.10(b); and

F.review and discuss a Party's non-confidential information with respect to the promotion of any product that is not a Licensed Product together with a Licensed Product using Shared Resources in the U.S. and the allocation of costs and expenses for such Shared Resource that such Party may include as Shared Commercialization Costs in accordance with Section 7.6;

(vi)oversee the JSC's subcommittees, if any, and ensure effective participation in each such subcommittee's operations by any of its members;

(vii)oversee and coordinate each Party's Manufacturing activities in support of the Development and Commercialization of the Licensed Products, and approve Third Party subcontractors as set forth in Section 6.5;

(viii)establish secure access methods (such as secure databases) for each Party and the JDC and JCC to access Regulatory Documentation and other related information as contemplated under this Agreement;

(ix)review, discuss and determine how to resolve any issues escalated by, or disputes within, the JDC, JCC, Joint Manufacturing Working Group or the Joint Finance Committee;

(x)attempt to resolve any disputes on matters within the JSC's or any subcommittee's authority on an informal basis and in good faith prior to the initiation of escalation or other formal dispute resolution mechanisms hereunder; and

(xi)perform such other functions as expressly set forth herein, or as the Parties may mutually agree in writing, to be allocated to the JSC.

(d) **Appointment of Subcommittees and Project Teams**. The JSC shall be empowered to create such subcommittees of itself and project teams and working groups as it may deem appropriate or necessary. Each such subcommittee, project team or working group shall consist of employees of each Party and report to the JSC, which shall have the authority to approve or reject recommendations or actions proposed by any such subcommittee, project team or working group, subject to the terms of this Agreement. The provisions of Section 3.1(a) (excluding the first sentence thereof) and Section 3.1(b) shall apply to each subcommittee, *mutatis mutandis*, unless otherwise determined by the JSC.

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(e) **Joint Manufacturing Working Group**. Within [***] of the formation of the JSC, the Parties shall establish a working group that will be responsible for Manufacturing and supply matters delegated to it by the JDC, including preparing and approving the Manufacturing Technology Transfer Plan (the "**Joint Manufacturing Working Group**"). The Joint Manufacturing Working Group shall consist of an equal (and agreed upon) number of representatives from each of the Parties, each being an employee of such Party and having appropriate technical credentials, experience, knowledge, and authority within such Party's organization for service on the Joint Manufacturing Working Group to oversee and make decisions regarding CMC Development activities and other Manufacturing matters under this Agreement. The Joint Manufacturing Working Group shall meet as frequently as necessary to carry out its duties under this Section 3.1(e). Each Party may designate a substitute employee for one or more of its Joint Manufacturing Working Group representatives if one or more of such Party's designated representatives is unable to be present at a meeting. From time to time, each Party may replace a representative by written notice to the other Party specifying the prior representative and his or her employee replacement. The Joint Manufacturing Working Group shall be subject to the oversight, review and approval of, and shall report to, the JSC.

3.2 **Joint Development Committee**.

(a) **Formation**. [***] after the Effective Date, but in no event later than [***] after the Effective Date, the Parties shall establish a joint development committee (the "**JDC**") that shall oversee the Development of the Licensed Products pursuant to the Joint Global Development Plan(s). The JDC shall be comprised of [***] representatives from each Party. Each Party's JDC representatives shall be employees of such Party and have appropriate technical credentials, experience, knowledge, and authority within such Party's organization for service on the JDC in light of the functions, responsibilities and authority of the JDC. The JDC may change its size from time to time by agreement of the Parties at the JDC, *provided that* the JDC will consist at all times of an equal number of representatives of each of Protagonist and Takeda. Each Party may replace any or all its representatives on the JDC with employee individual(s) of appropriate credentials, experience, knowledge and authority at any time upon written notice to the other Party. Additional representatives or consultants may, from time to time, by mutual consent of the Parties, be invited to attend JDC meetings in a non-voting capacity, subject to such representatives' and consultants' (or the representative's or consultant's employer) undertaking confidentiality obligations in a written agreement no less stringent than the requirements of ARTICLE X.

(b) **JDC Responsibilities**. The JDC shall develop the strategies for and oversee the Development of the Licensed Products in the Territory, and shall serve as a forum for the coordination of Development activities for the Licensed Products for the Territory. In particular, the JDC shall have the following responsibilities unless Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right (in which case the limited discontinuation shall apply solely with respect to the applicable Licensed Product that would be the subject of such plans and activities):

(i)oversee the conduct of Development activities under the Joint Global Development Plan for Rusfertide and, as applicable, any Joint Global Development Plans for Licensed Products other than Rusfertide;

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(ii)serve as a forum for discussing proposed Development activities conducted under the Joint Global Development Plan for Rusfertide and, as applicable, any Joint Global Development Plans for Licensed Products other than Rusfertide;

(iii)serve as a forum for discussing and coordinating strategies for obtaining Regulatory Approvals for the Licensed Products in the Territory and progress for Licensed Products in the Territory, as described in Section 4.7(a);

(iv)review, discuss and determine whether to approve for submission to the JSC for its approval any amendment to (A) the Joint Global Development Plan for Rusfertide (including, as applicable, the corresponding Shared Development Budget and associated regulatory strategy), including to add any Clinical Trial or Indications as described in Section 4.2(b);

(v)for any Licensed Product other than Rusfertide, as applicable, review, discuss and determine whether to approve for submission to the JSC for its approval, its applicable Joint Global Development Plan (including the corresponding Shared Development Budget and associated regulatory strategy) for such Licensed Product, and all annual and interim amendments thereto as described in Section 4.2(a);

(vi)serve as a forum for exchange and discussion with respect to Development reports for the Licensed Products for the U.S., as described in Section 4.7(a);

(vii)approve the engagement of Third Party Development subcontractors as set forth in Section 4.8; and

(viii)perform such other functions as expressly set forth herein, or as the Parties may mutually agree in writing, to be allocated to the JDC.

3.3 **Joint Commercialization Committee**.

(a) **Formation**. [***] after the Effective Date, but in no event later than [***] after the Effective Date, the Parties shall establish a joint commercialization committee (the "**JCC**") that shall oversee the Commercialization of the Licensed Products pursuant to the Joint Commercialization Plan(s). The JCC shall be comprised of [***] representatives from each Party. The JCC may change its size from time to time by agreement of the Parties at the JCC, *provided that* the JCC will consist at all times of an equal number of representatives of each of Protagonist and Takeda. Each Party's JCC representatives shall be employees of such Party and have appropriate

technical credentials, experience, knowledge, and authority within such Party's organization for service on the JCC in light of the functions, responsibilities and authority of the JCC. Each Party may replace any or all its representatives on the JCC with individual(s) of appropriate credentials, experience, knowledge and authority at any time upon written notice to the other Party. Additional representatives or consultants may, from time to time, by mutual consent of the Parties, be invited to attend JCC meetings in a non-voting capacity, subject to such representatives' and consultants' (or the representative's or consultant's employer) undertaking confidentiality obligations in a written agreement no less stringent than the requirements of ARTICLE X.

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(b) **JCC Responsibilities**. The JCC shall develop the strategies for and oversee the Commercialization of the Licensed Products in the U.S. In particular, the JCC shall have the following responsibilities unless Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right (in which case the limited discontinuation shall apply solely with respect to the applicable Licensed Product that would be the subject of such plans and activities):

(i)establish a strategy for the Commercialization of the Licensed Products;

(ii)oversee the conduct of Commercialization activities under the Joint Commercialization Plan for Rusfertide, and, as applicable, any Joint Commercialization Plans for Licensed Products other than Rusfertide in a manner consistent with Article VII (Commercialization), and, if applicable, oversee Protagonist's performance of co-Detailing and co-Scientific Exchange Activities for the Licensed Products in the U.S.;

(iii)review, discuss and determine whether to approve for submission to the JSC for its approval any amendment to Joint Commercialization Plan for Rusfertide (including, as applicable, the corresponding Shared Commercialization Budget and associated distribution strategy);

(iv)for any Licensed Product other than Rusfertide, as applicable, review, discuss and determine whether to approve for submission to the JSC for its approval, its applicable Joint Commercialization Plan (including the corresponding Shared Commercialization Budget and associated distribution strategy) for such Licensed Product, and all annual and interim amendments thereto as described in Section 7.3;

(v)discuss the anticipated date of First Commercial Sale of each Licensed Product in the U.S.;

(vi)serve as a forum for exchange and discussion with respect to the Commercialization reports for the Licensed Products for the U.S., as described in Section 7.8;

(vii)review and discuss pricing ranges as a Pricing Matter for the Licensed Products in the U.S., as described in Section 7.5(a);

(viii)review and discuss the allocation to the Licensed Products of costs and expenses for any Shared Resource that such Party may include as Shared Commercialization Costs, as described in Section 7.5(b);

(ix)approve Third Party Commercialization subcontractors as set forth in Section 7.9; and

(x)perform such other functions as expressly set forth herein, or as the Parties may mutually agree in writing, to be allocated to the JCC.

3.4 **Meetings**. Subject to Section 4.4(c)(iv), the JSC, JDC and JCC shall meet [***], or as more or less frequently as the Parties mutually agree is necessary for each such committee to meet its responsibilities under this Agreement, with the location of such meetings alternating between locations designated by Takeda and locations designated by Protagonist. The chairperson

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of the applicable Joint Committee shall be responsible for calling meetings. Each Party shall make all proposals for agenda items and shall provide all appropriate information with respect to such proposed items. The Parties shall agree on the minutes of each meeting promptly, but in no event later than the next meeting of such Joint Committee.

3.5 **Procedural Rules**. Each Joint Committee shall have the right to adopt a charter or such standing rules as shall be necessary for its work, to the extent that such charter or rules are not inconsistent with this Agreement. A quorum of the Joint Committee shall exist whenever there is present at a meeting at least one (1) representative appointed by each Party; provided however, that, a quorum of the JSC shall require that both co-chairs are present at a meeting. Representatives of the Parties on a Joint Committee may attend a meeting either in person or by telephone, video conference or similar means in which each participant can hear what is said by, and be heard by, the other participants. Representation by proxy shall be allowed. Each Joint Committee shall take action by consensus of the representatives present at a meeting at which a quorum exists, or by a written resolution signed by at least one (1) representative appointed by each Party, in each case, with each Party having a single vote irrespective of the number of representatives of such Party in attendance. Employees of either Party that are not representatives of the Parties on a Joint Committee and consultants of either Party may, subject to prior written approval the other Party, attend meetings of such Joint Committee; *provided*, that such attendees (i) shall not vote or otherwise participate in the decision-making process of the Joint Committee, and (ii) are bound by obligations of confidentiality and non-disclosure equivalent to those set forth in Article X.

3.6 **Dispute Resolution**.

(a) **Referral to the JSC**. If a Joint Committee (other than the JSC) cannot, or does not, reach consensus on a matter within its decision-making authority at a meeting or within a period of [***] after the meeting at which such failure to reach consensus occurred or such other period as the Parties may agree, then such matter shall first be referred to the JSC for resolution and a special meeting of the JSC may be called for such purpose.

(b) **Referral to Executive Officers**. If the JSC cannot, or does not, reach consensus on an issue within its decision-making authority, including any dispute arising in another Joint Committee, then such matter shall first be referred to the Executive Officers of the Parties within [***] of its determination under Section 3.6(a) that a consensus cannot be reached. If a matter is referred to the Executive Officers under this Section 3.6(b), then the JSC will submit in writing to their respective Executive Officers the respective positions of the Parties. The Executive Officer shall confer in good faith on the resolution of the matter, which good faith efforts will include at least one (1) meeting between such Executive Officers within [***] after such JSC co-chairpersons' submission of their respective positions on such matter to them. Any final decision mutually agreed to by the Executive Officers shall be conclusive and binding on the Parties.

(c) **Final Decision-Making Authority**. If the Executive Officers are not able to agree on the resolution of any matter escalated to them within [***] after such matter was first referred to them, then no action will be taken as to the escalated matter until a joint decision can be made by the Parties, except that the following will apply:

(i)prior to the Opt-In/Out Date, if the disputed matter is related to the [***], [***] will have final decision-making authority, provided, however, that, if Takeda has

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exercised its right to assume the Assumed Pre-OIOO Date U.S. Regulatory Activities pursuant to Section 5.1(a)(ii), Takeda will have final decision-making authority with respect to the scope of such activities so assumed;

(ii)after the Opt-In/Out Date and unless Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right (in which case the limited discontinuation shall apply solely with respect to the applicable Licensed Product), then with respect to Rusfertide or such other Licensed Product, as applicable:

(1)if the disputed matter is related to the [***], Protagonist will have final decision-making authority unless the implementation of such matter would cause an [***],

(2)[***], Takeda will have final decision-making authority [***],

(3)[***], then Protagonist (in the case of clause (1)) or Takeda (in the case of clause (2)) will have final decision-making authority to undertake the implementation of such matter and the Parties will [***], and

(4)[***], then Protagonist (in the case of clause (1)) or Takeda (in the case of clause (2)) will have final decision-making authority to implement such matter, [***];

(iii)prior to the Opt-In/Out Date, if the disputed change is related to [***], [***] will have the final decision making authority;

(iv)prior to the Opt-In/Out Date, if the disputed change is related to [***];

(v)after the Opt-In/Out Date and unless Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right (in which case the limited discontinuation shall apply solely with respect to the applicable Licensed Product), then with respect to Rusfertide or such other Licensed Product, as applicable:

(1)[***], [***] will have final decision-making authority [***],

(2)if the disputed matter is related to a change to the [***]:

A.if such proposed change is necessitated as a result of [***], then the Parties will implement such change and [***], and

B.if such proposed change is not in response to a [***];

(vi)if the escalated matter relates to a disagreement with respect to the [***], such matter will be resolved in accordance with [***];

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(vii)if the escalated matter pertains to [***], such matter will be resolved in accordance with Section [***]; and

(viii)for clarity, [***] shall have the sole decision-making right with respect to [***].

3.7 **Limitations on Authority**. Each Party shall retain the rights, powers, and discretion granted to it under this Agreement and no such rights, powers, or discretion shall be delegated to or vested in a Joint Committee unless such delegation or vesting of rights is expressly provided for in this Agreement or the Parties expressly so agree in writing. No Joint Committee shall have the power to amend, modify, or waive compliance with this Agreement, which may only be amended or modified as provided in Section 14.4 or compliance with which may only be waived as provided in Section 14.9.

3.8 **Expenses**. Each Party shall be responsible for all costs and expenses for its members and other representatives to attend meetings of, and otherwise participate in, the Joint Committees and any subcommittees, project teams, and working groups, including all travel and related costs and expenses.

3.9 **Discontinuation of a Joint Committee**. Unless otherwise agreed by Takeda, each of the JDC, JCC and the Joint Manufacturing Working Group shall continue to exist until the first to occur of: (a) the Parties mutually agreeing to disband such Joint Committee; (b) Protagonist exercises the Rusfertide Opt-Out Right (or a Partial Opt-Out Right, in which case the limited discontinuation shall apply to the responsibilities of the Joint Committees with respect to the applicable Licensed Product); or (c) Protagonist undergoes a Change of Control. The JSC shall continue to exist until the Parties mutually agree to disband it.

3.10 **Alliance Managers.**

(a) Promptly following the Effective Date, each Party shall appoint an alliance manager who is an employee of such Party (each, an "**Alliance Manager**"). Each Alliance Manager shall be responsible to ensure a collaborative work environment between the Parties and that the collaboration under this Agreement is run smoothly, professionally and productively. Each Alliance Manager shall act in his or her discretion to facilitate the execution of the collaboration under this Agreement throughout their organization and will (directly or via his/her designees) (i) oversee and support implementation plans, (ii) promote effectiveness of the governance model and implementation of contractual provisions and lead any changes to enhance the collaboration under this Agreement, (iii) facilitate the JSC and any other Joint Committees for effective performance of their responsibilities in a timely manner, and (iv) undertake such other tasks as are detailed in this Agreement or as may be assigned to the Alliance Managers by the JSC. Each Alliance Manager will serve as the primary point of contact for the other Party under the collaboration under this Agreement. Each Alliance Manager shall attend each meeting of the JSC, but will have no voting right on the JSC or any other Joint Committee unless otherwise agreed in writing by the Parties. Each Party may change its Alliance Manager at any time in its sole discretion with written notice to the other Party.

(b) The Alliance Managers shall be responsible for (i) scheduling meetings of the JSC and any other Joint Committees, (ii) setting agendas for JSC and any other Joint

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Committees meetings with solicited input from the co-chairs and other members, and (iii) for acting as secretary at each such meeting and preparing the draft minutes of such meeting, which shall provide a description in reasonable detail of the discussions held at the meeting and a list of any actions, decisions or determinations approved by the JSC or such other Joint Committee. Beginning with Protagonist's Alliance Manager, such responsibilities shall alternate between the Alliance Managers on a meeting-by-meeting basis after each meeting of the JSC or such other Joint Committee, as applicable.

3.11 **Working Groups**. From time to time, a Joint Committee may establish and delegate duties to sub-committees or directed teams (each, a "Working Group") on an "as-needed" basis to oversee particular projects or activities. Each such Working Group shall be constituted and shall operate as the Joint Committee determines; provided that each Working Group shall have equal representation from each Party. Working Groups may be established on an ad hoc basis for purposes of a specific project or on such other basis as the Joint Committee may determine. Each Working Group and its activities shall be subject to the oversight, review and approval of, and shall report to, the Joint Committee that formed such Working Group. In no event shall the authority of a Working Group exceed that specified for the Joint Committee pursuant to this Article III that formed such Working Group. All decisions of a Working Group shall be by consensus. Each Working Group will meet on a [***] basis or as otherwise agreed by the Joint Committee that formed such Working Group.

ARTICLE IV
DEVELOPMENT

4.1 **Overview.**

(a) **Development Prior to the Opt-In/Out Date.** From the Execution Date until the Opt-In/Out Date, Protagonist shall be primarily responsible for the day-to-day implementation and performance of (in accordance with this Agreement) (A) the VERIFY Clinical Trial and the additional Clinical Trials required by the FDA for submission to the FDA of the Rusfertide NDA under the initial Joint Global Development Plan for Rusfertide attached hereto as Schedule 4.2(a), (B) the clinical Development activities (other than those described in the foregoing clause (A)) for Rusfertide and the activities within the Rusfertide OLE set forth in Schedule 4.1(a)(B) and included in the initial Joint Global Development Plan for Rusfertide attached hereto as Schedule 4.2(a), and (C) the Scientific Exchange Activities for Rusfertide assigned to Protagonist under the initial Joint Global Development Plan for Rusfertide attached hereto as Schedule 4.2(a) (collectively, the "**Pre-OIOO Date Development Activities**"). From the Effective Date until the Opt-In/Out Date, Takeda shall be exclusively responsible for any Development activities conducted in Japan for Rusfertide in the Field. Unless mutually agreed by the Parties, no other Development activities (including any specific to any country or region in the Ex-U.S. Territory) besides those specified in this Section 4.1(a) will be conducted by either Party under this Agreement with respect to Rusfertide or any other Licensed Products from the Execution Date until the Opt-In/Out Date. Takeda will have the right to reasonable review and reasonable comment, including providing guidance and assisting with strategy on the Scientific Exchange Activities for Rusfertide conducted by Protagonist as part of the Pre-OIOO Date Development Activities, with Protagonist to implement any such reasonable comment. Protagonist shall provide Takeda the Data Read-Out of the VERIFY Clinical Trial as soon as it is available, and, at Takeda's request, access to patient level data with respect to the VERIFY Clinical Trial.

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(b) **Development After the Opt-In/Out Date.**

(i)**Development in Support of U.S. Regulatory Approval.**

A.After the Opt-In/Out Date, on a Licensed Product-by-Licensed Product basis, if Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to a Licensed Product other than Rusfertide: (1) the Parties agree to collaborate with respect to the Development of Rusfertide and such Licensed Product, as applicable, in support of seeking, obtaining and maintaining Regulatory Approval thereof in the U.S., as and to the extent set forth in this Agreement; (2) each Party will participate in the Development of Rusfertide and such other Licensed Product, as applicable, as set forth in its applicable Joint Global Development Plan and in accordance with this Article IV; (3) the Parties agree at all times to act in good faith and in a cooperative manner and to share all information reasonably necessary to facilitate Development activities hereunder in support of seeking, obtaining and maintaining Regulatory Approval of Rusfertide or such Licensed Product, as applicable, in the U.S.; (4) with respect to Rusfertide, (x) Protagonist will be responsible for conducting and completing, and, subject to Section 3.6(c), will have operational decision-making rights over, the Rusfertide PV Development Program in accordance with the Joint Global Development Plan for Rusfertide, including the Rusfertide OLE, *provided that* Protagonist will include Takeda and its designees as participants in all activities related to the Rusfertide PV Development Program (including by attending joint clinical team meetings, study-specific meetings, program team meetings, meetings with Development subcontractors and other vendors and reviewing Clinical Trial data), and (y) Takeda will be responsible for conducting and completing, and, subject to Section 3.6(c), will have decision-making rights over, Clinical Trials for Rusfertide (other than the Rusfertide PV Development Program) in accordance with the Joint Global Development Plan for Rusfertide; and (5) with respect to Licensed Products other than Rusfertide, Takeda will be responsible for conducting and completing, and, subject to Section 3.6(c), will have decision-making rights over, all Clinical Trials for such Licensed Product conducted in support of seeking, obtaining and maintaining U.S. Regulatory Approval therefor in accordance with its applicable Joint Global Development Plan for Rusfertide.

B.After the Opt-In/Out Date, on a Licensed Product-by-Licensed Product basis, if Protagonist has exercised (1) the Rusfertide Opt-Out Right, Takeda shall be solely responsible for at its sole cost and expense, and have sole decision-making authority with respect to, conducting and performing all Development activities for all Licensed Products under this Agreement in support of seeking, obtaining and maintaining Regulatory Approval therefor in the U.S., (*provided, however*, that, subject to Section 4.4(c), Protagonist will be responsible for conducting and completing any post-Regulatory Approval activities under the Rusfertide PV Development Program, including the Rusfertide OLE), or (B) a Partial Opt-Out Right, Takeda shall be solely responsible for at its sole cost and expense, and have sole decision-making authority with respect to, conducting and performing all Development activities for the Licensed Product that was the subject of such Partial Opt-Out Right in support of seeking, obtaining and maintaining Regulatory Approval therefor in the U.S.

(ii)**Development in Support of Non-U.S. Regulatory Approvals.** After the Opt-In/Out Date, Takeda, at its sole cost and expense, shall be solely responsible for, and have sole decision-making authority with respect to, conducting and performing all Development activities for any and all Licensed Products that are conducted and performed for the sole and specific purpose of seeking, obtaining and maintaining Regulatory Approval in countries or jurisdictions in the Ex-U.S. Territory.

4.2 **Joint Global Development Plans.**

(a) **Joint Global Development Plans.** On a Licensed Product-by-Licensed Product basis, if Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to a Licensed Product other than Rusfertide, then all Development in support of seeking, obtaining and maintaining Regulatory Approval for such Licensed Product in the U.S. will be conducted pursuant to a joint global development plan and budget (each a, "**Joint Global Development Plan**") that describes: (a) the Development activities to be conducted in the Territory in support of seeking, obtaining and maintaining Regulatory Approval in the U.S. of such Licensed Product, (b) an estimated timeline for such Development activities, (c) the respective roles and responsibilities of each Party in connection with such Development activities, (d) the manufacturing decisions to be implemented to ensure continued and adequate clinical supply of such Licensed Product for such Development activities and the associated estimated Manufacturing Costs, and (e) the detailed associated budget of the FTE Costs and Out-of-Pocket Costs anticipated to be incurred in the performance of such Development activities, including a [***] rolling budget and the annual budget for the [***] (the [***] budgets will be mutually agreed at the JDC based on the [***] rolling budget) (each such included budget, a "**Shared Development Budget**")). The initial Joint Global Development Plan (and Shared Development Budget) for Rusfertide as agreed upon by the Parties is attached hereto as Schedule 4.2(a). Provided Protagonist has not exercised the Rusfertide Opt-Out Right, then, for any other Licensed Product for which Rusfertide has not already exercised a Partial Opt-Out Right, Takeda will prepare a proposed draft Joint Global Development Plan (inclusive of a proposed Shared Development Budget) for such Licensed Product, and submit such Joint Global Development Plan to the JDC to review, discuss and determine whether to submit to the JSC for approval. In the event of any inconsistency between a Joint Global Development Plan and this Agreement, the terms of this Agreement will prevail.

(b) **Amendments; Additional Development Activities.** On a Licensed Product-by-Licensed Product basis, if Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to a Licensed Product other than Rusfertide, then (i) the JDC, on an annual basis, no later than [***] of each Calendar Year, or more often as the Parties deem appropriate, will review each Joint Global Development Plan for the purpose of considering and submitting to the JSC for its review, discussion and approval, no later than [***] of each Calendar Year, any appropriate amendments thereto with respect to Development activities for the applicable Licensed Product of such Joint Global Development Plan to be undertaken during the next Calendar Year; and (ii) either Party, through its representatives on the JDC, may propose additional Development activities for the applicable Licensed Product(s) (A) in the case of Rusfertide, under Clinical Trials for the Initial Indication (in addition to those ongoing under the Rusfertide PV Development Program) ("**Additional PV Development**") or for other Indications ("**Other Additional Development**" and together with Additional PV Development, "**Additional LP Development**"), in each case, not contemplated in the then-current applicable Joint Global Development Plan for Rusfertide, or (B) in the case of any other Licensed Product, under Clinical

Trials for other Indications in addition to the Initial Indication(s) already included in the then-current applicable Joint Global Development Plan for such Licensed Product, in each case ((A) and (B)), for the purpose of the JDC preparing and submitting to the JSC for its review, discussion and approval any appropriate amendments to the then-current applicable Joint Global Development Plan for Rusfertide or such other Licensed Product setting forth an allocation of responsibility between the Parties for such Additional LP Development or additional Development activities, as applicable, and a corresponding budget of the [***] and [***] anticipated to be incurred in the performance thereof. Once approved by the JSC, an amended annual Joint Global Development Plan (including, its corresponding Shared Development Budget) will become effective for the applicable period on the date approved by the JSC (or such other date as the JSC will specify). Any JSC-approved amended Joint Global Development Plan (including its corresponding Shared Development Budget) will supersede the previous Joint Global Development Plan (including its corresponding Shared Development Budget) for the applicable period. If the JSC approves an amended annual Joint Global Development Plan reflecting Additional LP Development that was proposed to the JDC by representatives of Protagonist, then Protagonist shall not exercise a Partial Opt-Out Right with respect to the applicable Licensed Product until the completion of such Additional LP Development.

4.3 **Development Costs.**

(a) All costs and expenses related to Development activities for the Licensed Compounds that have been conducted prior to the Effective Date, regardless of whether such costs have been incurred prior to, or are incurred after, the Effective Date, shall be borne solely by Protagonist.

(b) All costs and expenses related to Protagonist's performance of the Pre-OIOO Date Development Activities shall be borne by Protagonist.

(c) All costs and expenses related to any Development activities conducted by or on behalf of Takeda, its Affiliates or Sublicensees in Japan for Rusfertide in the Field, before the Opt-In/Out Date, shall be borne by Takeda.

(d) With respect to all Development activities conducted after the Opt-In/Out Date, (i) Protagonist will be responsible for [***] percent ([***]%) and Takeda will be responsible for [***] percent ([***]%) of all Shared Development Costs with respect to each Licensed Product for which Protagonist has not exercised an Opt-Out Right, and the Parties will reconcile such Shared Development Costs they have incurred to reflect the foregoing allocation of Shared Development Costs according to the procedures in Section 8.7(c), and (ii) Takeda will be responsible for [***] percent ([***]%) of all costs and expenses incurred by or on behalf of Takeda in the performance of the Development of the Licensed Products for any other countries or regions in the Ex-U.S. Territory.

4.4 **Protagonist Opt-Out Right.**

(a) **Opt-Out Rights**. Protagonist shall have the right (but not the obligation) upon written notice to Takeda to opt out from Protagonist's participation in the Shared Development Costs, Shared Commercialization Costs and Shared Operating Profit (or Loss) under this Agreement (i) during the period beginning on the date that is one hundred twenty (120) days

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after the filing date of the Rusfertide NDA with the FDA and ending on the date that is ninety (90) days thereafter, subject to the extension specified in Section 8.3(x)(2) (the "**Rusfertide Opt-Out Period**"), for Rusfertide and all other Licensed Products, (ii) if Protagonist has not exercised the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period, during the Term after the expiration of the Rusfertide Opt-Out Period, or (iii) if a Rusfertide Failure occurs prior to the commencement of the Rusfertide Opt-Out Period, during the Term after such Rusfertide Failure (in which case such written notice may not be given by Protagonist earlier than [***]), and subject to the last sentence of Section 4.2(b), either (A) for Rusfertide and all other Licensed Products or (B) on a Licensed Product-by-Licensed Product basis where such Licensed Product *is not* Rusfertide (an opt-out under the foregoing clause (a)(i) or (a)(ii)(A), each a "**Rusfertide Opt-Out Right**", and an opt-out under the foregoing clause (a)(ii)(B) a "**Partial Opt-Out Right**").

(b) **Opt-Out Notice; Rusfertide Opt-Out Payment.** Protagonist will provide Takeda a written notice within the Rusfertide Opt-Out Period stating whether or not Protagonist is exercising the Rusfertide Opt-Out Right within such period (the "**Opt-Out Notice**"); *provided*, *however*, that, if Protagonist does not provide any such written notice to Takeda prior to the Rusfertide Opt-Out Period expiring, then Protagonist will be deemed to have not exercised the Rusfertide Opt-Out Right within the Rusfertide Opt-Out Period. If Protagonist submits an Opt-Out Notice to Takeda within the Rusfertide Opt-Out Period stating that Protagonist is exercising the Rusfertide Opt-Out Right within such period, then Takeda will pay Protagonist the Rusfertide Opt-Out Payment set forth in and in accordance with Section 8.3. For clarity, Protagonist also shall have the right to exercise the Rusfertide Opt-Out Right at any time after the expiration of the Rusfertide Opt-Out Period by providing written notice thereof to Takeda, *provided that*, in such case, the Rusfertide Opt-Out Payment shall not be owed and payable by Takeda to Protagonist. For clarity, the Rusfertide Opt-Out Payment shall not be owed and payable by Takeda to Protagonist in connection with the exercise by Protagonist of any Partial Opt-Out Right at any time.

(c) **Effect of Opt-Out**. Following Protagonist's exercise of the Rusfertide Opt-Out Right or a Partial Opt-Out Right, effective upon the date of Protagonist's applicable opt-out written notice to Takeda pursuant to Section 4.4(a) (in the case of the Rusfertide Opt-Out Right, Rusfertide and all other Licensed Products and, in the case of a Partial Opt-Out Right, the Licensed Product other than Rusfertide that is the subject of such Protagonist opt-out written notice pursuant to Section 4.4(a)(ii)(B), the "**Opt-Out Product(s)**"):

(i)Protagonist will continue to perform, as the case may be depending on when such exercise date occurs, (A) the Development activities under the then-applicable Joint Global Development Plan(s) for such Opt-Out Product(s), (B) the Commercialization activities under the then-applicable Joint Commercialization Plan(s) for such Opt-Out Product(s), (C) the Scientific Exchange Activities conducted by Protagonist under the Joint Global Development Plan(s), or (D) if applicable, the Detailing and Scientific Exchange Activities under any then-existing co-promotion agreement for such Opt-Out Product(s), entered into pursuant to Section 7.7(c), for which Protagonist was responsible thereunder for a period not to exceed three [***] (or [***] in the case of a Protagonist opt-out written notice after the end of the Rusfertide Opt-Out Period) following such exercise date (such period, the "**Opt-Out Wind-Down Period**" and such activities, the "**Opt-Out Wind-Down Activities**"); *provided, however*, that the foregoing shall be subject to Protagonist continuing to perform any Regulatory activities then being conducted by it pursuant Section 5.1(b)(i)A for such longer period (i.e., longer than [***] or [***]) as may be required to complete the transfer to Takeda contemplated under Section

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5.2(a). During the Opt-Out Wind-Down Period, the Parties will share the Shared Development Costs and Shared Commercialization Costs, as applicable, incurred by or on behalf of Protagonist and its Affiliates to conduct the Opt-Out Wind-Down Activities, in each case, to the extent consistent with the corresponding Shared Development Budget or Shared Commercialization Budget approved and included in such Joint Global Development Plan(s) or Joint Commercialization Plan(s) prior to such exercise date or updated versions of one or more of such plans or budgets approved by the JSC to account for the Opt-Out Wind-Down Period for the applicable Opt-Out Product(s) (collectively, the "**Opt-Out Wind-Down Costs**"). At Takeda's request, after the end of the applicable Opt-Out Wind-Down Period, Protagonist will further assist Takeda, for no longer than an additional [***] from expiration date of such Opt-Out Wind-Down Period, with any remaining Opt-Out Wind-Down Activities, and Takeda will pay Protagonist for all undisputed [***] and [***] incurred by or on behalf of Protagonist and its Affiliates after such Opt-Out Wind-Down Period no later than [***] after receiving invoices from Protagonist for the same;

(ii)other than the performance of the Opt-Out Wind-Down Activities, Protagonist will not have any performance obligations or funding obligations with respect to the Opt-Out Product(s) in the U.S. under any then-applicable Joint Global Development Plan(s) or Joint Commercialization Plan(s);

(iii)[***] will be solely responsible for all other costs and expenses incurred in connection with the further Development, performance of Scientific Exchange Activities with respect to, and Commercialization of the Opt-Out Product(s) in the U.S. after the Opt-Out Wind-Down Period;

(iv)Takeda shall have the right (A) if Protagonist has exercised the Rusfertide Opt-Out Right, to disband the JDC, JCC and the Joint Manufacturing Working Group in accordance with Section 3.9 with respect to all Licensed Products, and to reduce the meeting frequency of the JSC from [***], or (B) if Protagonist has exercised the Partial Opt-Out Right, to remove such applicable Opt-Out Product from the responsibility of the JDC, JCC and the Joint Manufacturing Working Group; and

(v)Protagonist's participation in the Shared Operating Profit (or Loss) shall terminate (or not commence, if Protagonist exercised the Rusfertide Opt-Out Right simultaneously with the Opt-In/Out Date) with respect to the Opt-Out Product(s), and Takeda will pay to Protagonist the milestone payments and royalty payments with respect to the Opt-Out Product(s) set forth in Sections 8.4(b), 8.5(b) and 8.6(b).

4.5 **Development Diligence.**

(a) Prior to the Opt-In/Out Date, Protagonist will use Commercially Reasonable Efforts to carry out the Pre-OIOO Date Development Activities.

(b)

(i)After the Opt-In/Out Date, (A) Takeda at all times during the Term and Protagonist, as long as it has not exercised the Rusfertide Opt-Out Right, shall use Commercially Reasonable Efforts to Develop and obtain Regulatory Approval for [***], and (B)

Takeda at all times during the Term shall use Commercially Reasonable Efforts to Develop and obtain Regulatory Approval for [***]. Takeda shall have the right to satisfy its obligations under this Section 4.5(b)(i) through its Affiliates and Sublicensees.

(ii)[***].

4.6 **Development Records**. Each Party will maintain scientific records, accounts, notes, reports and data with respect to its Development (and associated Manufacturing) activities under this Agreement, in accordance with Applicable Law and standard pharmaceutical industry practices and in sufficient detail and in good scientific manner appropriate for patent and regulatory purposes, which will fully and properly reflect all work done and results achieved in the performance of the Development (and associated Manufacturing) activities by or on behalf of such Party under this Agreement; *provided that*, in no case shall such records be maintained for less than [***] following the Calendar Year to which such records pertain (unless a longer period of time is required by Applicable Law). As promptly as practicable following a Party's reasonable written request, the other Party shall send to the requesting Party legible copies of the aforesaid throughout the Term and for a minimum of [***] following such Term. In accordance with the reporting format and schedule approved by the JDC, each Party shall promptly disclose to the other Party in writing all data, including pre-clinical data, formulation data and manufacturing data, generated by or on behalf of such Party under the applicable Joint Global Development Plan.

4.7 **Development Reports.**

(a) For Development activities with respect to Licensed Products for which Protagonist has not exercised an Opt-Out Right, each Party will provide to the JDC: (i) no later than [***] after the same becomes available, any material information and data arising from the Development of Licensed Products by such Party, including the finalized top line memorandum for any and all Clinical Trials and nonclinical studies conducted for the Licensed Products, in each case under the applicable Joint Global Development Plan (and as soon as practicable after the same is available, each Party will provide ongoing access to the other Party to any tables, listings, figures and other data generated thereunder); and (ii) at least [***] in advance of each regularly scheduled meeting of the JDC, any other relevant information and data arising from the performance of Development activities by such Party for the Licensed Products under the applicable Joint Global Development Plan since the last such meeting to the extent not previously disclosed in connection with day-to-day interactions between the Parties. In addition, at the first JDC meeting in the following Calendar Year, each Party will provide an annual review for the Calendar Year-ended of results versus goals of Development activities for the Licensed Products under the applicable Joint Global Development Plan.

(b) No less than [***] per [***], Takeda will provide to Protagonist a written report summarizing (i) Takeda's material Development activities for the Licensed Products for the Ex-U.S. Territory and, as applicable, the Opt-Out Products for the U.S., during the prior [***] period, (ii) Takeda's plans for material Development for the Licensed Products for the Ex-U.S. Territory and, as applicable, the Opt-Out Products for the U.S., in the upcoming [***] period, and (iii) any material changes in Takeda's regulatory strategy for the Licensed Products for the Ex-U.S. Territory and, as applicable, the Opt-Out Products for the U.S., since the last report.

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4.8 **Development Subcontractors**. Takeda shall have the right, in its sole discretion, to utilize the services of CROs or other Third Party subcontractors to perform its activities under the applicable Joint Global Development Plan and this Article IV. Notwithstanding the foregoing, with respect to Development activities in support of seeking, obtaining and maintaining Regulatory Approval for the Licensed Products in the U.S., as long as Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to a particular Licensed Product, the engagement by Takeda of Third Party subcontractors other than any of the Approved

Development Subcontractors for the purposes of conducting such Development activities of Takeda shall require the prior approval of the JDC. Unless agreed in the applicable Joint Global Development Plan, Protagonist may not engage a Third Party subcontractor that is not an Approved Development Subcontractor to conduct any of the activities assigned to Protagonist under such Joint Global Development Plan without Takeda's prior approval through the JDC.

4.9 **Compliance**. Each Party agrees that in performing its obligations or exercising its rights under this Agreement, it shall comply with all Applicable Laws, including Directive 2001/83/EC, applicable national and international guidelines (e.g., ICH, GCP, GLP, and GMP) and applicable regulations governing promotional activities and interactions with healthcare professionals and patient organizations including industry codes of conduct of EFPIA and its national member associations and any applicable transparency regulations.

ARTICLE V
REGULATORY MATTERS

5.1 **Regulatory Activities.**

(a) **Regulatory Activities Prior to the Opt-In/Out Date**.

(i)Subject to Section 5.1(a)(ii), prior to the Opt-In/Out Date, (A) Protagonist shall be primarily responsible for regulatory activities for Rusfertide in accordance with its Joint Global Development Plan (*provided* that no regulatory submissions shall be made by Protagonist other than with the FDA, without the prior written consent of Takeda), and (B) Takeda will have the right to (1) reasonable review and reasonable comment, including providing guidance and assisting with regulatory strategy on all INDs, Drug Approval Applications and other regulatory submissions for Rusfertide, including Product Labeling, with Protagonist to implement any such reasonable comments; *provided* that Protagonist shall give Takeda not less than [***] for such review and comment and (2) attend meetings, interactions and communications related to Rusfertide with the Regulatory Authorities and, if allowed by Applicable Law, to participate therein, *provided* that (x) attendance by the representatives of Takeda may not prevent participation of the reasonably necessary representatives of Protagonist due to restrictions imposed by such Regulatory Authorities on the number of attendees at such meeting, and (y) Protagonist will not be obligated to change the schedule of such meeting in order to accommodate the schedule of Takeda's representatives.

(ii)Takeda shall have the right, exercisable no later than [***] following the completion of the Enrollment of the VERIFY Clinical Trial, to assume (notwithstanding it being prior to the Opt-In/Out Date) the responsibility of implementing the regulatory strategy and performing the regulatory activities, in each case, for Rusfertide in the United States included in its Joint Global Development Plan, including filing the Rusfertide NDA

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with the FDA and seeking to obtain the Regulatory Approval of Rusfertide in the Initial Indication by the FDA (the "**Assumed Pre-OIOO Date U.S. Regulatory Activities**") and Takeda shall bear solely all costs and expenses incurred by or on behalf of Takeda and its Affiliates in the performance of such regulatory activities. In the event Takeda notifies Protagonist in writing during such [***] period of its exercise of such assumption right, (A) Protagonist shall undertake the transfers, and provide the assistance, to Takeda described in Section 5.2(a), subject to each Party bearing all costs and expenses incurred by or on behalf of such Party or its Affiliates in connection with such transfers and assistance, and (B) from and after Takeda's assumption of the Assumed Pre-OIOO Date U.S. Regulatory

Activities, Protagonist shall have the participation rights set forth in Section 5.1(b)(i)C in connection with Takeda or any of its Affiliates performance of the Assumed Pre-OIOO Date U.S. Regulatory Activities.

(b) **Regulatory Activities After the Opt-In/Out Date**.

(i)*United States.*

A.*Rusfertide*. Subject to Section 3.6(c), after the Opt-In/Out Date, Takeda shall be responsible for implementing the regulatory strategy and performing the regulatory activities, in each case, for Rusfertide in the United States included in its Joint Global Development Plan; *provided*, *however*, that subject to Section 5.1(a)(ii) and so long as Protagonist has not exercised the Rusfertide Opt-Out Right, (1) Protagonist shall at all times be responsible for seeking to obtain the Regulatory Approval of Rusfertide in the Initial Indication by the FDA, and until the transfer to Takeda of the Rusfertide NDA and, if applicable, Regulatory Approval by the FDA of Rusfertide in the Initial Indication, and (2) Protagonist will, for administrative purposes, have primary responsibility for regulatory matters for Rusfertide in the United States and the Parties will jointly make all regulatory decisions with respect to Rusfertide in the United States. Protagonist shall provide Takeda (or its designated Affiliate) with such assistance as is reasonably necessary to allow continuation of regulatory activities for Rusfertide (including pre-approval inspection (PAI)-readiness activities and on-site PAI support).

B.*Other Licensed Products*. Subject to Section 3.6(c), after the Opt-In/Out Date, Takeda shall be responsible for implementing the regulatory strategy and performing the regulatory activities, in each case, included in its applicable Joint Global Development Plan for each Licensed Product in the United States with respect to which Protagonist has not exercised an Opt-Out Right.

C.*Protagonist General Participation Rights*. After the Opt-In/Out Date, subject to Section 5.1(b)(i)A, for each Licensed Product in the United States with respect to which Protagonist has not exercised an Opt-Out Right, Protagonist will have the right to (1) reasonable review and reasonable comment on all INDs, Drug Approval Applications and other regulatory submissions for such Licensed Product in the United States, with Takeda to consider any Protagonist comments in good faith, and (2) attend meetings, interactions and communications related to such Licensed Products with the FDA and, upon Takeda's consent ([***]) or as required by Applicable Law, to participate therein, *provided* that (x) attendance by the representatives of Protagonist may not prevent participation of the reasonably necessary representatives of Takeda due to restrictions imposed by such Regulatory Authorities on the number of attendees at such

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meeting, and (y) Takeda will not be obligated to change the schedule of such meeting in order to accommodate the schedule of Protagonist's representatives.

(ii)**Ex-U.S. Territory**. After the Opt-In/Out Date, at its sole cost and expense, Takeda shall be solely responsible for all regulatory activities, including for submitting all Drug Approval Applications and obtaining all Regulatory Approvals for the Licensed Products in the Ex-U.S. Territory. For clarity, Takeda or one of its Affiliates shall be the marketing authorization holder and the holder of all INDs, in each case, for the Licensed Products in the Ex-U.S. Territory.

5.2 **Regulatory Documentation - Holders and Transfer.**

(a) **INDs and NDA**. Subject to Section 5.1(a)(ii), Protagonist shall file in its name and hold the Rusfertide NDA, and as promptly as practicable after receipt of Regulatory Approval by the FDA in the U.S. for Rusfertide in the Initial Indication, Protagonist shall transfer and assign to Takeda or such Affiliate the Rusfertide NDA and all of Protagonist's or its Affiliates' right, title and interest in and to all Regulatory Documentation in the Territory in Protagonist's Control and possession existing as of the date of such assignment and solely related to Rusfertide, *provided that*, (i) Protagonist shall transfer to Takeda the Rusfertide IND only after the completion of the Rusfertide OLE, (ii) Protagonist shall transfer to Takeda the Clinical Trial Application (CTA) for Rusfertide in the EU only after prior written notice from Takeda to do so, and (iii) in the event Protagonist exercises the Rusfertide Opt-Out Right prior to receipt of such Regulatory Approval by the FDA in the U.S. for Rusfertide in the Initial Indication, Takeda shall have the right to request in writing that such transfer and assignment of the foregoing materials be promptly undertaken following Protagonist's receipt of such request notice. Following such transfer and assignment, all INDs, NDA and Regulatory Documentation solely related to Rusfertide in the Territory shall be owned by and shall be the sole property and held in the name of Takeda or one of its Affiliates. At Takeda's request (but no earlier than Takeda's exercise of its assumption right pursuant to Section 5.1(a)(ii), receipt of Regulatory Approval by the FDA in the U.S. for Rusfertide in the Initial Indication, or Takeda's receipt of an Opt-Out Notice informing Takeda of Protagonist's exercise of the Rusfertide Opt-Out Right pursuant to Section 4.4(a)), Protagonist shall, as promptly as practicable after receipt of such request, transfer to Takeda all INDs, NDA and other Regulatory Documentation for Licensed Products other than Rusfertide Controlled by and in the possession of Protagonist, if any, as of the date of such request. Protagonist shall duly execute and deliver, or cause to be duly executed and delivered, as Takeda may reasonably request and at Takeda's cost (except that such costs shall be a Shared Development Cost with respect to any Licensed Product for which Protagonist has not exercised an Opt-Out Right), such instruments and shall do and cause to be done such acts, including the filing of such assignments, agreements, documents and instruments as may be necessary under, or as Takeda may reasonably request in connection with, or to carry out more effectively the purpose of, this Section 5.2(a).

(b) **Drug Approval Applications and Marketing Authorizations**. Subject to Section 5.1(a)(ii), after the Opt-In/Out Date, Takeda (or one of its Affiliates) shall hold all Drug Approval Applications and any and all Regulatory Approvals for the Licensed Products in the Territory (except with respect to the Licensed Products and the United States, as may otherwise be specified in Section 5.1(b)(i)A).

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(c) **Regulatory Audits**. With respect to all periods prior to the later of the Opt-In/Out Date and the date of completion of transfers by Protagonist to Takeda of Regulatory Approvals for Rusfertide, Takeda (or its designee) may conduct audits, a Takeda's cost, of Protagonist's including of its Affiliates and, to the extent permitted by the terms of Protagonist's agreements, its Third Party providers', Regulatory Documentation (including reports from an audit conducted by a Regulatory Authority and any material correspondence relating thereto) and Manufacturing premises used for the Manufacture of Licensed Products hereunder, from time to time upon reasonable advance notice and during regular business hours, as reasonably deemed necessary or appropriate by Takeda to ensure compliance with GCP, GLP, GMP, other applicable good practice guidelines and regulations, Regulatory Approvals or other requirements of Regulatory Authorities applicable to the Licensed Compounds or Licensed Products. Protagonist shall promptly notify Takeda of any audit conducted by a Regulatory Authority of Protagonist or its Affiliates, or Third Party providers of Protagonist or its Affiliates to the extent known by Protagonist, and, in each case, to the extent relating to a Licensed Compound or Licensed Product. In addition, Protagonist shall

grant Takeda (or its designee) from time to time during the Term access to any electronic data capture system maintained for the purposes of collecting clinical data related to the VERIFY Clinical Trial.

5.3 **Costs of Regulatory Affairs**. With respect to all regulatory activities conducted after the Opt-In/Out Date for each Licensed Product in the United States with respect to which Protagonist has not exercised an Opt-Out Right, the Parties will share as Shared Development Costs or Shared Commercialization Costs the Regulatory Expenses incurred by or on behalf of Takeda and its Affiliates or Protagonist or its Affiliates, as the case may be, in the performance of all regulatory activities for such Licensed Product for the U.S. to the extent related to activities conducted under or otherwise consistent with its applicable Joint Global Development Plan or Joint Commercialization Plan, respectively. Except as provided in the foregoing sentence and in Section 5.1(a)(ii), each Party will be solely responsible for all costs and expenses incurred by or on behalf of such Party and its Affiliates in connection with the performance of regulatory activities for the Licensed Products in the Territory if any of those activities are not referenced in such Joint Global Development Plan or Joint Commercialization Plan. Takeda will be solely responsible for all costs and expenses incurred by or on behalf of Takeda and its Affiliates in connection with the performance of regulatory activities for the Licensed Products in the Ex-U.S. Territory.

5.4 **Data Integrity Practices**. All Development activities conducted under this Agreement, including the conduct of any Clinical Trials, will be conducted in accordance with the following practices:

(a) data will be generated using sound scientific techniques and processes;

(b) data will be accurately recorded in accordance with data integrity practices by the persons performing the applicable Development activities;

(c) data will be analyzed objectively in accordance with data integrity practices;

(d) data and results from experiments and Clinical Trials will be stored securely and retrievable in a reasonable manner;

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(e) data audit trails will exist to demonstrate or reconstruct without undue burden key decisions made during the performance of, presentations made about, and conclusions reached with respect to the activities undertaken in the performance of the Development activities under this Agreement; and

(f) subject to Section 14.4, at any time after the Effective Date and for so long as both Parties are conducting Development activities under this Agreement, each Party may request changes to the requirements set forth above in this Section 5.4 where such Party reasonably believes such changes are required to ensure that such activities are undertaken in compliance with data integrity practices, and such other Party shall consider such changes.

5.5 **Product Withdrawals and Recalls**. If (a) any Regulatory Authority threatens, initiates or advises any action related to the removal of any Licensed Product from the market in the Territory or requires or advises Protagonist, Takeda, or any of their respective Affiliates or Sublicensees to distribute a “Dear Doctor” letter or its equivalent regarding use of such Licensed Product in the Territory, or (b) Takeda determines that an event, incident, or circumstance has occurred that may result in the need for a recall or market withdrawal of any Licensed Product in the Territory, then in each case ((a) or (b)) Protagonist or Takeda, as applicable, will, to the extent practicable, notify

the other Party of such event or determination immediately, and in any event within [***] (or sooner if required by Applicable Law) after such Party becomes aware of the event or makes such determination. Takeda will have the sole right to decide whether to recall or withdraw such Licensed Product in the Territory; *provided*, *however*, that, with respect any Licensed Product in the U.S. with respect to which Protagonist has not exercised an Opt-Out Right, Takeda will, to the extent practicable, notify Protagonist before initiating such recall or withdrawal. As between the Parties, Takeda will have the sole right, at its sole expense, to conduct any recalls or take such other necessary remedial action with respect to Licensed Products in the Territory; *provided that* any costs and expenses for recalls and withdrawals of any Licensed Product in the U.S. with respect to which Protagonist has not exercised an Opt-Out Right shall be included and shared as a Shared Commercialization Cost.

5.6 **Global Safety Database; Pharmacovigilance Agreement**. In accordance with Applicable Law, the Parties agree to monitor, exchange and report safety information for the Licensed Products in the Territory, including post-marketing spontaneous reports received by or on behalf of each Party. At Takeda's written request following the earlier of (a) Takeda's exercise of its assumption right pursuant to Section 5.1(a)(ii), (b) Protagonist's exercise of the Rusfertide Opt-Out Right, or (c) receipt of Regulatory Approval by the FDA in the U.S. for Rusfertide in the Initial Indication, the Parties shall take such actions as may be necessary and appropriate for Takeda to maintain and be the recognized holder of the global safety database for the Licensed Products, including completion of the relevant data migration to Takeda and establishment of an operational safety data base for the Licensed Products at Takeda as such transition will be further set forth or described in a pharmacovigilance agreement ("**PVA**") to be entered into by the Parties within [***] of Effective Date. As will be further set forth in the PVA, Protagonist shall provide Takeda with all information in Protagonist's Control and possession that is necessary or reasonably useful for Takeda to comply with its pharmacovigilance responsibilities in the Territory, including, as applicable, any adverse drug experiences, from pre-clinical or clinical laboratory, animal toxicology and pharmacology studies, Clinical Trials, and commercial experiences with Licensed Compounds or Licensed Products, in each case in the form in which such information exists or in the form reasonably requested by Takeda. Any costs and expenses related to the transfer to Takeda

of the foregoing information shall be included and shared as a Shared Development Cost or, if Protagonist has exercised an Opt-Out Right, shall be borne solely by Takeda with respect to the applicable Licensed Product. The PVA shall formalize the Parties' respective responsibilities with regard to the safety data exchange and pharmacovigilance for the Licensed Compounds and Licensed Products. In the event of a conflict between any of the provisions of the PVA and this Agreement with respect to business, financial or legal matters, this Agreement shall control, and with respect to pharmacovigilance matters, the PVA shall control.

ARTICLE VI
MANUFACTURE AND SUPPLY

6.1 **CMC Development**. Prior to the Opt-In/Out Date, Protagonist will lead CMC Development in preparation for the submission of the Rusfertide NDA to the FDA, with guidance from and in consultation with Takeda, in accordance with and as set forth in its Joint Global Development Plan. Prior to the Opt-In/Out Date, except for the activities set forth in Schedule 4.1(a)(B), unless mutually agreed in writing by the Parties, no CMC Development for the Licensed Products for life cycle management purposes or otherwise will be undertaken by either Party or its Affiliates. After the Opt-In/Out Date, Takeda shall be primarily responsible for CMC Development for the Licensed

Products for the Territory, including, with respect to CMC Development for Rusfertide for the United States, the CMC Development activities set forth in Schedule 6.1.

6.2 **Manufacturing Responsibilities.**

(a) **Pre-Clinical and Clinical Supply of Licensed Products.**

(i)*Rusfertide.*

(1)Prior to the Opt-In/Out Date, Protagonist shall be solely responsible for the clinical Manufacture of Rusfertide for all Pre-OIOO Date Development Activities, in accordance with and as set forth in its Joint Global Development Plan.

(2)From and after the Opt-In/Out Date, (A) Protagonist shall be solely responsible for the clinical Manufacture of Rusfertide for all Development activities under the Rusfertide PV Development Program, and (B) Takeda shall be solely responsible for the clinical Manufacture of Rusfertide for all Development activities under its Joint Global Development Plan other than for the Rusfertide PV Development Program and of Rusfertide for Development activities in the Ex-U.S. Territory.

(ii)*Clinical Supply of Rusfertide for Development in Japan*. No later than [***] after the Effective Date (or such longer period as the Parties may mutually agree), the Parties shall enter into a clinical supply agreement (the "**Japan Clinical Supply Agreement**"), pursuant to which Protagonist shall supply, or have supplied, to Takeda clinical requirements of Rusfertide, at Protagonist's fully-burdened cost without mark-up, for the performance of Development activities for Rusfertide in the Field in Japan prior to the Opt-In/Out Date by Takeda, its Affiliates and Sublicensees in Japan. The Japan Clinical Supply Agreement shall contain such

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terms as are reasonable and customary for similar clinical supply agreements and shall be negotiated and agreed by the Parties in good faith.

(iii)*Other Licensed Products*. Takeda shall be solely responsible for the pre-clinical and clinical Manufacture of the Licensed Compounds and Licensed Products (other than Rusfertide) for all Development activities under this Agreement.

(b) **Commercial Manufacture of Licensed Products**. Except for the then-existing validation batches and inventory supplies for Rusfertide that are suitable for commercial sale, as between the Parties, Takeda shall have the sole right and responsibility to Manufacture (or have Manufactured) the Licensed Products for the conduct of any Commercialization activities under this Agreement in the Territory.

(c) **Manufacturing Decision-Making**. After the Opt-In/Our Date, Takeda shall have final decision-making authority for all matters regarding the Manufacturing of Licensed Compounds and Licensed Products. Decisions with respect to a Licensed Product in the U.S. for which Protagonist has not exercised an Opt-Out Right shall be consistent with its Joint Global Development Plan or Joint Commercialization Plan, as applicable.

6.3 **Manufacturing Costs.**

(a) **Development Manufacturing**. Subject to Section 6.3(c), (i) all Manufacturing Costs incurred by Protagonist for the clinical Manufacture of Rusfertide for all Development activities under the Rusfertide PV Development Program will be borne one hundred percent (100%) by Protagonist, and (ii) all Manufacturing Costs incurred by Takeda for the clinical Manufacture of (A) Rusfertide for all Development activities under its Joint Global Development Plan other than for the Rusfertide PV Development Program, and (B) all Licensed Compounds and Licensed Products (other than Rusfertide, but subject to Section 6.2(a)(ii)) for all Development activities under this Agreement will be borne [***] percent ([***]%) by Takeda.

(b) **Commercial Manufacturing**. Subject to Section 6.3(c), all Manufacturing Costs incurred for the Manufacture of all commercial quantities of the Licensed Products in the Territory will be borne [***] percent ([***]%) by Takeda.

(c) **Manufacturing Costs Sharing**. Notwithstanding anything to the contrary, all Manufacturing Costs incurred by the Parties related to the Manufacture of a Licensed Compound or Licensed Product with respect to which Protagonist has not exercised an Opt-Out Right (whether Manufactured by or on behalf of Protagonist or Takeda) (i) for use under or consistent with its applicable Joint Global Development Plan will be shared by the Parties as Shared Development Costs, and (ii) for use under or consistent with its applicable Joint Commercialization Plan will be shared by the Parties as Shared Commercialization Costs.

6.4 **Manufacturing Records and Reports**. Each Party will maintain complete and accurate records (in the form of technical notebooks or electronic files where appropriate) of all work conducted by it in the performance of its Manufacturing obligations and all data and other information resulting from such work. As may be applicable, such records will fully and properly reflect all work done and results achieved in the performance its Manufacturing obligations in sufficient detail and in good scientific manner appropriate for regulatory purposes. Takeda will

have the right to receive copies of such records maintained by Protagonist, including in electronic format, at reasonable times to the extent reasonably necessary to perform its obligations and exercise its rights under this Agreement, and to obtain access to originals to the extent needed for patent or regulatory purposes.

6.5 **Manufacturing Subcontractors**. Takeda shall have the right, in its sole discretion, to utilize the services of contract manufacturing organizations or other Third Party subcontractors to perform its Manufacturing obligations under this Agreement. Notwithstanding the foregoing, with respect to Manufacturing activities in support of, as applicable, Development and Commercialization of the Licensed Products in the U.S., as long as Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to a Licensed Product other than Rusfertide, the engagement by Takeda of Third Party subcontractors (other than the Approved Manufacturing Subcontractors) for the purposes of conducting such Manufacturing obligations of Takeda shall require the prior approval of the JSC. Protagonist will be free to subcontract any of its Manufacturing obligations under this Agreement to any Approved Manufacturing Subcontractors.

6.6 **Manufacturing Technology Transfer Upon Takeda's Request**. Takeda shall have the right, at any time after the Effective Date by written notice, to require Protagonist to effect a transfer to Takeda or its designee (which designee may be an Affiliate or a Third Party manufacturer) of all Licensed Know-How relating to the then-current process for the Manufacture of the Licensed Compounds and Licensed Products and any retained samples, stability samples, and other tangible materials required for the Manufacturing, testing, and release of Rusfertide in

Protagonist's Control and possession (the "**Manufacturing Technology Transfer**"). In connection with such Manufacturing Technology Transfer, the Parties, through the Joint Manufacturing Working Group, will prepare a plan ("**Manufacturing Technology Transfer Plan**") detailing the process and timeline for the Manufacturing Technology Transfer. The Parties shall conduct the Manufacturing Technology Transfer in accordance with the Manufacturing Technology Transfer Plan and will use Commercially Reasonable Efforts to complete it within [***] from the date on which such Manufacturing Technology Transfer Plan has been approved by the Joint Manufacturing Working Group. In connection therewith, Protagonist shall provide, and shall use Commercially Reasonable Efforts to cause its Third Party manufacturers to provide (including by using Commercially Reasonable Efforts to negotiate contractual obligations for such Third Party manufacturers to do so under agreements entered into following the Effective Date), all reasonable assistance requested by Takeda to enable Takeda (or its Affiliate or designated Third Party manufacturer, as applicable) to implement the Manufacturing of the Licensed Compounds and Licensed Products at the facilities designated by Takeda. The Parties will share as Shared Development Costs the [***] and [***] incurred by or on behalf of each of the Parties and its respective Affiliates in undertaking such transfer and providing such assistance specified under this Section 6.6 and the Technology Transfer Plan, *provided that*, in the event that Protagonist has exercised the Rusfertide Opt-Out Right, Protagonist shall have the right to submit an invoice to Takeda for the amount of such FTE Costs and Out-of-Pocket Costs incurred by or on behalf of Protagonist and its Affiliates, which amount shall be payable to Protagonist within [***] of Takeda's receipt of such invoice.

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ARTICLE VII
COMMERCIALIZATION

7.1 **Commercialization Responsibilities; Commercialization Costs.**

(a) Prior to the Opt-In/Out Date, Takeda shall be primarily responsible for, and bear solely all costs related to, pre-launch Commercialization activities of the Licensed Products in the Territory.

(b) From and after the Opt-In/Out Date, (i) Takeda shall be the lead Party responsible for, with Protagonist having reasonable participation in, the Commercialization of the Licensed Products in the United States conducted after the Opt-In/Out Date pursuant to their respective applicable Joint Commercialization Plan and subject to Article III, and (ii) the Parties shall bear [***] all Shared Commercialization Costs; *provided that*, if Protagonist exercises an Opt-Out Right with respect to any Licensed Product, from and after the date of Protagonist's exercise of such Opt-Out Right, subject to Section 4.4(c), Takeda shall have [***] responsibility for the Commercialization of such Licensed Product in the United States and bear [***] percent ([***]%) of all costs and expenses incurred by or on behalf of Takeda in connection with such Commercialization. Takeda shall have [***] control over and decision-making authority with respect to the Commercialization of the Licensed Products for all countries and jurisdictions in the Ex-U.S. Territory, and will bear [***] percent ([***]%) of all costs and expenses incurred by or on behalf of Takeda in connection with such Commercialization in the Ex-U.S. Territory.

(c) With respect to all Commercialization activities conducted after the Opt-In/Out Date, Protagonist will be responsible for [***] percent ([***]%) and Takeda will be responsible for [***] percent ([***]%) of all Shared Commercialization Costs with respect to each Licensed Product for which Protagonist has not exercised an Opt-Out Right. The Parties will reconcile such Shared Commercialization Costs incurred by them or on their behalf to reflect the foregoing allocation of Shared Commercialization Costs according to the procedures in Section 8.7(a).

7.2 **Commercialization Diligence**. After the Opt-In/Out Date, (a) Takeda, at all times during the Term, and Protagonist, as long as it has not exercised the Rusfertide Opt-Out Right, shall use Commercially Reasonable Efforts to Commercialize [***], in each case (a) and (b), following receipt of Regulatory Approval therefor in such applicable country. Takeda shall have the right to satisfy its obligations under this Section 7.2 through its Affiliates and Sublicensees.

7.3 **Joint Commercialization Plans**.

(a) **Joint Commercialization Plans**. On a Licensed Product-by-Licensed Product basis, if Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to a Licensed Product other than Rusfertide, the Parties will Commercialize such Licensed Product in the U.S. pursuant to a commercialization plan and detailed budget (each such plan, a "**Joint Commercialization Plan**") that describes: (i) the material pre-launch, launch and subsequent Commercialization activities for such Licensed Product in the U.S., including the field force size, structure, allocation and deployment, patient support size and structure, branding strategy (including brand name, positioning, product positioning, messages, timing, logo, colors, and other visual branding elements) for such Licensed Product, market access plans, Promotional

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Materials, Distribution Matters, Scientific Exchange Activities, CMC Activities and the quantities of Licensed Product to be supplied to the Parties for the U.S. and the estimated delivery date therefor; Phase 4 Clinical Trials; and the key tactics and strategies for implementing the foregoing activities; (ii) the strategic manufacturing decisions to be implemented to ensure continued and adequate commercial supply of such Licensed Product for such Commercialization activities and the associated estimated Manufacturing Costs; and (iii) (A) the detailed associated budget of the [***] and [***] anticipated to be incurred in the performance of such Commercialization activities, including a [***] rolling budget and the annual budget for the first year (the second and third year annual budgets will be mutually agreed at the JCC based on the [***] rolling budget), and (B) a budget of the Detail Costs anticipated to be incurred for such Licensed Product (each such included budget, a "**Shared Commercialization Budget**")). The initial Joint Commercialization Plan (and Shared Commercialization Budget) for Rusfertide as agreed upon by the Parties is attached hereto as Schedule 7.3(a). Provided Protagonist has not exercised the Rusfertide Opt-Out Right, then, for any other Licensed Product for which Rusfertide has not already exercised a Partial Opt-Out Right, Takeda will prepare a proposed draft Joint Commercialization Plan (inclusive of a proposed Shared Commercialization Budget) for such Licensed Product, and submit such Joint Commercialization Plan to the JCC to review, discuss and determine whether to submit to the JSC for approval. In the event of any inconsistency between a Joint Commercialization Plan and this Agreement, the terms of this Agreement will prevail.

(b) **Amendments**. As long as Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right, the JCC, on an annual basis, no later than [***] of each Calendar Year, or more often as the Parties deem appropriate, will review each Joint Commercialization Plan for the purpose of considering and submitting to the JSC for its review, discussion and approval, no later than [***] of each Calendar Year, any appropriate amendments thereto with respect to Commercialization activities in the U.S. for the applicable Licensed Product of such Joint Commercialization Plan to be undertaken during the next Calendar Year. Once approved by the JSC, an amended annual Joint Commercialization Plan (including, its corresponding Shared Commercialization Budget) will become effective for the applicable period on the date approved by the JSC (or such other date as the JSC will specify). Any JSC-approved amended Joint Commercialization Plan (including its corresponding Shared

Commercialization Budget) will supersede the previous Joint Commercialization Plan (including its corresponding Shared Commercialization Budget) for the applicable period.

7.4 **Commercialization Activities**. The Parties recognize that their collaboration may benefit from the coordination of certain activities in support of the Commercialization of the Licensed Products in the Territory. As such, after the Opt-In/Out Date, and as long as Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to the Licensed Product that would be the subject of such activities, the Parties agree to discuss and, where appropriate, coordinate and agreed on such activities through the JCC, which may include: (a) product packaging, product trademarks, product positioning, adoption of global brand elements, multichannel engagement strategy, congress attendance coordination, sales force training and education, sharing of marketing research and Promotional Materials, and sharing of materials shared with health reimbursement authorities, including product value dossiers, and (b) medical scientific exchange, evidence generation, medical communication strategy and plans, grant and sponsorship funding, medical insight gathering, congress strategy, medical information and publications, planning and attendance, medical material sharing and medical training. Notwithstanding anything to the contrary in this Section 7.4 or Article VII, all Promotional

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Materials used or to be used for any Licensed Product in the U.S. shall be consistent with the Joint Commercialization Plan applicable to such Licensed Product.

7.5 **Pricing Matters; Distribution.**

(a) **Pricing Matters**. As between the Parties, Takeda will have sole control and decision-making authority with respect to Pricing Matters for the Licensed Products in the Territory; [***]. To the extent allowed by Applicable Laws, Takeda will [***].

(b) **Distribution**. As between the Parties, (i) Takeda will have sole control and decision-making authority with respect to Distribution Matters for the Licensed Products in the Ex-U.S. Territory and, as applicable, the Opt-Out Products in the U.S., and (ii) Takeda will have final decision-making authority (subject to Section 3.6) with respect to Distribution Matters for Licensed Products in the U.S. for which Protagonist has not exercised an Opt-Out Right, including, in each case (i) and (ii), (A) booking all sales of the applicable Licensed Products, (B) warehousing and distributing the applicable Licensed Products, and (C) handling all returns, order processing, invoicing and collection, inventory and receivables with respect to the applicable Licensed Products; *provided*, *however*, that, Distribution Matters for Licensed Products being co-Commercialized by the Parties in the U.S. shall be consistent with the applicable Joint Commercialization Plan. If Protagonist receives any order for a Licensed Product, Protagonist will refer such order to Takeda, and if a Licensed Product is returned to Protagonist, Protagonist will promptly ship such Licensed Product to a facility designated by Takeda.

7.6 **Shared Commercialization Costs Allocation.** Subject to this Section 7.6 and to the extent consistent with the applicable Shared Commercialization Budget, either Party may conduct certain Commercialization activities using resources that are engaged both in the performance of activities under a Joint Commercialization Plan and in the performance of similar Commercialization activities for the benefit of one or more other products of such Party ("Shared Resources"). If Protagonist has not exercised an Opt-Out Right with respect to a Licensed Product being Commercialized by the Parties in the U.S. under this Agreement, and a Party engages any Shared Resources with respect to both such Licensed Product and any other product that is not such a Licensed Product, such Party

shall, in connection with invoicing for any Shared Commercialization Costs that include such Shared Resources, determine in good faith (other than for Detailing, for which costs are determined on a per-Detail basis) the costs and expenses reasonably allocable to such Licensed Product that may be included as Shared Commercialization Costs consistent with each of this Section 7.6, the applicable Joint Commercialization Plan and the applicable Shared Commercialization Budget. For each [***] in which there is a Shared Resource, the cost of such Shared Resource (for purposes of calculating Shared Commercialization Costs) will be allocated to such Licensed Product and such other product(s) based on (a) the Detail position of the applicable Licensed Product being Commercialized by the Parties in the U.S. under this Agreement and such other product during such Detail and a reasonable apportionment of the value of such Detail position for each such product, and (b) the time spent by such Shared Resource in performing Commercialization activities with respect to the Licensed Product being co-Commercialized by the Parties in the U.S. under this Agreement versus such other product.

7.7 **Co-Detailing and Co-Scientific Exchange Right.**

(c) **Protagonist Co-Detailing and Co-Scientific Exchange Option**. At any time prior to the expiration of the Rusfertide Opt-Out Period, and as long as Protagonist has not

exercised the Rusfertide Opt-Out Right, by providing written notice to Takeda, Protagonist shall have the right to opt into co-Detailing and co-Scientific Exchange of [***] percent ([***]%) of the Field Medical Team and Sales Representatives in the U.S. for Rusfertide and the other Licensed Products in (i) all hematology/oncology Indications, and (ii) any other Indications mutually agreed in writing by the Parties, on the terms and conditions set forth in this Section 7.7(a) (the "**Co-Detail and Co-Scientific Exchange Option**"). Following Protagonist's exercise of the Co-Detail and Co-Scientific Exchange Option, Protagonist will have the one-time right to opt-out from its co-Detailing and co-Scientific Exchange obligation on a Licensed Product-by-Licensed Product basis (each, a "**Co-Detail and Co-Scientific Exchange Opt-Out Option**"), exercisable on not less than [***] prior written notice to Takeda. If Protagonist does not exercise the Co-Detail and Co-Scientific Exchange Option prior to the expiration of the Rusfertide Opt-Out Period, or if Protagonist exercises a Co-Detail and Co-Scientific Exchange Opt-Out Option, whether for Rusfertide or any other Licensed Product, Takeda will have the sole right to Detail, and to conduct Scientific Exchange Activities with respect to, as applicable, Rusfertide or such other Licensed Product, in the United States in accordance with the applicable Joint Commercialization Plan. Furthermore, for clarity, if Protagonist exercises (a) the Rusfertide Opt-Out Right, Takeda will have the sole right to Detail, and to conduct Scientific Exchange Activities with respect to, Rusfertide and all other Licensed Products in the United States under this Agreement, or (b) a Partial Opt-Out Right for a Licensed Product, Takeda will have the sole right to Detail, and to conduct Scientific Exchange Activities with respect to, such Licensed Product in the United States under this Agreement.

(d) **Additional Co-Detailing and Co-Scientific Exchange**. If Protagonist has exercised the Co-Detail and Co-Scientific Exchange Option prior to the expiration of the Rusfertide Opt-Out Period, and has not exercised a Co-Detail and Co-Scientific Exchange Opt-Out Option with respect to the applicable Licensed Product, then Takeda agrees, upon Protagonist's reasonable request, to discuss in good faith at the JCC the possibility for Protagonist to increase its co-Detailing and co-Scientific Exchange share in the U.S. for such Licensed Product above the then-current [***] percent ([***]%) (but in any event, not greater than [***] percent ([***]%)) to the extent increased Field Medical Team and Sales Representatives are required for such Licensed Product.

(e) **Co-Promotion Agreement**. Following Protagonist's exercise of the Co-Detail and Co-Scientific Exchange Option prior to the expiration of the Rusfertide Opt-Out Period, the Parties will, at the timing agreed upon by the Parties at the JCC, enter into a co-promotion agreement setting forth the terms and conditions of Protagonist's co-Detail and co-performance of Scientific Exchange Activities with respect to the Licensed Products in the United States (the "**Co-Promotion Agreement**"), which agreement will set forth the percentage promotion effort for such Licensed Products to be provided by Protagonist (including primary detail equivalents (PDEs) commitment and costs) and will be consistent with this Section 7.7. Subject to the right of each Party to have its Detail Costs and Shared Scientific Exchange Costs incurred under the applicable Joint Commercialization Plan included in the Shared Commercialization Costs, each Party will be responsible for all costs and expenses in connection with their respective Sales Representatives, including training (which shall be conducted in compliance with Takeda's policies and procedures to be set forth in the Co-Promotion Agreement), salaries, incentive compensation, travel expenses and other expenses, providing benefits, deducting federal, state and local payroll taxes, Federal Insurance Contribution Act taxes, unemployment insurance taxes, and any similar taxes and paying workers' compensation premiums, unemployment insurance contributions and any other payments

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required by Applicable Law to be made on behalf of employees. Regardless of whether a Sales Representative of a Party is Detailing any products other than the applicable Licensed Product, that Party can be assigned secondary, tertiary or other non-primary Detail responsibilities, and the Detail Costs for such Sales Representative will correspond to the position of such assigned Detail.

(f) **Promotional Materials**. As between the Parties, Takeda will have the sole right and sole decision-making authority with respect to the creation, preparation, production, reproduction, review (medical, legal and regulatory) of, and Takeda will solely own, the Promotional Materials relating to each Licensed Product, provided that all Promotional Materials will be consistent with discussions at the JCC regarding Commercialization of the Licensed Products. If Protagonist has exercised its Co-Detail and Co-Scientific Exchange Option, such Promotional Materials will be used by Protagonist in accordance with Takeda's policies and procedures to be set forth in the Co-Promotion Agreement.

7.8 **Commercialization Reports**.

(a) For Commercialization activities conducted in the U.S. with respect to Licensed Products for which Protagonist has not exercised an Opt-Out Right, each Party will provide to the JCC, at each regularly scheduled meeting of the JCC, a written report describing: (i) the progress and results of Commercialization activities with respect to the applicable Licensed Product(s) in the U.S. by such Party, its Affiliates and Sublicensees, including its assessment of progress against goals set out in the applicable Joint Commercialization Plan, since the last such meeting, and (ii) plans for material Commercialization activities for the Licensed Products in the U.S. in the upcoming Calendar Quarter period.

(b) No less than [***] per [***], Takeda will provide to Protagonist a written report summarizing (i) Takeda's Commercialization of the Licensed Products in the Major Markets and, as applicable, the Opt-Out Products for the U.S., during the [***], and (ii) Takeda's plans for Commercialization of the Licensed Products in the Major Markets and, as applicable, the Opt-Out Products for the U.S., during in the upcoming Calendar Year.

(c) Such reports submitted to the JCC by either Party pursuant to Section 7.8(a) or Section 7.8(b), as applicable, shall be in line with the reports each Party prepares for its own internal management needs and cover subject matter at a level of detail reasonably sufficient to enable each Party to determine the other Party's compliance with its diligence obligations set forth in Section 7.2.

7.9 **Commercialization Subcontractors**. Takeda shall have the right, in its sole discretion, to utilize the services of Third Party subcontractors to perform its Commercialization obligations under this Agreement. Notwithstanding the foregoing, with respect to Commercialization activities in support of Commercialization of the Licensed Products in the U.S., as long as Protagonist has not exercised the Rusfertide Opt-Out Right, or a Partial Opt-Out Right with respect to a particular Licensed Product, and except for the Approved Commercialization Subcontractors, the engagement by Takeda of Third Party subcontractors for the purposes of conducting such Commercialization obligations of Takeda shall require the prior approval of the JCC. Unless agreed in the applicable Joint Commercialization Plan, Protagonist may not engage a Third Party subcontractor that is not an Approved Commercialization Subcontractor to conduct any

of its Commercialization activities in the U.S. with respect to the subject Licensed Product of such Joint Commercialization Plan, without Takeda's prior approval through the JCC.

ARTICLE VIII
FINANCIAL PROVISIONS

8.1 **Upfront Payment**. As partial consideration for the rights and licenses granted by Protagonist to Takeda pursuant to this Agreement, within thirty (30) days after receipt of a valid invoice from Protagonist issued on or promptly following the Effective Date (but in any event payment shall not be made earlier than April 3, 2024), Takeda shall make to Protagonist a one-time, up-front, non-refundable and non-creditable payment of three hundred million Dollars ($300,000,000).

8.2 **Completion of Phase 3 PV**. As consideration for the Successful Completion of the VERIFY Clinical Trial, within forty-five (45) days after receipt of a valid invoice from Protagonist promptly issued therefor, Takeda shall make to Protagonist a one-time, non-refundable and non-creditable payment of twenty-five million Dollars ($25,000,000).

8.3 **Rusfertide Opt-Out Payment**. As consideration for Protagonist's exercise of the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period, (i) Takeda will owe to Protagonist a one-time, non-refundable, non-creditable payment of two hundred million Dollars ($200,000,000), with such payment payable within [***] of Takeda's receipt of Protagonist's Opt-Out Notice informing Takeda of Protagonist's exercise of the Rusfertide Opt-Out Right pursuant to Section 4.4(a) and of a valid invoice from Protagonist issued therefor (the "**Rusfertide Opt-Out First-Half Payment**"), and (ii) Takeda will owe to Protagonist a further one-time, non-refundable, non-creditable payment of two hundred million Dollars ($200,000,000) if the FDA grants approval of the Rusfertide NDA with respect to which the Rusfertide Opt-Out Period commenced, with such payment payable within [***] of Takeda's or Protagonist's receipt, as the case may be, of an official notice of such approval by the FDA and of a valid invoice from Protagonist issued therefor (the "**Rusfertide Opt-Out Second-Half Payment**", and together with the Rusfertide Opt-Out First-Half Payment, the "**Rusfertide Opt-Out Payment**"). For clarity, (a) if Takeda terminates this Agreement (either in its entirety or in the U.S.) prior to the start of the Rusfertide Opt-Out Period, (b) if Takeda terminates this Agreement

(either in its entirety or in the U.S.) after the start of the Rusfertide Opt-Out Period without Protagonist having prior thereto exercised the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period, (c) if Takeda terminates this Agreement (either in its entirety or in the U.S.) after the expiration of the Rusfertide Opt-Out Period without Protagonist having exercised the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period, or (d) if either Party gives notice to convene the JSC to discuss and approve the occurrence of a Rusfertide Failure, then in each case (a), (b), (c) or (d), neither the Rusfertide Opt-Out First-Half Payment nor the Rusfertide Opt-Out Second-Half Payment will be payable; *provided* that, for clarity, (x) in connection with the foregoing clause (d), (1) if the JSC (or if the matter is escalated pursuant to Sections 3.6(c)(vii)(B) and 14.2(c), the Expert) concludes that a Rusfertide Failure has not occurred, then Takeda will pay Protagonist either the Rusfertide Opt-Out First-Half Payment or the Rusfertide Opt-Out Second-Half Payment, as applicable based on Protagonist's exercise of the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period prior to such notice to convene the JSC, within [***] of such JSC or Expert conclusion, as applicable, and (2) if either Party gives notice to convene the JSC to discuss and approve the occurrence of a Rusfertide Failure prior to Protagonist's exercise of the Rusfertide Opt-Out Right during the Rusfertide Opt-Out Period, then

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Protagonist may not exercise such right unless and until [***] following the conclusion by the JSC or Expert, as applicable, that a Rusfertide Failure has not occurred (*provided*, that, in such event, if the Rusfertide Opt-Out Period expired prior to such JSC or Expert conclusion, then the Rusfertide Opt-Out Period shall be extended such that there will be at least [***] remaining following such JSC or Expert conclusion), and, if Protagonist exercises the Rusfertide Opt-Out Right at any time during the Rusfertide Opt-Out Period plus, if applicable, [***] thereafter, then Takeda will pay Protagonist the Rusfertide Opt-Out First-Half Payment and, if the condition for its payment is satisfied, the Rusfertide Opt-Out Second-Half Payment, (y) if a Rusfertide Failure first occurs, or the JSC is first convened to discuss and approve the occurrence of a Rusfertide Failure, in each case, after Takeda has paid Protagonist the Rusfertide Opt-Out First-Half Payment, then Takeda shall be relieved only of paying to Protagonist the Rusfertide Opt-Out Second-Half Payment, and (z) in no event will the Rusfertide Opt-Out Second-Half Payment be due and payable if the Rusfertide Opt-Out First-Half Payment is not due and payable.

8.4 **Milestone Payments.**

(a) **Protagonist Has Not Exercised the Rusfertide Opt-Out Right.**

(i)In the case where Protagonist *has not* exercised the Rusfertide Opt-Out Right prior to the time such milestone event has occurred, in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.4(a)(iii), Takeda will make one-time, non-refundable, non-creditable milestone payments to Protagonist upon the first achievement by Takeda or its Affiliates or Sublicensees of the regulatory milestone events set forth in this Section 8.4(a)(i) for Rusfertide.

Milestone Event	**Milestone Payment** (USD)
Polycythemia Vera	
First Regulatory Approval for Rusfertide in the Initial Indication in the U.S.	$50,000,000
[***]	$[***]
[***]	$[***]

[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	
[***]	$[***]

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Milestone Event	**Milestone Payment** (USD)
[***]	$[***]
[***]	$[***]

(ii)In further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.4(a)(iii),

A.if there *has not* occurred a Rusfertide Failure, and so long Protagonist *has not* exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right for such Licensed Product, in either case, prior to the time such milestone event has occurred, Takeda will make one-time, non-refundable, non-creditable milestone payments to Protagonist upon the first achievement by Takeda or its Affiliates or Sublicensees of the milestone events set forth in this Section 8.4(a)(ii) for the next Licensed Product being advanced for Development or Commercialization by Takeda or its Affiliates or Sublicensees (containing a different Licensed Compound from Rusfertide); or

B.if there *has* occurred a Rusfertide Failure, and so long as Protagonist *has not* exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right for such Licensed Product, in either case, prior to the time such milestone event has occurred, and subject to the last sentence of Section 1.1.194, Takeda will make non-refundable, non-creditable milestone payments to Protagonist upon the achievement by Takeda or its Affiliates or Sublicensees of the milestone events set forth in this Section 8.4(a)(ii) for the next two (2) Licensed Products, *provided*, *however*, that, (I) none of the milestone payments under the row [***] in the table of this Section 8.4(a)(ii) will be paid to Protagonist for the Replacement Licensed Product, and (II) the second such Licensed Product contains a different Licensed Compound from Rusfertide and from the Replacement Licensed Product:

Milestone Event	**Milestone Payment** (USD)
[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]

[***]	
[***]	$[***]

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Milestone Event	Milestone Payment (USD)
[***]	$[***]

For clarity, as the case may be, (1) if there has not occurred a Rusfertide Failure, and Protagonist has not exercised the Rusfertide Opt-Out Right, then Section 8.4(a)(ii)A shall apply until Protagonist has been paid *one time* each milestone payment specified in the table of this Section 8.4(a)(ii), or (2) if there has occurred a Rusfertide Failure, and Protagonist has not exercised the Rusfertide Opt-Out Right, and subject to the last sentence of Section 1.1.194, then Section 8.4(a)(ii)B shall apply until Protagonist has been paid (a) each milestone payment specified in the table of this Section 8.4(a)(ii), except the milestone payments under the row [***] in the table of this Section 8.4(a)(ii) for the Replacement Licensed Product, and (b) each milestone payment specified in the table of this Section 8.4(a)(ii) for the second Licensed Product.

(iii)Takeda will provide Protagonist with written notice of the achievement of each milestone event specified in the table of Section 8.4(a)(i) or Section 8.4(a)(ii), as applicable, in each case, no later than [***] after such achievement by Takeda or one of its Affiliates or its Sublicensees. Takeda will pay to Protagonist the milestone payment corresponding to such achieved milestone event no later than [***] after such achievement, *provided that* Takeda has received an invoice from Protagonist for such milestone payment.

(b) **Protagonist Has Exercised the Rusfertide Opt-Out Right.**

(i)In the case where Protagonist *has* exercised the Rusfertide Opt-Out Right prior to the time such milestone event has occurred, in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.4(b)(iii), Takeda will make one-time, non-refundable, non-creditable milestone payments to Protagonist upon the first achievement by Takeda or its Affiliates or Sublicensees of the regulatory milestone events set forth in this Section 8.4(b)(i) for Rusfertide.

Milestone Event	Milestone Payment (USD)
Polycythemia Vera	
First Regulatory Approval for Rusfertide in the Initial Indication in the U.S.	$75,000,000
[***]	$[***]
[***]	$[***]
[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]

Milestone Event	**Milestone Payment** (USD)
[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]

(ii)In further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.4(b)(iii),

A.if Protagonist *has* exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right for such Licensed Product, in either case, prior to the time such milestone event has occurred, and so long as there *has not* occurred the Rusfertide Failure, Takeda will make one-time, non-refundable, non-creditable milestone payments to Protagonist upon the first achievement by Takeda or its Affiliates or Sublicensees of the milestone events set forth in this Section 8.4(b)(ii) for the next Licensed Product being advanced for Development or Commercialization by Takeda or its Affiliates or Sublicensees (containing a different Licensed Compound from Rusfertide); or

B.if Protagonist *has* exercised a Partial Opt-Out Right for such Licensed Product prior to the time such milestone event has occurred, and there *has* occurred the Rusfertide Failure, and subject to the last sentence of Section 1.1.194, Takeda will make non-refundable, non-creditable milestone payments to Protagonist upon the achievement by Takeda or its Affiliates or Sublicensees of the milestone events set forth in this Section 8.4(b)(ii) for the next two (2) Licensed Products, *provided*, *however*, that, (I) none of the milestone payments under the row [***] in the table of this Section 8.4(b)(ii) will be paid to Protagonist for the Replacement Licensed Product, and (II) the second such Licensed Product contains a different Licensed Compound from Rusfertide and from the Replacement Licensed Product:

Milestone Event	**Milestone Payment** (USD)
[***]	
[***]	$[***]
[***]	$[***]
[***]	$[***]
[***]	
[***]	$[***]
[***]	$[***]

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Milestone Event	Milestone Payment (USD)
[***]	$[***]
[***]	
[***]	$[***]
[***]	$[***]

For clarity, as the case may be, (1) if there has not occurred a Rusfertide Failure, and Protagonist has not exercised the Rusfertide Opt-Out Right, then Section 8.4(b)(ii)A shall apply until Protagonist has been paid *one time* each milestone payment specified in the table of this Section 8.4(b)(ii), or (2) if there has occurred a Rusfertide Failure, and Protagonist has not exercised the Rusfertide Opt-Out Right, and subject to the last sentence of Section 1.1.194, then Section 8.4(b)(ii)B shall apply until Protagonist has been paid (a) each milestone payment specified in the table of this Section 8.4(a)(ii), except the milestone payments under the row [***] in the table of this Section 8.4(a)(ii) for the Replacement Licensed Product, and (b) each milestone payment specified in the table of this Section 8.4(b)(ii) for the second Licensed Product.

(iii)Takeda will provide Protagonist with written notice of the achievement of each milestone event specified in the table of Section 8.4(b)(i) or Section 8.4(b)(ii), as applicable, in each case, no later than [***] after such achievement by Takeda or one of its Affiliates or its Sublicensees. Takeda will pay to Protagonist the milestone payment corresponding to such achieved milestone event no later than [***] after such achievement, *provided that* Takeda has received an invoice from Protagonist for such milestone payment.

8.5 **Sales Milestone Payments.**

(a) **Protagonist Has Not Exercised the Rusfertide Opt-Out Right.**

(i)In the case where Protagonist *has not* exercised the Rusfertide Opt-Out Right prior to the time such sales milestone event has occurred, in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.5(a)(ii), Takeda will make one-time, non-refundable, non-creditable sales milestone payments to Protagonist when annual Net Sales of all Licensed Products across all Indications in the Ex-U.S. Territory in a given [***] first reach the Dollar threshold values indicated in the table below during the Term:

Sales Milestone Event	Sales Milestone Payment
[***] in which Net Sales of all Licensed Products in the Ex-U.S. Territory ≥$[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Ex-U.S. Territory ≥ $[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Ex-U.S. Territory ≥ $[***]	$[***]

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Sales Milestone Event	Sales Milestone Payment
[***] in which Net Sales of all Licensed Products in the Ex-U.S. Territory ≥ $[***]	$[***]

(ii)The sales milestone payments will be additive, such that if more than one sales milestone event set forth in the table of Section 8.5(a)(i) is achieved in the same [***] and the same sales milestone event has not been achieved in any [***], then Takeda will pay to Protagonist each of the sales milestone payments for such sales milestone events achieved in a [***] in accordance with Section 8.5(a)(i). By way of non-limiting example, if in one [***], all [***] sales milestone events in the table of Section 8.5(a)(i) are achieved and no such sales milestone event has been achieved in any [***], then Takeda would pay Protagonist [***] Dollars (USD $[***]) in accordance with this Section 8.5(a)(ii). Takeda will provide Protagonist with written notice of the first achievement of each sales milestone event specified in the table of Section 8.5(a)(i) no later than [***] after the end of the [***] in which such sales milestone event is achieved. Takeda will pay to Protagonist the sales milestone payment corresponding to such achieved sales milestone event within [***] of Takeda's receipt of an invoice from Protagonist for such sales milestone payment.

(b) **Protagonist Has Exercised the Rusfertide Opt-Out Right.**

(i)In the case where Protagonist *has* exercised the Rusfertide Opt-Out Right prior to the time such sales milestone event has occurred, in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to Section 8.5(b)(ii), Takeda will make one-time, non-refundable, non-creditable sales milestone payments to Protagonist when annual Net Sales of all Licensed Products across all Indications in the Territory in a given [***] first reach the Dollar threshold values indicated in the table below during the Term:

Sales Milestone Event	Sales Milestone Payment
[***] in which Net Sales of all Licensed Products in the Territory ≥$[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Territory ≥ $[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Territory ≥ $[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Territory ≥ $[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Territory ≥ $[***]	$[***]
[***] in which Net Sales of all Licensed Products in the Territory ≥ $[***]	$[***]

(ii)The sales milestone payments will be additive, such that if more than one sales milestone event set forth in the table of Section 8.5(b)(i) is achieved in the same

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[***] and the same sales milestone event has not been achieved in any [***], then Takeda will pay to Protagonist each of the sales milestone payments for such sales milestone events achieved in a [***] in accordance with Section 8.5(b)(i). By way of non-limiting example, if in one [***], all [***] sales milestone events in the table of Section 8.5(b)(i) are achieved and no such sales milestone event has been achieved in any [***] by Rusfertide, then Takeda would pay Protagonist [***] (USD $[***]) in accordance with this Section 8.5(b)(ii). Takeda will provide Protagonist with written notice of the first achievement of each sales milestone event specified in the table of Section 8.5(b)(i) no later than [***] after the end of the [***] in which such sales milestone event is achieved. Takeda will pay to Protagonist the sales milestone payment corresponding to such achieved sales milestone event within [***] of Takeda's receipt of an invoice from Protagonist for such sales milestone payment.

8.6 **Royalties.**

(a) **Protagonist Has Not Exercised the Rusfertide Opt-Out Right**. In the case where Protagonist *has not* exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right for the Licensed Product whose Net Sales are at issue for purposes of the royalty payments calculated and owed pursuant to this Section 8.6(a), in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to the remainder of this Section 8.6, Takeda shall make, or cause to be made, non-refundable, non-creditable royalty payments to Protagonist on the Net Sales of Licensed Products sold in the Ex-U.S. Territory by or on behalf of Takeda, its Affiliates and its Sublicensees during the Royalty Term for each Licensed Product at the applicable royalty rate set forth in the table below:

Net Sales (USD)	**Royalty Rate applicable to** [***]	**Royalty Rate applicable to** [***]
For Ex-US Territory		
Portion of aggregate Net Sales in the Ex-U.S. Territory of Licensed Products in a Calendar Year less than $[***]	10%	[***]%
Portion of aggregate Net Sales in the Ex-U.S. Territory of Licensed Products in a Calendar Year greater than or equal to $[***] and less than $[***]	[***]%	[***]%
Portion of aggregate Net Sales in the Ex-U.S. Territory of Licensed Products in a Calendar Year greater than or equal to $[***] and less than $[***]	[***]%	[***]%
Portion of aggregate Net Sales in the Ex-U.S. Territory of Licensed Products in a Calendar Year greater than or equal to $[***]	17%	[***]%

(b) **Protagonist Has Exercised the Rusfertide Opt-Out Right**. In the case where Protagonist *has* exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right for the Licensed Product whose Net Sales are at issue for purposes of the royalty payments calculated and

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owed pursuant to this Section 8.6(b), in further consideration for the rights and licenses granted by Protagonist to Takeda under this Agreement, subject to the remainder of this Section 8.6, Takeda shall make, or cause to be made, non-refundable, non-creditable royalty payments to Protagonist on the Net Sales of Licensed Products sold in the Territory by or on behalf of Takeda, its Affiliates and its Sublicensees during the Royalty Term for Licensed Product at the applicable royalty rate set forth in the table below:

Net Sales (USD)	**Royalty Rate applicable to** [***]	**Royalty Rate applicable to** [***]
For Territory		
Portion of aggregate Net Sales in the Territory of Licensed Products in a Calendar Year less than $[***]	14%	[***]%
Portion of aggregate Net Sales in the Territory of Licensed Products in a Calendar Year greater than or equal to $[***] and less than $[***]	[***]%	[***]%

Portion of aggregate Net Sales in the Territory of Licensed Products in a Calendar Year greater than or equal to $[***] and less than $[***]	[***]%	[***]%
Portion of aggregate Net Sales in the Territory of Licensed Products in a Calendar Year greater than or equal to $[***] and less than $[***]	[***]%	[***]%
Portion of aggregate Net Sales in the Territory of Licensed Products in a Calendar Year greater than or equal to $[***]	29%	[***]%

(c) **Royalty Term**. Royalty payment pursuant to Section 8.6(a) or Section 8.6(b), as applicable, shall be paid on Net Sales on a Licensed Product-by-Licensed Product and country-by-country basis commencing upon the First Commercial Sale of such Licensed Product in such country in, respectively, the Ex-U.S. Territory or Territory by or on behalf of Takeda or its Affiliates or Sublicensees until the later of (i) expiration of the last Valid Claim of the last to expire of the Licensed Patents Covering the composition of matter or method of use or treatment of such Licensed Product in such country, (ii) expiration of the Regulatory Exclusivity for such Licensed Product in such country, and (iii) [***] years after the First Commercial Sale of such Licensed Product in such country (the "**Royalty Term**").

(d) **Royalty Reductions**.

(i)*Third Party Licenses*. Subject to Section 8.6(d)(iv), if Takeda enters into an agreement with a Third Party after the Effective Date in order to obtain a license or other right under any issued Patent Right owned or controlled by such Third Party that would be infringed by or is otherwise necessary for the Manufacture, use, sale or import by Takeda of a Licensed Product in one (1) or more countries in the Ex-U.S. Territory or, subject to Section 2.10(b), the Territory, as applicable, then, on a country-by-country basis, Takeda shall be entitled to deduct from any royalty payment pursuant to Section 8.6(a) or Section 8.6(b), as applicable, with

respect to such Licensed Product in such country(ies) [***] percent ([***]%) of the upfront payment, milestone payments and royalties paid to such Third Party in such country pursuant to the terms of such agreement, in each case, to the extent such upfront payment, milestone payments and royalties are reasonably allocable to such rights for such Licensed Product in such country.

(ii)*Generic Entry*. Subject to Section 8.6(d)(iv), if one (1) or more Generic Products to a Licensed Product is sold in a country in the Ex-U.S. Territory or the Territory, as applicable, in any Calendar Quarter during the Royalty Term for such Licensed Product in such country (such first Calendar Quarter, the "**Launch Quarter**") and the Net Sales of such Licensed Product in such country in the Launch Quarter or any subsequent Calendar Quarter decline by at least [***] percent ([***]%) as measured against the Net Sales of such Licensed Product in such country in the Calendar Quarter immediately preceding the Launch Quarter (as determined by the Selling Party's actual Net Sales) (such first Calendar Quarter in which such decline occurs, the "**Trigger Quarter**"), then the applicable royalty rates set forth in Section 8.6(a) or Section 8.6(b), as applicable, shall be reduced by [***] percent ([***]%) to calculate the royalty payments due on Net Sales for such Licensed Product in such country for the Trigger Quarter and each subsequent Calendar Quarter during such Royalty Term.

(iii)*No Valid Claim*. Subject to Section 8.6(d)(iv), if, during any Calendar Quarter during the Royalty Term for a particular Licensed Product in a particular country in the Ex-U.S. Territory or the Territory, as applicable, no Valid Claim of a Licensed Patent Covers the composition of matter or method of use or treatment of such Licensed Product in such country, then, for the remainder of the Royalty Term for such Licensed Product in such country, the royalty rates set forth in Section 8.6(a) or Section 8.6(b), as applicable, shall be reduced by [***] percent ([***]%); *provided that* the royalty reduction set forth in this Section 8.6(d)(iii) shall not be available to Takeda if such absence of a Valid Claim is the direct result of a decision by Takeda not to file, or to abandon or cease prosecution or maintenance of a Licensed Patent, or to otherwise not enforce or defend a Licensed Patent in such country if such country is a Major Market.

(iv)*Minimum Floor*. Notwithstanding any provision to the contrary set forth in the foregoing Sections 8.6(d)(i), 8.6(d)(ii) and 8.6(d)(iii) with respect to any Licensed Product in any Calendar Quarter, the operation of Sections 8.6(d)(i), 8.6(d)(ii) and 8.6(d)(iii) above, individually or in combination, shall not reduce the royalty payments owed pursuant to Section 8.6(a) or Section 8.6(b), as applicable, to an amount less than [***] percent ([***]%) of the royalty payments that would otherwise have been due under Section 8.6(a) or Section 8.6(b), as applicable, with respect to Net Sales of such Licensed Product in the applicable country(ies) during such Calendar Quarter. Takeda shall have the right to carry forward on a country-by-country basis over the [***] any amounts that it was not able to credit on account of the royalty floor set forth in this Section 8.6(d)(iv) towards any royalty payments owed in each such Calendar Quarter.

(v)*Inflation Reduction Act.* If, during the Term, a Licensed Product is selected under the Inflation Reduction Act of 2023, as amended from time to time (the "**IRA**"), for price negotiation, then, for the remainder of the Royalty Term for such Licensed Product in the U.S., the royalty rates set forth in Section 8.6(a) or Section 8.6(b), as applicable, shall be reduced by [***].

(e) **Royalty Reports; Royalty Payments**. Takeda shall calculate all amounts payable to Protagonist pursuant to this Section 8.6 at the end of each Calendar Quarter. Within

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[***] after the end of each Calendar Quarter, Takeda shall provide Protagonist a written report setting forth the estimated Net Sales amount for such Calendar Quarter. Within [***] after the end of each Calendar Quarter, Takeda shall provide Protagonist a written report that includes the following information for the applicable Calendar Quarter, each listed by Licensed Product and by country or other jurisdiction of sale in the Territory (or Ex-U.S. Territory, as applicable): (i) the number of units of each Licensed Product, as applicable, on which royalties are owed by Takeda hereunder sold either by Takeda or its Affiliates or Sublicensees, (ii) Net Sales in Dollars (which, for clarity, shall include the gross-to-net calculation for Net Sales), (iii) the exchange rate applied for the conversion of foreign currency sales into Dollars, and (iv) the royalties owed by Takeda to Protagonist. Takeda shall pay to Protagonist the royalty amounts due with respect to a given Calendar Quarter within [***] after receipt of a valid invoice from Protagonist issued promptly after receipt by Protagonist of the latter report from Takeda.

8.7 **Licensed Products in the U.S. (for which no Opt-Out Right has been exercised) Reconciliation of Shared Costs; Profit Sharing**. The terms and conditions of this Section 8.7 will govern the rights and obligations of Takeda and Protagonist with respect to sharing Shared Development Costs, Shared Commercialization Costs, Shared Operating Profits and Shared Operating Losses of a Licensed Product unless and until Protagonist exercises an Opt-Out Right in respect of such Licensed Product.

(a) **Shared Costs Reporting**. From and after the Opt-In/Out Date and during the rest of the Term, for each Calendar Quarter in which a Party or its Affiliates incurs Shared Development Costs or Shared Commercialization Costs, such Party will submit to a finance officer designated by Protagonist and a finance officer designated by Takeda (the "**Finance Officers**"), (i) within [***] after the end of each such Calendar Quarter, an estimate report setting forth such Party's estimated Shared Development Costs and Shared Commercialization Costs, and (ii) within [***] after the end of each such Calendar Quarter, a final report setting forth such Party's actual Shared Development Costs and Shared Commercialization Costs, which reports will specify a reasonably detailed and itemized calculation of all such costs, as established by the Joint Finance Committee from time to time, in order for each Party to satisfy its internal reporting requirements (a "**Expense Report**").

(b) **Shared Revenue Reporting**. From and after the Opt-In/Out Date and during the rest of the Term, for each Calendar Quarter in which a Party or its Affiliates has generated Net Revenues, (1) within [***] after the end of each such Calendar Quarter, such Party will submit to the Finance Officers a report setting forth the estimated Net Revenues generated by such Party, which report will include only the Net Sales amount and Other Income, and (2) within [***] after the end of each such Calendar Quarter, such Party will submit to the Finance Officers a final report setting forth Net Revenues generated by such Party, which report will include Net Sales (which, for clarity, shall include the gross-to-net calculation for Net Sales) and Other Income, as established by the Joint Finance Committee from time to time, in order for each Party to satisfy its internal reporting requirements (a "**Revenue Report**").

(c) **Sharing of Shared Operating Profits and Shared Operating Losses**.

(i)Protagonist and Takeda will share [***] all Shared Development Costs, Shared Commercialization Costs, Shared Operating Profits and Shared Operating Losses (as applicable) for all Licensed Products in the United States accrued from and after the Opt-In/Out

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Date and during the rest of the Term so long as Protagonist does not exercise an Opt-Out Right in respect of any such Licensed Products.

(ii)Within [***] after the end of each Calendar Quarter, the Finance Officers will confer and agree in writing on a consolidated financial statement (A) setting forth the Shared Operating Profit or Shared Operating Loss for such Calendar Quarter, as the case may be, (B) calculating each Party's share of such Shared Operating Profit or Shared Operating Loss, and determine whether a reconciliation payment is due from Protagonist to Takeda or Takeda to Protagonist, and if so, the amount of such reconciliation payment, for the Licensed Products in accordance with the applicable provisions of this Agreement, which payment in any event will be made such that Protagonist and Takeda share all Shared Development Costs, Shared Commercialization Costs, Shared Operating Profit and Shared Operating Loss. In determining any reconciliation payment required to be made to a Party, the Finance Officers shall take into account any payment obligations of a Party under Section 3.6(c)(ii)(4) or Section 3.6(c)(v)B, as applicable.

(iii)Protagonist or Takeda, as applicable, if required to pay such reconciliation payment, will submit the undisputed portion of any such payment to Takeda or Protagonist, as applicable, within [***] after the end of such [***] conferral period. In the event of any disagreement with respect to the calculation of such reconciliation

payment, the owing Party will pay to the other Party any disputed portion within [***] after the date on which Protagonist and Takeda, using good faith efforts, resolve the dispute.

(iv)In addition, following the Effective Date, each Party will consider in good faith other reasonable procedures proposed by the other Party for sharing financial information in order to permit each Party to close its books periodically in a timely manner.

8.8 **Joint Finance Committee**. As promptly as practicable after the Opt-In/Opt Out Date, but in no event later than [***] thereafter, so long as Protagonist has not exercised the Rusfertide Opt-Out Right, the JSC will establish a joint finance committee (the "**Joint Finance Committee**") to coordinate the activities and financial reporting by the Parties as set forth in Section 8.7 and Section 8.6(e), and to assist the JSC in its responsibilities with respect to the review and resolution of financial matters related to the Exploitation of Licensed Products in the U.S. for which Protagonist has not exercised an Opt-Out Right. The Joint Finance Committee shall meet quarterly, or as more or less frequently as is necessary to carry out its duties under this Section 9.5(c). In particular, the Joint Finance Committee will:

(a) facilitate the creation of each Shared Development Budget and Shared Commercialization Budget;

(b) reconcile financial and accounting matters between the Parties;

(c) initiate and execute an effective and efficient revenue and cost-sharing process (cross-charges);

(d) review and recommend for the Parties' consideration modifications to the FTE Rate used to calculate Shared Development Costs or Shared Commercialization Costs;

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(e) discuss, prepare and determine whether to approve for submission to the JSC for approval a FTE time tracking approach to be following by each Party;

(f) recommending to the JSC an appropriate allocation of costs and expenses for Commercialization resources to be included as Shared Commercialization Costs, as described in Section 7.5(b);

(g) cooperate to ensure that all budgets referenced in Section 8.8(a) agreed to for a Calendar Year (or any other given period) can be interpreted for the purposes of both Parties' internal financial and audit reporting requirements, including each Party's fiscal year reporting;

(h) implement a series of reporting requirements for actual and forecasted financial information, available at times to be agreed by the Parties through the Joint Finance Committee, consistent with the need to report the results of the Shared Operating Profit (or Loss);

(i) monitor the budget, expense and revenue reporting requirements between the Parties related to such Licensed Products to ensure that each Party is able to comply with its respective internal financial and audit reporting requirements and, as appropriate, recommending to the JSC for approval, changes to the reporting requirements under this Agreement; and

(j) undertake such other tasks with respect to the calculation, implementation and reporting for the Parties' sharing of Shared Development Costs, Shared Commercialization Costs, and Net Revenues as the Parties agree.

8.9 **Financial Records**. Each Party shall, and shall cause its Affiliates to, keep complete and accurate books and records in accordance with Applicable Accounting Standards pertaining to Shared Development Costs and Shared Commercialization Costs, all FTE Costs, Out-of-Pocket Costs, and other costs and expenses incurred in its performance under this Agreement, and Net Sales and Other Income, including books and records of actual expenditures with respect to Shared Development Budgets, and Shared Commercialization Budgets, in sufficient detail to calculate all amounts payable hereunder and to verify compliance with its obligations under this Agreement. Such books and records shall be retained by such Party and its Affiliates until the later of (a) [***] after the end of the period to which such books and records pertain, and (b) the expiration of the applicable tax statute of limitations (including any extensions thereof), or for such longer period as may be required by Applicable Law.

8.10 **Audits**. Upon reasonable (but in any case no less than [***] advance notice) by one Party to the other Party, the audited Party and its Affiliates will permit, and will cause their Sublicensees to permit, an independent public accounting firm of nationally recognized standing designated by such Party and reasonably acceptable to such audited Party, at reasonable times during normal business hours, to have access to such of the records of the audited Party and its Affiliates and, if applicable, their Sublicensees as may be reasonably necessary to verify the payments made or costs reported by the audited Party and the related reports, statements and books of accounts, as applicable. Such examinations may not (a) be conducted for any Calendar Quarter more than [***] after the end of such quarter, (b) be conducted more than once in any [***] period (unless a previous audit during such [***] period revealed an underpayment with respect to such period) or (c) be repeated for any Calendar Quarter. The auditor will enter a confidentiality agreement reasonably acceptable to the audited Party governing the use and disclosure of the

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audited Party's information disclosed to such auditor. The auditor shall disclose to the auditing Party only whether the reports are correct or not, and the specific details concerning any discrepancies. No other information shall be shared. The cost of this audit shall be borne by the auditing Party, unless the audit reveals a variance of more than the greater of [***] Dollars ($[***]) and [***] percent ([***]%) from the reported amounts, in which case the Party obligated hereunder to make the corrective payment shall bear the cost of the audit, and, unless disputed pursuant to Section 8.10, the Party obligated hereunder to make the corrective payment shall make such payment plus interest as set forth in Section 8.15 within [***] after the date on which such audit is completed.

8.11 **Audit Dispute**. In the event of a dispute with respect to any audit under Section 8.10, Protagonist and Takeda shall work in good faith to resolve the disagreement. If the Parties are unable to reach a mutually acceptable resolution of any such dispute within [***], the dispute shall be submitted for resolution to an independent public accounting firm of nationally recognized standing as the Parties shall mutually agree (the "Audit Arbitrator"). If resolved by an Audit Arbitrator, the decision of the Audit Arbitrator shall be final and the costs of such arbitration as well as the initial audit shall be borne between the Parties in such manner as the Audit Arbitrator shall determine. Not later than [***] after the decision by the Audit Arbitrator and in accordance with such decision, the audited Party shall pay the additional amounts, or the auditing Party shall reimburse the excess payments, as applicable, plus interest as set forth in Section 8.15.

8.12 **Currency Exchange**. With respect to annual Net Sales invoiced in Dollars, the annual Net Sales and the amounts due by the Paying Party to the other Party hereunder will be expressed in Dollars. When conversion of payments from any foreign currency is required to be undertaken by the paying Party, the Dollar equivalent will be calculated using the paying Party's Applicable Accounting Standards for the conversion of foreign currency sales into Dollars.

8.13 **Manner of Payment**. Any payment to be made by one Party to the other Party under this Agreement shall be payable in Dollars and shall be paid by wire transfer in immediately available funds to the bank account designated by the payee Party. Each Party shall have the right to change such information at any time by providing written notice to the other Party; *provided that* such new bank information shall not be deemed effective until the date that is [***] after the receipt of such new information.

8.14 **Blocked Payments**. If, by reason of Applicable Law in any country, it becomes impossible or illegal for the paying Party to transfer, or have transferred on its behalf, payments owed by the paying Party to the other Party hereunder, the paying Party will promptly notify the other Party of the conditions preventing such transfer and such payments will be deposited in local currency in the relevant country to the credit of the other Party in a recognized banking institution designated by the other Party or, if none is designated by the other Party within a period of [***], in a recognized banking institution selected by the Paying Party, as the case may be, and identified in a written notice given to the other Party.

8.15 **Late Payment**. The paying Party will pay the other Party interest on any undisputed payments that are not paid on or before the date such payments are due under this Agreement at a per-annum rate of [***] ([***]%) over the then-current prime rate reported in The Wall Street Journal or, if lower, the maximum applicable legal rate, calculated on the total number of days payment is delinquent.

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8.16 **Other Amounts Payable**. With respect to any amounts owed under this Agreement by one Party to the other for which no other invoicing and payment procedure is specified in this Article VIII, within [***] after the end of each Calendar Quarter, each Party will provide an invoice, together with reasonable supporting documentation, to the other Party for such amounts owed in respect of such Calendar Quarter. The owing Party will pay any undisputed amounts within [***] of receipt of the invoice, and any disputed amounts owed by a Party will be paid within [***] of resolution of the dispute.

8.17 **Right to Offset**. Upon notice to the other Party, each Party will have the right to offset any undisputed payment not paid within the specified period owed by such Party to the other Party under this Agreement, including in connection with any breach or indemnification obligation by such Party, against any undisputed payments owed by the other Party to such Party under this Agreement. Such offsets will be in addition to any other rights or remedies available to the offsetting Party under this Agreement and Applicable Laws.

8.18 **Tax Matters.**

(a) **Tax Withholding**. The amounts payable pursuant to this Agreement shall not be reduced on account of any Taxes unless required by Applicable Law. If a party (the "**Payor Party**") determines that it is required under Applicable Law to deduct and/or withhold Taxes from its payments hereunder (such Taxes, "**Withholding Taxes**"), it shall (i) notify the other party (the "**Payee Party**") in a writing identifying the amount of the proposed

Withholding Taxes and the basis therefor at least [***] prior to deducting and/or withholding such Withholding Taxes and (ii) cooperate with the Payee Party to reduce or eliminate such Withholding Taxes (and if Protagonist is entitled under any applicable Tax treaty to a reduction of rate of, or the elimination of, or recovery of, the applicable Withholding Tax, then Protagonist may deliver to Takeda or the appropriate governmental authority the prescribed forms necessary to reduce the applicable rate of withholding or to relieve Takeda of its obligation to withhold Tax, and Takeda shall apply the reduced rate of withholding, or not withhold, as the case may be). The Parties acknowledge and agree that, so long as each Party complies with its obligations under Section 8.18(c), no Withholding Taxes (as defined below) are expected to be deducted or withheld from payments under this Agreement. If, in accordance with the foregoing, any Payor Party withholds any Withholding Taxes, it shall pay the Payee Party the balance of the payment (net of Withholding Taxes) when due, make timely payment to the proper taxing authority of the withheld amount, and send the Payee Party proof of such payment within [***] following that payment.

(b) **Tax Actions**. Notwithstanding anything to the contrary in this Agreement, in the event a Party (i) undertakes a Redomiciliation or (ii) assigns, delegates or otherwise transfers this Agreement or all or any portion of its rights and obligations hereunder (including for sake of clarification the assignment or delegation of any payment obligations under this Agreement) to another Person (in each case of clause (i) and (ii), a "**Tax Action**"), and, as a result of such Tax Action the amount of Withholding Taxes required to be withheld under this Section 8.18 in respect of a payment to the other Party (the "**Non-Acting Party**") is greater than the amount of such Withholding Taxes that would have been required to have been withheld absent such Tax Action, then any such amount payable to the Non-Acting Party shall be adjusted to take into account such Withholding Taxes as may be necessary so that, after making all required withholdings, the Non-Acting Party receives an amount equal to the sum it would have received had no such increased withholding been made.

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(c) **Tax Forms**. On or prior to the date hereof (and thereafter, from time to time at the request of the other party), each Party shall deliver a properly completed and duly executed IRS Form W-9 certifying that it is not subject to U.S. backup withholding.

(d) **VAT**. All amounts payable by Takeda pursuant to this Agreement shall be deemed to be exclusive of value added taxes, sales taxes and other similar taxes wherever chargeable ("**VAT**"). If any such payment by Takeda constitutes the whole or any part of the consideration for a taxable or deemed taxable supply of goods or services for VAT purposes by Protagonist to Takeda, Takeda shall increase that payment by an amount equal to the VAT which is chargeable and required to be accounted for by Protagonist in respect of the taxable or deemed taxable supply in question, *provided that* Protagonist shall have delivered a valid VAT invoice in respect of such VAT to Takeda.

ARTICLE IX
INTELLECTUAL PROPERTY OWNERSHIP, PROTECTION AND RELATED MATTERS

9.1 **Ownership.**

(a) **Inventorship.**

(i)The determination of whether inventions and discoveries (including Know-How) are conceived, discovered, developed, or otherwise made by a Party for the purpose of allocating ownership of

Intellectual Property rights therein, shall, for purposes of this Agreement, be made in accordance with Applicable Law in the United States as such law exists as of the Effective Date irrespective of where such conception, discovery, development or making occurs.

(ii)Notwithstanding anything to the contrary in this Agreement, each Party will have the right to invoke the America Invents Act Joint Research Agreement exception codified at 35 U.S.C. § 102(c) (the "**JRA Exception**") when exercising its rights under this Agreement only with prior written consent of the other Party (such consent not to be unreasonably withheld, conditioned or delayed). In the event that a Party intends to invoke the JRA Exception, once agreed to by the other Party if required by the preceding sentence, it will notify the other Party and the other Party will cooperate and coordinate its activities with such Party with respect to any filings or other activities in support thereof. The Parties acknowledge and agree that this Agreement is a "joint research agreement" as defined 35 U.S.C. § 100(h).

(b) **Ownership of Background IP.**

(i)**Protagonist Background IP**. As between the Parties, Protagonist owns, and will own and retain, all right, title and interest in and to all Licensed Technology existing as of the Execution Date, and any Intellectual Property that is generated or acquired by Protagonist outside of the scope of this Agreement ("**Protagonist Background IP**").

(ii)**Takeda Background IP**. As between the Parties, Takeda owns, and will own and retain, all right, title and interest in and to all Intellectual Property that is owned

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or Controlled by Takeda as of the Execution Date and any Intellectual Property generated or acquired outside the scope of this Agreement ("**Takeda Background IP**").

(c) **Ownership of Arising IP**. Except as otherwise expressly provided in this Agreement, as between the Parties, (i) Protagonist shall own and retain all right, title, and interest in and to the Arising Protagonist IP, and (ii) Takeda shall own and retain all right, title, and interest in and to the Arising Takeda IP.

(d) **Ownership of Joint IP**. As between the Parties, the Parties shall each own an equal, undivided joint ownership interest in any and all (i) Know-How that is conceived, discovered, developed or otherwise made jointly by or on behalf of Protagonist, its Affiliates, Sublicensees or Subcontractors, on the one hand, and Takeda, its Affiliates, Sublicensees or Subcontractors, on the other hand, under or in connection with this Agreement, whether or not patented or patentable (the "**Joint Know-How**"), and (ii) Patents claiming the Joint Know-How (the "**Joint Patents**", and together with Joint Know-How, the "**Joint IP**"). Each Party may exercise its ownership rights in and to such Joint IP, including the right to license and sublicense or otherwise to exploit through multiple tiers, transfer or encumber its ownership interest, without any duty of accounting or other obligation to, or consent required from (where consent is required by Applicable Law, such consent is deemed hereby granted), the other Party, but subject to the licenses and other rights granted to the other Party under this Agreement, Section 0, and the other terms and conditions of this Agreement. Each Party will grant and hereby does grant to the other Party all further permissions, consents, and waivers with respect to, and all licenses under, the Joint IP, throughout the world, necessary to provide the other Party, subject to the licenses and other rights granted to the other Party under this Agreement, Section 2.7, and the terms and conditions set forth in this Agreement, with full rights of use and Exploitation of the Joint IP.

(e) **Assignment Obligation**. Each Party shall cause all of its Affiliates and all Persons (a) who perform activities for such Party under this Agreement or (b) who conceive, discover, develop or otherwise make any Know-How by or on behalf of such Party or its Affiliates or its or their Sublicensees or Subcontractors to be under an obligation to assign (or, if such Party is unable to cause such Person to agree to such assignment obligation despite such Party's using commercially reasonable efforts to negotiate such assignment obligation, provide an exclusive license under) the Intellectual Property rights arising from such activities or rights in any such Know-How resulting therefrom to such Party to the extent such Party would have an obligation under this Agreement to grant rights to such Know-How or rights to such Intellectual Property to the other Party if such Know-How or Intellectual Property rights were Controlled by such Party, except where Applicable Law requires otherwise (in which case a suitable license, or right to obtain such a license, shall be obtained).

9.2 **Disclosure of Inventions**. No later than [***] after the applicable Party's intellectual property department receives notice of such development or conception, (a) Protagonist will promptly disclose in writing to Takeda any Arising Know-How conceived, discovered, developed or otherwise made by or on behalf of Protagonist or its Affiliates, Sublicensees or Subcontractor (or their employees or agents) during the Term, and (b) Takeda will promptly disclose in writing to Protagonist any Arising Know-How conceived, discovered, developed or otherwise made by or on behalf of Takeda or its Affiliates, Sublicensees or Subcontractor (or their employees or agents) during the Term.

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9.3 **Payments to Inventors**. Each Party will be solely responsible for any and all payments to inventors in relation to any Arising Know-How, any Patents claiming Arising Know-How and Joint IP, whether the rights, title, and interests in and to the Arising Know-How, Patents claiming Arising Know-How, and Joint IP are owned by such Party directly upon creation (if applicable and permitted under Applicable Law), or assigned to such Party by inventors with an obligation to assign, or who do assign.

9.4 **Control of Intellectual Property**. Neither Party shall enter into or amend any agreement with a Third Party, or include in any such agreement or amendment any restrictive provisions, with the effect of limiting its Control of, or to not Control, any Know-How, Patent or other Intellectual Property right or Regulatory Documentation that would be subject to the license grants in Sections 2.1 (with respect to Protagonist), Section 2.2 (with respect to Takeda) and Section 12.11(d) (with respect to Protagonist).

9.5 **Joint IP Committee.**

(a) **Formation**. As promptly as practicable after the Effective Date, but in no event later than [***] after the Effective Date, the Parties shall establish a joint intellectual property committee (the "**JIPC**") to oversee activities of the Parties under this Agreement related to the prosecution, maintenance, enforcement and defense of Patent Rights and other Intellectual Property rights. The JIPC shall be comprised of [***] from each Party. All JIPC representatives shall be employees of such Party and have appropriate expertise, decision making authority and ongoing familiarity with the activities performed under this Agreement, and each Party's JIPC representatives collectively will have relevant expertise in intellectual property portfolio management and licensing matters. The JIPC may change its size from time to time by agreement of the Parties at the JSC, *provided that* [***]. Each Party may replace any or all its representatives on the JIPC with individual(s) of appropriate credentials, experience, knowledge and authority at any time upon written notice to the other Party. Additional representatives or consultants may, from time to time, by mutual consent of the Parties, be invited to attend JIPC meetings in a non-voting capacity, subject to

such representatives' and consultants' (or the representative's or consultant's employer) undertaking confidentiality obligations in a written agreement no less stringent than the requirements of Article X.

(b) **Meetings**. The JIPC shall meet as frequently as necessary to carry out its duties under Section 9.5(c), but no more often than once per [***], unless otherwise agreed by its members. The JIPC shall meet in person at locations alternately selected by Takeda and by Protagonist or at any other location agreed by the members or, alternatively, by means of teleconference, videoconference, or other similar communications equipment. Meetings of the JIPC shall be effective only if a quorum is present, which quorum will require the presence of at least one (1) representative of each Party. Each Party will bear the expense of its respective JIPC members' participation in JIPC meetings.

(c) **JIPC Responsibilities**. The JIPC will have the following responsibilities:

(i)within [***] of the Effective Date, selecting the IP Expert;

(ii)establishing and approving for Takeda's implementation the strategy for preparing, filing, prosecuting and maintaining Licensed Patents (including Arising

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Protagonist Patents and Joint Patents) Covering the Exploitation of a specific Licensed Product in the U.S. (the "**US Patent Strategy**"), unless Protagonist has exercised an Opt-Out Right with respect to such Licensed Product;

(iii)establishing and approving for Takeda's implementation the strategy for abating a Third Party Product Infringement in the U.S. (the "**US Enforcement Strategy**"), unless Protagonist has exercised an Opt-Out Right with respect to the Licensed Product that is the subject of such Third Party Product Infringement;

(iv)without limiting Section 9.5(c)(i) or Section 9.5(c)(iii), facilitating communication, exchange of documents, and coordination between the Parties to enable the lead Party, in accordance with the applicable Section of this Article IX, to conduct the preparation, filing, prosecution, maintenance, enforcement and defense of the Licensed Patents, Arising Protagonist Patents, Arising Takeda Patents and Joint Patents, and the non-lead Party's rights of review and comment, and, if applicable, step-in to assume such activities from such lead Party;

(v)serving as a forum for the Parties to discuss strategy for and actions to be taken with respect to, without limiting 9.5(c)(iii), any Third Party Product Infringement and Third Party Infringement Claims;

(vi)discussing the strategy for listing patents in the Orange Book maintained by the FDA or similar or equivalent patent listing or linking source, if any, in other countries in the Territory for the Licensed Products, as described in Section 9.11;

(vii)discuss strategy with respect to patent term extensions as described in Section 9.10; and

(viii)approving and otherwise providing input regarding any other matters that the Parties agree in writing will be the responsibility of the JIPC.

(d) **Decision Making**. The JIPC will take action by consensus of the representatives present at a meeting of the JIPC at which a quorum exists, or by a written resolution signed by at least one (1) representative appointed by each Party, in each case, with each Party having a single vote irrespective of the number of

representatives of such Party in attendance. If the JIPC cannot reach unanimous agreement on a matter that comes before it within [***] of the meeting where such issue was raised and over which the JIPC has oversight, then Takeda will have final decision-making authority with respect to such matter; [***], such dispute will be submitted to the IP Expert for resolution, with each Party submitting in writing to the IP Expert its explanation for the basis for such Party's position on the disputed matter, and the IP Expert rendering a decision on such matter within [***] after such IP Expert's receipt of the last such written submissions by the Parties, which decision will be final and binding on the Parties.

9.6 **Prosecution and Maintenance of Patent Rights.**

(a) **Licensed Patents, Joint Patents, Arising Takeda Patents and Arising Protagonist Patents.**

(i)Takeda shall have the right, but not the obligation, to prepare, file, prosecute, and maintain (including any interferences, reissue proceedings, reexaminations, patent

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term extensions, applications for supplementary protection certificates, oppositions, invalidation proceedings, and defense of validity or enforceability challenges) the Licensed Patents, Joint Patents, Arising Takeda Patents and Arising Protagonist Patents worldwide using counsel of Takeda's choosing, and, subject to Section 9.12, Takeda shall bear all Patent Costs incurred by Takeda in performing such activities, *provided that* the foregoing activities with respect to any such Patent Rights in the U.S. will be undertaken in accordance with the US Patent Strategy unless Protagonist has exercised an Opt-Out Right with respect to the Licensed Product Covered by any such Patent Rights. If requested by Takeda, Protagonist shall sign, or shall use reasonable efforts to have signed, all legal documents as are reasonably necessary for Takeda to implement the foregoing activities, and Protagonist shall otherwise reasonably cooperate with Takeda in such respect. Takeda shall keep Protagonist fully informed of all material steps with regard to the preparation, filing, prosecution, and maintenance, and, if any, defense, of Licensed Patents, Joint Patents, Arising Takeda Patents, and Arising Protagonist Patents, including by providing Protagonist, via electronic mail or such other method as agreed by the Parties, with a copy of all material communications to and from any patent authority in the Territory regarding such Licensed Patents, Joint Patents, Arising Takeda Patents, and Arising Protagonist Patents, and all drafts of any material filings or responses to be made to such patent authorities in the Territory sufficiently in advance of submitting such filings or responses so as to allow for a reasonable opportunity for Protagonist to review and comment thereon. Takeda shall consider in good faith the comments, requests and suggestions of Protagonist with respect to such Takeda drafts, and, without limiting the US Patent Strategy being implemented, with respect to strategies for filing, prosecuting, maintaining and defending the Licensed Patents, Joint Patents, Arising Takeda Patents, and Arising Protagonist Patents in the Territory.

(ii)In the event that Takeda decides not to prepare, file, prosecute, maintain, or defend a Licensed Patent, Joint Patent, Arising Takeda Patent, or Arising Protagonist Patent in a country or other jurisdiction in the Territory, Takeda shall provide reasonable prior written notice to Protagonist of such intention (which notice shall, in any event, be given no later than [***] prior to the next deadline for any action that may be taken with respect to such Licensed Patent, Joint Patent, Arising Takeda Patent, or Arising Protagonist Patent, as applicable, in such country or other jurisdiction), and Protagonist shall thereupon have the option, in its sole discretion, to assume the preparation, filing, prosecution, maintenance and defense of such Licensed Patent, Joint Patent, Arising Takeda Patent, or Arising Protagonist Patent, as applicable, in such country or other jurisdiction, using counsel of

Protagonist's choosing, and, subject to Section 9.12, Protagonist shall bear all Patent Costs incurred by Protagonist in performing the applicable assumed activities. Upon Protagonist's written exercise of such option, Protagonist shall assume the preparation, filing, prosecution, maintenance and defense of such specific Licensed Patent, Joint Patent, Arising Takeda Patent, or Arising Protagonist Patent in such country or other jurisdiction. In such event, Takeda shall sign, or shall use reasonable efforts to have signed, all legal documents as are reasonably necessary for Protagonist to assume the responsibility and control for such activities for such specific Patent Right in such country or other jurisdiction, and Takeda shall otherwise reasonably cooperate with Protagonist in such country or other jurisdiction as provided under Section 9.7. After exercising its option in accordance with this Section 9.6(a)(ii), Protagonist shall keep Takeda fully informed of all material steps with regard to the preparation, filing, prosecution, maintenance and, if any, defense of any such assumed Licensed Patent, Joint Patent, Arising Takeda Patent or Arising Protagonist Patent, as applicable, in such country or other jurisdiction, including by providing Takeda, via electronic mail or such other method as agreed by the Parties, with a copy of material communications to and from any patent authority in the

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Territory regarding any such assumed Licensed Patents Joint Patent, Arising Takeda Patent or Arising Protagonist Patent, as applicable, in such country or other jurisdiction, and all drafts of any material filings or responses to be made to such patent authorities in the Territory sufficiently in advance of submitting such filings or responses so as to allow for a reasonable opportunity for Takeda to review and comment thereon. Protagonist shall consider in good faith the comments, requests and suggestions of Takeda with respect to such Protagonist drafts and, without limiting the US Patent Strategy being implemented, with respect to strategies for filing, prosecuting, maintain and defending any such assumed Licensed Patents, Joint Patents, Arising Takeda Patents, or Arising Protagonist Patents, as applicable, in the Territory.

9.7 **Cooperation**. Each Party hereby agrees: (a) to cooperate, and to cause any of its Affiliates to cooperate, with the other Party to effectuate and perfect the ownership of Arising Know-How, Arising Takeda Patents, Arising Protagonist Patents, and Joint IP contemplated by this Agreement, including by promptly executing and recording assignments and other documents consistent with the ownership set forth in this Agreement; (b) to make its employees, agents and consultants reasonably available to the other Party (or to the other Party's authorized attorneys, agents or representatives), to the extent reasonably necessary to enable such Party to undertake patent prosecution; (c) to provide the other Party with copies of all material correspondence pertaining to prosecution with the patent offices; (d) to cooperate, if necessary, with the other Party in gaining patent term extensions wherever applicable to Patent Rights licensed under this Agreement; and (e) to endeavor in good faith to coordinate its efforts with the other Party to minimize or avoid interference with the prosecution and maintenance of the other Party's patent applications.

9.8 **Third Party Infringement.**

(a) **Notices**. Each Party shall notify the other within [***] of becoming aware of any known or threatened (i) infringement by a Third Party of any Arising Protagonist Patent, Arising Takeda Patent, Joint Patent or other Licensed Patent, or (ii) unauthorized use or misappropriation of any Licensed Know-How, Arising Know-How or Joint Know-How by a Third Party, in each case ((a) and (b)), in the Territory by a product that is competitive to a Licensed Product (each, a "**Third Party Product Infringement**"), and shall provide the other Party with all available evidence of such Third Party Product Infringement in such Party's possession.

(b) **Rights to Enforce**. As between the Parties, Takeda shall have the first right, but not the obligation, to bring any Action and otherwise control enforcement against any Third Party Product Infringement (including the settlement thereof), *provided that* any such Action or enforcement involving a Third Party Product Infringement and a Licensed Product in the U.S. will be undertaken in accordance with the US Enforcement Strategy unless Protagonist has exercised an Opt-Out Right with respect to such Licensed Product. If Takeda (i) elects to not bring an Action against any Third Party Product Infringement (in which case Takeda shall promptly inform Protagonist in writing) or (ii) otherwise fails to bring such Action against such Third Party Product Infringement within [***] after first becoming aware of such Third Party Product Infringement or [***] prior to the deadline for filing, or filing the applicable response to (as applicable), such Action (including suits, actions or proceedings based on a Third Party's filing of a Paragraph IV Certification under 21 C.F.R. § 314.94(a)(12)(i)(A)(4)), whichever is earlier, then (unless Takeda elects to not bring such Action, or otherwise fails to bring such Action, for any IP Strategic Reason), as between the Parties, Protagonist shall have the right, but not the obligation,

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to bring and control any Action in connection with such Third Party Product Infringement, as it reasonably determines appropriate.

(c) **Procedures; Cooperation**. The enforcing Party having the right to initiate (whether through a first right or step-in or back-up right) an Action under Section 9.8(b) shall have the sole and exclusive right to select counsel for any such Action and, subject to Section 9.12, shall pay all expenses of such Action, including attorneys' fees and court costs and reimbursement of the other Party's reasonable out-of-pocket expense in rendering assistance requested by such enforcing Party. The enforcing Party shall (i) keep the non-enforcing Party reasonably informed with respect to any Action under Section 9.8(b), including by providing the non-enforcing Party copies of relevant documents, (ii) without limitation of the US Enforcement Strategy where Takeda is such enforcing Party and such Action involves a Third Party Product Infringement and a Licensed Product in the U.S. with respect to which Protagonist has not exercised an Opt-Out Right with respect to such Licensed Product, consulting with the non-enforcing Party regarding the contemplated course of action, and considering the non-enforcing Party's comments in good faith, and (iii) subject to Section 9.8(d), give the non-enforcing Party timely notice of any proposed settlement of any such legal action. The non-enforcing Party will cooperate with the enforcing Party with respect to any such Action, at the enforcing Party's expense. If (i) required under Applicable Law in order for the enforcing Party to initiate or maintain such Action, (ii) either Party is unable to initiate or prosecute such Action solely in its own name, or (iii) it is otherwise advisable to obtain an effective legal remedy, then in each such case, the non-enforcing Party shall join as a party to such Action and will execute and cause its Affiliates to execute all documents, and take all actions, reasonably necessary for the enforcing Party to initiate and maintain such Action. The non-enforcing Party shall have the right to participate and be represented in any such Action under Section 9.8(b) by its own counsel at its own expense.

(d) **Settlement**. The enforcing Party shall not compromise, settle, or stipulate to any facts or make any admission with respect to any Action under Section 9.8(b) in a way that could reasonably be expected to (i) adversely affect the validity, enforceability, or scope, or admit non-infringement, of any Patent Rights that are Controlled by the non-enforcing Party, (ii) give rise to or result in an admission of liability on the part of the non-enforcing Party or its Affiliates, (iii) grant to a Third Party a license or covenant not to sue under or with respect to any Patent Rights or Know-How (including Arising Know-How) Controlled by the non-enforcing Party or its Affiliates (other than as expressly provided for in this Agreement with respect to the enforcing Party's right to sublicense such Patent

Rights or Know-How), or (iv) otherwise impair the non-enforcing Party's or its Affiliates' rights in, to, or under any such Patent Rights or Know-How or the non-enforcing Party's or its Affiliates' rights under this Agreement, in each case ((i)-(iv)), without the non-enforcing Party's prior written consent, such consent not to be unreasonably withheld, conditioned, or delayed.

(e) **Allocation of Recoveries**. If either Party recovers monetary damages from any Third Party in an Action pursuant to Section 9.8(b) or any royalties from a license agreement with a Third Party related to any alleged Third Party Product Infringement in the Territory, whether or not such damages or royalties result from the infringement of any Arising Protagonist Patent, Arising Takeda Patent, Joint Patent or other Licensed Patent, or unauthorized use or misappropriation of any Licensed Know-How, Arising Know-How or Joint Know-How, then such recovery will be allocated first to the reimbursement of any expenses incurred by each Party in such Action, and any balance of any such recovery will be split as follows: (i) if Takeda

brings the Action, (A) if no Opt-Out Right has been exercised by Protagonist, (1) treated as Net Revenues to the extent relating to Licensed Products in the U.S. or (2) treated as Net Sales and shared with Protagonist as royalties pursuant to Section 8.6(a) to the extent related to Licensed Products in the Ex-U.S. Territory, or (B) if an Opt-Out has been exercised by Protagonist, as Net Sales and shared with Protagonist as royalties pursuant to Section 8.6(b) to the extent relating to Licensed Products in the Territory; or (ii) if Protagonist brings the action, then [***] percent ([***]%) will be retained by Protagonist and [***] percent ([***]%) will be paid to Takeda.

(f) **Other Infringement**. Except for Third Party Product Infringement as set forth above in this Section 9.8, each Party will have the exclusive right to enforce its own owned Patent Rights against any infringement anywhere in the world.

9.9 **Third Party Infringement Claims**. If any Licensed Product used or sold by Takeda, its Affiliates or Sublicensees becomes the subject of a Third Party's claim or assertion of infringement of Intellectual Property rights in a jurisdiction within the Territory (a "Third Party Infringement Claim"), Takeda will promptly notify Protagonist, and the Parties, through the JIPC, will promptly meet to consider the claim or assertion and the appropriate course of action and may, if appropriate, agree on and enter into a "common interest agreement" wherein the Parties agree to their shared, mutual interest in the outcome of such potential dispute. Absent any agreement to the contrary, and subject to claims for indemnification under Article XIII, (a) Takeda shall have the first right, but not the obligation, to defend any Third Party Infringement Claim involving a Licensed Product and (b) each Party will defend itself from any other Third Party Infringement Claim, in each case (a) and (b), at its own cost and expense (subject to Section 9.12); *provided*, *however*, that the provisions of Section 9.9 will govern the right of a Party to assert a counterclaim of infringement of any Arising Protagonist Patent, Arising Takeda Patent, Joint Patent or other Licensed Patent.

9.10 **Patent Extensions**. Takeda will have the right to elect and file for patent term restoration or extension, supplemental protection certificate, or any of their equivalents with respect to any Arising Protagonist Patent, Arising Takeda Patent, Joint Patent or other Licensed Patent Covering any Licensed Product in the Territory. The Parties agree to cooperate, and, through the JIPC, Takeda will solicit and take Protagonist's reasonable input into account in determining whether to obtain such patent term restoration, extension, supplemental protection certificate, or equivalent for any other pharmaceutical or biopharmaceutical product. Upon the request by Takeda, and at Takeda's cost and expense, Protagonist will reasonably cooperate in the implementation of Takeda's decisions made in a consistent manner with this Section 9.10 involving any Arising Protagonist Patent, Joint Patent or other

Licensed Patent. In the event Takeda elects not to file for such patent term restoration or extension, supplemental protection certificate, or any of their equivalents for an Arising Protagonist Patent, Joint Patent or other Licensed Patent Covering any Licensed Product in the Territory, Takeda will notify Protagonist sufficiently in advance of the deadline by which such applicable right must be filed on a country-by-country basis, and thereafter Protagonist, at its sole cost and expense, will have the right (but not the obligation) to file for such patent term restoration or extension, supplemental protection certificate, or any of their equivalents for, as applicable, such Arising Protagonist Patent, Joint Patent or other Licensed Patent. Takeda will use reasonable efforts to provide all legal or regulatory documents as are reasonably necessary for Protagonist to assume responsibility to file for such patent term restoration or extension, supplemental protection certificate, or any of their equivalents for, as applicable, such Arising Protagonist Patent, Joint Patent or other Licensed Patent.

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9.11 **Orange Book Listings**. As between the Parties, Takeda will have the sole right to make any filing with respect to any Arising Protagonist Patent, Arising Takeda Patent, Joint Patent or other Licensed Patent in connection with the Orange Book maintained by the FDA or similar or equivalent patent listing or linking requirement, if any, in other countries in the Territory for a Licensed Product. Without limiting the foregoing, Takeda, through the JIPC, will reasonably consult with Protagonist regarding the strategy for such filings. Protagonist will provide reasonable assistance to Takeda in connection with any such filing at Takeda's cost and expense.

9.12 **Patent Costs Sharing**. Notwithstanding any provision to the contrary in this Article IX, the Patent Costs incurred by the Parties for (a) the preparation, filing, prosecution, maintenance and defense of any Patent Right within the Arising Protagonist Patents, Arising Takeda Patents Covering any Licensed Product, Joint Patents or other Licensed Patents, (b) any Action to abate any Third Party Product Infringement, (c) any defense against any Third Party Infringement Claim, and (d) the costs for patent term restoration or extension, supplemental protection certificate, or any of their equivalents for any Patent Right within the Arising Protagonist Patents, Arising Takeda Patents Covering any Licensed Product, Joint Patents or other Licensed Patents, in each case (a), (b), (c) and (d), (i) with respect to a Licensed Product in the U.S. for which Protagonist has not exercised an Opt-Out Right, will be shared [***] by the Parties, as Shared Development Costs or Shared Commercialization Costs, as applicable, and (ii) (A) with respect to a Licensed Product in the U.S. for which Protagonist has exercised an Opt-Out Right or (B) with respect to a Licensed Product in the Ex-U.S. Territory, will be borne solely by Takeda.

9.13 **Third Party Rights**. Notwithstanding the foregoing provisions of this Article IX, each Party's rights and obligations with respect to any Patent under this Article IX will be subject to the Third Party rights and obligations (including under any in-license of a Patent applicable to such Party's licensed intellectual property rights hereunder) set forth in Schedule 9.13.

9.14 **Trademarks**. Takeda and its Related Parties shall have the sole right to use any trademark that Takeda Controls for the Licensed Products in the Territory at their respective sole discretion. Takeda may, at its sole discretion, develop one or more Product Trademarks for use by Takeda and its Related Parties in the Territory to Commercialize the Licensed Products which have received Regulatory Approval in the Field in the Territory. Takeda (or its Related Parties, as appropriate) shall own all rights to such Product Trademarks and all goodwill associated therewith throughout the Territory and the rights to any internet domain names incorporating the applicable Product Trademarks or any variation or part of such Product Trademarks used as its URL address or any part of such address. Each Party and its Affiliates shall retain all right, title and interest in and to its and their respective corporate

names and logos. For the avoidance of doubt, neither Party shall have any right to use the other Party's or the other Party's Affiliates' corporate names or logos in connection with Commercialization of the Licensed Products anywhere in the Territory without the prior written consent of the other Party.

ARTICLE X
CONFIDENTIAL INFORMATION

10.1 **Product Information**. Protagonist recognizes that by reason of Takeda's status as a co-exclusive and exclusive licensee pursuant to the grants under Section 2.1, Takeda has an interest in Protagonist maintaining the confidentiality of certain information of Protagonist. Accordingly, during the Term, Protagonist shall, and shall cause its Affiliates and its and their

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respective officers, directors, employees, and agents to, keep confidential, and not publish or otherwise disclose, and not use directly or indirectly for any purpose other than to fulfill Protagonist's obligations hereunder any Licensed Know-How that is specific or directly related to any Licensed Compounds or Licensed Products, or the Exploitation of any of the foregoing (the "Product Information"); except to the extent (a) the Product Information is in the public domain through no fault of Protagonist, its Affiliates or any of its or their respective officers, directors, employees, or agents; (b) such disclosure or use is expressly permitted under this Article X, or (c) such disclosure or use is otherwise expressly permitted by the terms of this Agreement. For purposes of Section 10.2(b) and Section 10.2(c), each Party shall be deemed to be the Disclosing Party with respect to Product Information under Section 10.2(b) or Section 10.2(c). For clarity, at all times during the Term, the Joint Know-How will be Confidential Information of both Parties and both Parties will be deemed to be the Disclosing Party with respect thereto for purposes of this Article X.

10.2 **Nondisclosure Obligation**.

(a) **Nondisclosure Obligation**. At all times during the Term and for a period of [***] following termination or expiration of this Agreement in its entirety, all Confidential Information disclosed by one Party (the "**Disclosing Party**") to the other Party (the "**Receiving Party**") hereunder shall be maintained in confidence by the Receiving Party and shall not be published or otherwise disclosed to a Third Party or used for any purpose except as expressly set forth herein without the prior written consent of the Disclosing Party; *provided that* the confidentiality obligations with respect to any Confidential Information that the Disclosing Party identifies as a trade secret shall extend until such Confidential Information is no longer a trade secret under Applicable Law. Each Party may use the other Party's Confidential Information solely to the extent required to perform its obligations or exercise any rights under this Agreement. The confidentiality and non-use provisions of this Article X shall not apply to the extent that such Confidential Information:

(i)is known by the Receiving Party at the time of its receipt, and not through a prior disclosure by the Disclosing Party, as documented by the Receiving Party's business records;

(ii)is in the public domain or publicly known by use or publication before its receipt from the Disclosing Party, or thereafter enters the public domain or becomes publicly known through no fault of the Receiving Party;

(iii)is subsequently disclosed to the Receiving Party by a Third Party who may lawfully do so and is not under an obligation of confidentiality to the Disclosing Party; or

(iv)is developed by the Receiving Party independently of Confidential Information received from the Disclosing Party (including any Joint Patents), as documented by the Receiving Party's business records.

Specific aspects or details of Confidential Information shall not be deemed to be within the public domain or in the possession of the Receiving Party merely because the Confidential Information is embraced by more general information in the public domain or in the

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possession of the Receiving Party. Further, any combination of Confidential Information shall not be considered in the public domain or in the possession of the Receiving Party merely because individual elements of such Confidential Information are in the public domain or in the possession of the Receiving Party unless the combination and its principles are in the public domain or in the possession of the Receiving Party.

(b) **Permitted Disclosures**. Notwithstanding the obligations of confidentiality and non-use set forth in Section 10.2(a) and Section 10.3, the Receiving Party may disclose Confidential Information disclosed to it, and disclose the existence and terms of this Agreement, in each case, as may be reasonably required in order to perform its obligations or to exercise its rights under this Agreement, and to the extent such disclosure is to: (i) its Affiliates, Sublicensees, Subcontractors or licensees, and their employees, directors, agents, consultants or advisors who have a need to know such Confidential Information for the performance of its obligations (or for such entities to determine their interest in performing such activities) in accordance with this Agreement, in each case who are obligated to keep such Confidential Information confidential on terms no less stringent than those in this Article X; (ii) Regulatory Authorities in order to obtain and maintain Patent Rights and Regulatory Approvals in accordance with this Agreement, or otherwise perform its obligations or exploit its rights under this Agreement, *provided that* reasonable measures will be taken to assure confidential treatment of such Confidential Information to the extent practicable and consistent with Applicable Law; (iii) prosecute or defend litigation, including by responding to a subpoena in a Third Party litigation, and to enforce Patent Rights; (iv) subject to Section 10.2(c), the extent required by a court, administrative order or Applicable Law, including by the rules or regulations of the United States Securities and Exchange Commission or similar regulatory agency in a country other than the United States or of any stock exchange or listing entity; and (v) any bona fide actual or prospective underwriters, investors, lenders, other financing sources, acquirers, licensors, permitted Sublicensees, collaborators or strategic partners, and to employees, directors, agents, consultants or advisors of such Third Party, *provided that* any such entity or individual receiving Confidential Information has a need to know such information and is obligated to keep such Confidential Information confidential on terms no less stringent than those in this Article X (but which can be of a shorter duration (in any event, no less than [***] from the date of disclosure) where customary for confidentiality agreements entered into for a similar purpose).

(c) If a Receiving Party is required by Applicable Law (including regulations promulgated by securities exchanges or listing entities) to disclose Confidential Information of the Disclosing Party pursuant to Sections 10.2(b)(i), 10.2(b)(iii) or 10.2(b)(iv), such Party shall, to the extent permitted by Applicable Law, promptly inform the Disclosing Party of the disclosure that is being sought in order to provide the Disclosing Party an opportunity to challenge or limit the disclosure obligations and the Receiving Party shall endeavor in good faith, at the Disclosing Party's expense, to secure confidential treatment of such Confidential Information or reasonably assist the Disclosing Party in seeking a protective order or other confidential treatment. Confidential Information that is required to be disclosed by Applicable Law shall remain otherwise subject to the confidentiality and non-use provisions of this

Article X. If either Party concludes that a copy of this Agreement must be filed with the United States Securities and Exchange Commission or similar regulatory agency in a country other than the United States, at least [***] in advance of any such filing, such Party will provide the other Party with a copy of this Agreement showing any provisions hereof as to which the Party proposes to request confidential treatment, will provide the other Party with a reasonable opportunity to comment on any such proposed

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redactions and to suggest additional redactions, and will take such Party's reasonable and timely comments into consideration before so filing this Agreement.

10.3 **Publication and Publicity.**

(a) **Publication**. Takeda will have the sole right (without Protagonist's consent) to make Publications with respect to the Licensed Products, *provided that* no Publication shall include any Confidential Information of Protagonist without its prior written consent. Takeda will provide Protagonist the opportunity to review any proposed Publication at least [***] prior to the earlier of its intended submission for publication or presentation, and Takeda will consider in good faith any reasonable and timely comments submitted by Protagonist. Further, Protagonist will have the right to request (i) modifications to any Publication to remove Confidential Information of Protagonist, or (ii) a reasonable delay in the submission for publication or presentation of any Publication in order to protect patentable information, in which case Takeda will delay such submission for a period of [***] (or such other period as may be mutually agreed by the Parties in writing) to enable Protagonist to file a Patent protecting Protagonist's rights in such information. Takeda subsequently will provide Protagonist a copy of each Publication at the time of its submission. Without limiting the foregoing, Takeda will acknowledge the contributions of Protagonist and the employees of Protagonist, in all Publications, as scientifically appropriate. Protagonist shall not make, or allow to be made, any Publication with respect to the Licensed Products, [***], any such Publication by Protagonist shall include both Parties' names, unless Takeda specifically instructs Protagonist to not include Takeda's name. Any Publication by either Party pursuant to this Section 10.3(a) shall be issued by such Party in compliance with GPP.

(b) **Use of Name**. Except as expressly provided herein, neither Party shall mention or otherwise use the name, logo, or trademark of the other Party or any of its Affiliates (or any abbreviation or adaptation thereof) in any Publication, press release, Promotional Material or other form of publicity without the prior written approval of such other Party in each instance. The restrictions imposed by this Section 10.3(b) shall not prohibit either Party from making any disclosure identifying the other Party that, in the opinion of the disclosing Party's counsel, is required by Applicable Law; *provided, that* such Party shall submit the proposed disclosure identifying the other Party in writing to the other Party as far in advance as reasonably practicable so as to provide a reasonable opportunity to comment thereon.

(c) **Publicity; Press Releases.**

(i)The Parties have agreed upon the content of a joint press release which shall be issued substantially in the form attached hereto as Schedule 10.3(c)(i), the release of which the Parties shall coordinate in order to accomplish such release promptly upon execution of this Agreement.

(ii)Notwithstanding the foregoing, Takeda will have the right to issue a press release or public announcement or other public disclosure relating to the Development, Commercialization or Scientific Exchange

Activities with respect to any Licensed Product (including with respect to regulatory matters), *provided that* (A) [***], (B) such press release or public announcement or other public disclosure shall be subject to the provisions of Article X with respect to Protagonist's Confidential Information, and (C) Takeda shall not use the name of Protagonist (or insignia, or any contraction, abbreviation or adaptation thereof) without

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Protagonist's prior written approval (such approval not to be unreasonably withheld, conditioned, or delayed).

(iii)During the Term, Protagonist shall only issue press releases or other public disclosure related to the activities contemplated by this Agreement that (A) consist of factual statements disclosing receipt of any Regulatory Approval of any Licensed Product, (B) consist of factual statements disclosing the payment or receipt of any milestone payments or royalties (but not including the royalty rates) under this Agreement with respect to any Licensed Products, (C) disclose information that has already been made public through a press release, publication or other public statement by Takeda or any of its Affiliates or Sublicensees and such information remains true, correct and current, (D) in the opinion of Protagonist's counsel, are required to comply with Applicable Laws (including securities laws) and its Applicable Accounting Standards, or (E) have been approved by Takeda [***]. In the circumstances set forth in clause (E), Protagonist shall provide Takeda with a draft of its contemplated press release or other public disclosure at least [***] prior to its intended publication for Takeda's review. During such period, Takeda shall (1) approve the draft press release and permit Protagonist to issue the press release or other public disclosure, (2) contact Protagonist to discuss modifications to the draft press release or other public disclosure, or (3) contact Protagonist and disapprove the press release or other public disclosure. If Takeda asks for modifications of a press release or other public disclosure that Protagonist desires to issue under clause (E), then Protagonist shall either make such modifications or work with Takeda to arrive at a press release or other public disclosure that Takeda approves.

10.4 **Return of Confidential Information**. Upon the effective date of the expiration or termination of this Agreement for any reason, either Party may request in writing, and the other Party shall either, with respect to Confidential Information to which such other Party does not retain rights under the surviving provisions of this Agreement: (a) promptly destroy all copies of such Confidential Information in the possession of the other Party and confirm such destruction in writing to the requesting Party; or (b) promptly deliver to the requesting Party, at the other Party's expense, all copies of such Confidential Information in the possession of the other Party; *provided*, *however*, the other Party shall be permitted to retain one copy of such Confidential Information for the sole purpose of performing any continuing obligations hereunder or for archival purposes. Notwithstanding the foregoing, such other Party also shall be permitted to retain such additional copies of or any computer records or files containing such Confidential Information that have been created solely by such other Party's archiving and back-up procedures, to the extent created and retained in a manner consistent with such other Party's standard archiving and back-up procedures, but not for any other use or purpose. The confidentiality and non-use provisions set forth in this Article X shall survive expiration or termination of this Agreement.

ARTICLE XI
REPRESENTATIONS, WARRANTIES AND COVENANTS

11.1 **Mutual Representations and Warranties**. Each Party represents and warrants to the other Party that, as of the Execution Date:

(a) **Representations of Authority**. It is duly organized and validly existing under the Applicable Laws of its jurisdiction of incorporation or formation, and has full corporate right, power and authority to enter into this Agreement and to perform its obligations under this Agreement.

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(b) **Consents**. Except for any filings that may be required pursuant to Section 12.1(a), all necessary consents, approvals and authorizations of all Regulatory Authorities and other Persons required to be obtained by it as of the Execution Date in connection with the execution, delivery and performance of this Agreement have been obtained.

(c) **No Conflict**. The execution and delivery of this Agreement and the performance of its obligations hereunder (i) do not violate or conflict with the provisions of its certificate of incorporation or by-laws, (ii) do not conflict with or violate any requirement of Applicable Law effective as of the Execution Date, and (iii) do not and will not conflict with, violate, breach or constitute a default under any contractual obligations of it or any of its Affiliates existing or known as of the Execution Date.

(d) **Authorization and Binding Nature**. The execution, delivery and performance of this Agreement and the performance of all obligations hereunder have been duly authorized by all requisite corporate action on the part of such Party. This Agreement constitutes the valid and legally binding obligations of such Party, except as may be limited by applicable bankruptcy, insolvency, reorganization, moratorium and other Applicable Laws of general application affecting the enforcement of creditors' rights generally and Applicable Laws relating to the availability of specific performance, injunctive relief or other equitable remedies.

(e) **No Misstatements or Omissions**. The representations and warranties of such Party in this Agreement, and, to Protagonist's Knowledge, the information, documents and materials furnished to the other Party in response to such Party's written requests for due diligence information prior to the Effective Date, do not, taken as a whole, (i) contain any untrue statement of a material fact, or (ii) omit to state any material fact necessary to make the statements or facts contained therein, in light of the circumstances under which they were made, not misleading.

(f) **No Debarment**. Neither Party nor any of its employees nor agents contemplated to perform activities hereunder, has ever been, is currently, or is the subject of a proceeding that could lead to it or such employees or agents becoming, as applicable, a Debarred Entity or Debarred Individual, an Excluded Entity or Excluded Individual or a Convicted Entity or Convicted Individual. If, during the Term, a Party, or any of its employees or agents performing activities hereunder, becomes or is the subject of a proceeding that could lead to a Person becoming, as applicable, a Debarred Entity or Debarred Individual, an Excluded Entity or Excluded Individual or a Convicted Entity or Convicted Individual, such Party shall immediately notify the other Party, and such other Party shall have the option, at its sole discretion, to prohibit such Person from performing work under this Agreement. For purposes of this provision, the following definitions shall apply:

(i)A "Debarred Individual" is an individual who has been debarred by the FDA pursuant to 21 U.S.C. §335a (a) or (b) from providing services in any capacity to a Person that has an approved or pending drug or biological product application.

(ii)A "Debarred Entity" is a corporation, partnership or association that has been debarred by the FDA pursuant to 21 U.S.C. §335a (a) or (b) from submitting or assisting in the submission of any abbreviated drug

application, or a subsidiary or affiliate of a Debarred Entity.

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(iii)An "Excluded Individual" or "Excluded Entity" is (A) an individual or entity, as applicable, who has been excluded, debarred, suspended or is otherwise ineligible to participate in federal health care programs such as Medicare or Medicaid by the Office of the Inspector General (OIG/HHS) of the U.S. Department of Health and Human Services, or (B) is an individual or entity, as applicable, who has been excluded, debarred, suspended or is otherwise ineligible to participate in federal procurement and non-procurement programs, including those produced by the U.S. General Services Administration (GSA).

(iv)A "Convicted Individual" or "Convicted Entity" is an individual or entity, as applicable, who has been convicted of a criminal offense that falls within the ambit of 21 U.S.C. §335a (a) or 42 U.S.C. §1320a - 7(a), but has not yet been excluded, debarred, suspended or otherwise declared ineligible.

11.2 **Representations and Warranties of Protagonist**. Protagonist represents and warrants to Takeda that, as of the Execution Date:

(a) All Licensed Patents existing as of the Execution Date are listed on Schedule 11.2(a) (the "**Existing Patents**"). All Existing Patents existing as of the Execution Date are subsisting and are not, to Protagonist's Knowledge, invalid or unenforceable, in whole or in part, are being diligently prosecuted in the respective patent offices in the Territory in accordance with Applicable Law, and have been filed and maintained properly and correctly and all applicable fees have been paid on or before the due date for payment. The Existing Patents and the Licensed Know-How existing as of the Execution Date represent all Patent Rights and Know-How within Protagonist's or its Affiliates' ownership or Control that are necessary or reasonably useful for the Development, Manufacture or Commercialization, each as contemplated by the Joint Global Development Plan and Joint Commercialization Plan as attached to this Agreement as of the Execution Date, of the Licensed Compounds and the Licensed Products (for each, as such compound or product, as applicable, exists as of the Execution Date).

(b) Protagonist is (a) the sole and exclusive owner of the entire right, title and interest in the Existing Patents listed on Schedule 11.2(a), Part A (the "**Owned Patents**") and the Licensed Know-How existing as of the Execution Date and (b) the sole and exclusive licensee of the Existing Patents listed on Schedule 11.2(a), Part B (the "**In-Licensed Patents**") subject to a valid and enforceable in-license agreement as listed on Schedule 11.2(a), Part C (each, an "**In-License Agreement**"), in each case ((a) and (b)) free of any encumbrance, lien, or claim of ownership by any Third Party. Protagonist has the right to grant to Takeda the licenses specified herein. The In-License Agreements listed on Schedule 11.2(a), Part C are the only in-license agreements entered into by Protagonist as of the Execution Date in connection with the Exploitation of the Licensed Compounds or Licensed Products, and neither Protagonist nor the Third Party counterparty to any such In-License Agreement is in breach of such In-License Agreement.

(c) To Protagonist's Knowledge, the Development and Commercialization, each as contemplated by the initial Joint Global Development Plan and Joint Commercialization Plan as attached to this Agreement as of the Execution Date of the Licensed Compounds and Licensed Products, each as such compound or product exists as of the Execution Date, does not violate, infringe, misappropriate or otherwise conflict or interfere with any intellectual property right of any Person. To Protagonist's Knowledge, no Person is infringing or threatening to infringe

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or misappropriating or threatening to misappropriate the Existing Patents or the Licensed Know-How.

(d) There is no (i) claim, demand, suit, proceeding, arbitration, inquiry, investigation or other legal Action of any nature, civil, criminal, regulatory or otherwise, pending or, to Protagonist's Knowledge, threatened against Protagonist or any of its Affiliates or (ii) judgment or settlement against or owed by Protagonist or any of its Affiliates, in each case ((i) and (ii)) involving the Licensed Technology.

(e) Protagonist does not Control as of the Execution Date any second generation injectable hepcidin mimetic compounds other than the compounds listed on Schedule 1.1.122.

(f) Each Person who has or has had any rights in or to any Owned Patents or any owned Licensed Know-How, has executed an agreement assigning, to the extent permitted by Applicable Law, its entire right, title, and interest in and to such Owned Patents and Licensed Know-How to Protagonist. To Protagonist's knowledge, no current officer, employee, agent, or consultant of Protagonist or any of its Affiliates is in violation of any term of any assignment or other agreement regarding the protection of Patent Rights or other intellectual property or proprietary information of Protagonist or such Affiliate.

(g) To the Knowledge of Protagonist, the Licensed Know-How existing as of the Execution Date has been kept confidential or has been disclosed to Third Parties only under the terms of confidentiality agreements. To the Knowledge of Protagonist, no breach of such confidentiality agreements has been committed by the corresponding Third Party counterparty thereto.

(h) Protagonist has furnished or made available to Takeda (i) all information requested by Takeda in connection with its due diligence process, (ii) all material safety and efficacy data, and (iii) all material Regulatory Documentation, in each case ((i) through (iii)), concerning the Licensed Compounds in the form being Developed by Protagonist as of the Execution Date. To Protagonist's Knowledge, such information, data and Regulatory Documentation is accurate, complete and true in all material respects.

(i) Protagonist has generated, prepared, maintained and retained all Regulatory Documentation for the Licensed Compounds (as each exists as of the Execution Date) that is required to be maintained or retained (1) by the applicable Regulatory Authority or (2) by Applicable Law in all material respects, and, in each case, to Protagonist's Knowledge, such information is true, complete and correct.

(j) Protagonist and its Affiliates have conducted, and, to Protagonist's Knowledge, their respective contractors and consultants have conducted, prior to the Execution Date all Development of the Licensed Compounds (as each exists as of the Execution Date) in accordance with Applicable Law.

(k) Neither Protagonist nor any of its Affiliates, nor, to Protagonist's Knowledge, any of its or their respective officers, employees, or agents has (i) made an untrue statement of material fact or fraudulent statement to the FDA or any other Regulatory Authority,

(ii) failed to disclose a known and material fact required to be disclosed to the FDA or any other Regulatory Authority, or (iii) committed an act, made a statement, or failed to make a statement that could reasonably be expected to provide a basis for the FDA to invoke its policy respecting "Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities", set forth in 56 Fed. Reg. 46191 (September 10, 1991) and any amendments thereto or any analogous laws or policies in the Territory, in each case ((i), (ii) and (iii)), with respect to the Development conducted by or on behalf of Protagonist prior to the Execution Date of the Licensed Compounds (as each exists as of the Execution Date).

(l) Promptly following the Effective Date, and no later than [***] thereafter, Protagonist shall inform Takeda in writing if Protagonist or any of its Affiliates becomes aware that the representations and warranties made by Protagonist pursuant to Sections 11.1 and 11.2 as of the Execution Date are not true and correct in any material respects on and as of the Effective Date as though made on and as of the Effective Date, *provided that* any exceptions included in such writing will not be deemed a breach of Section 11.1 or Section 11.2, as applicable, by Protagonist or any of its Affiliates if such exception arose after the Execution Date.

11.3 **No Warranties**. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, TO THE OTHER PARTY WITH RESPECT TO ANY PATENT RIGHTS, KNOW-HOW, OTHER INTELLECTUAL PROPERTY, TECHNOLOGY, MATERIALS, COMPOUNDS, PRODUCTS, GOODS, SERVICES, RIGHTS OR OTHER SUBJECT MATTER OF THIS AGREEMENT AND HEREBY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT WITH RESPECT TO ANY AND ALL OF THE FOREGOING. EACH PARTY HEREBY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT THE DEVELOPMENT, MANUFACTURE OR COMMERCIALIZATION OF THE LICENSED COMPOUNDS OR THE LICENSED PRODUCTS PURSUANT TO THIS AGREEMENT WILL BE SUCCESSFUL OR THAT ANY PARTICULAR SALES LEVEL WITH RESPECT TO THE LICENSED PRODUCTS WILL BE ACHIEVED.

11.4 **Additional Covenants.**

(a) **No Rusfertide Exploitation Post-Rusfertide Failure**. From and after the date of the JSC meeting approving the occurrence of a Rusfertide Failure (or the date of the Expert's approval thereof pursuant to Sections 3.6(c)(vii)(B) and 14.2(c)), neither [***], nor [***] shall have the right to [***].

(b) **Protagonist In-License Agreement**. From the Execution Date and during the Term, neither Protagonist nor any of its Affiliates shall (i) commit any acts or permit the occurrence of any omissions that would reasonably cause the breach by Protagonist or such Affiliate or termination by the Third Party counterparty thereto of any In-License Agreement, or (ii) amend or otherwise modify or permit to be amended or modified, any In-License Agreement in a manner that would adversely affect the licenses or other rights granted to Takeda with respect to the Licensed Patents under this Agreement. During the Term, Protagonist shall promptly provide Takeda with notice of any alleged, threatened, or actual breach of any In-License Agreement of which Protagonist becomes aware. During the Term, Protagonist will furnish Takeda with copies

of all material notices or other material communications received or sent by Protagonist or any of its Affiliates from or to the Third Party counterparty thereto under any In-License Agreement, including any alleged breach or default by Protagonist or any of its Affiliates thereof within [***] after receipt thereof.

(c) **New Technology**. With respect to any Third Party license agreements covering New Technology entered into by either Party in accordance with Section 2.10(b) (the "**New Technology Agreements**"), neither Party nor any of its Affiliates shall (i) commit any acts or permitting the occurrence of any omissions that would reasonably cause the breach by such Party or such Affiliate or termination by the Third Party counterparty thereto of any New Technology Agreement, or (ii) amend or otherwise modify or permit to be amended or modified, any New Technology Agreement in a manner that would adversely affect the licenses or other rights granted to the other Party and its Affiliates with respect to the corresponding New Technology under this Agreement (including in the case of Protagonist as such other Party under Section 12.11(d)). The Party entering into a New Technology Agreement shall promptly provide the other Party with notice of any alleged, threatened, or actual breach of any such New Technology Agreement of which such Party becomes aware, and will furnish the other Party with copies of all material notices or other material communications received or sent by such Party or any of its Affiliates from or to the Third Party counterparty thereto under such New Technology Agreement, including any alleged breach or default by such Party or any of its Affiliates thereof within [***] after receipt thereof.

(d) **Compliance**.

(i)Each Party and its Affiliates, Sublicensees and Subcontractors will conduct all activities under this Agreement, including the Development, Manufacture, performance of Scientific Exchange Activities and Commercialization of the Licensed Compounds and Licensed Products in the Territory, in accordance in all material respects with all Applicable Laws and industry standards.

(ii)Each Party shall (A) comply with all applicable data privacy laws, rules and regulations (including, to the extent applicable, the United States Department of Health and Human Services privacy rules under the Health Insurance Portability and Accountability Act (HIPAA) and the General Data Protection Regulation (Regulation (EU) 2016/679) (GDPR)), as any of the foregoing may be amended from time to time ("**Data Protection Laws**") with respect to the collection, use, transfer, storage, destruction, aggregation or other use of subject health information or other Personal Data (as defined in the applicable Data Protection Laws, collectively, "**Personal Data**") in connection with its activates or under or in connection with this Agreement, including the Development and Commercialization of any Licensed Compound or Licensed Product hereunder, (B) implement appropriate and reasonable security processes and controls in connection with its activities under or in connection with this Agreement so as to protect the security and privacy of Personal Data in accordance with Data Protection Laws, and (C) take such steps as necessary to comply with Data Protection Laws to permit such Party to disclose Personal Data to the other Party and to permit the other Party to use and disclose such Personal Data for its own purposes in accordance with this Agreement.

(iii)Each Party acknowledges that, under the provisions of the Physician Payment Sunshine Act (Section 1128G of the Social Security Act, 42 U.S.C. §1320a-7h), its implementing regulations, and other similar provisions of Applicable Law, such Party may

be required to disclose certain payments and other transfers of value provided to health care professionals and institutions, including payments, reimbursements, materials or equipment made or provided under or in connection with this Agreement. Each Party will provide the other Party with all reasonable information in its Control related to the activities hereunder necessary for the other Party to comply with such Applicable Laws in the form reasonably requested by the requesting Party and at such times as the requesting Party may reasonably request to satisfy its obligations.

(e) **Conflicting Transactions**. From the Execution Date and during the Term, Protagonist will not, and will cause its Affiliates not to, enter into any agreement (or amend any agreement that Protagonist is a party to as of the Execution Date or the Effective Date, as applicable) granting any license or other right under any Licensed Technology that is inconsistent with this Agreement. During the Term, Takeda will not, and will cause its Affiliates not to, enter into any agreement (or amend any agreement that Takeda is a party to as of the Execution Date or the Effective Date, as applicable) granting any license or other right under the Takeda Background IP, Arising Takeda IP and Takeda's interest in the Joint IP, in each case, that is inconsistent with this Agreement.

(f) **Anti-Corruption**. Each Party will:

(i)in connection with its activities under or in connection with this Agreement comply with all Applicable Laws relating to bribery and corruption including, the United States Foreign Corrupt Practices Act of 1977, the United Kingdom Bribery Act 2010 and any other equivalent Applicable Laws in the Territory, in each case as may be amended from time to time (the "**Anti-Corruption Laws**"), and each Party will require any Affiliates, contractors, subcontractors, distributors or other persons or entities that provide services to such Party in connection with this Agreement to comply with such Party's obligations under this Section 11.4(f);

(ii)not, in the performance of this Agreement, directly or indirectly make any payment, or offer or transfer anything of value, or agree or promise to make any payment or offer or transfer anything of value, to a public official or any other Third Party with the purpose of improperly influencing decisions related to the activities contemplated by this Agreement in a manner that would violate Anti-Corruption Laws;

(iii)no later than [***] following the end of each Calendar Year, verify in writing that to the best of its knowledge, there have been no violations of any Anti-Corruption Laws in the performance of this Agreement or provide details of any exception to the foregoing;

(iv)maintain records (financial and otherwise) and supporting documentation related to the subject matter of this Agreement in order to document or verify compliance with the provisions of this Section 11.4(f) and upon request of the other Party, up to [***] and upon reasonable advance notice, provide the other Party or its representative with access to such records for purposes of verifying compliance with the provisions of this Section 11.4(f); and

(v)have implemented and agrees to maintain and enforce a compliance and ethics program designed to prevent and detect violations of Applicable Law, including the FD&C Act (21 U.S.C. §301 et seq.), the Public Health Service Act (42 U.S.C. §201

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et seq.), the Anti-Kickback Statute (42 U.S.C. §1320-7b), Civil Monetary Penalty Statute (42 U.S.C. §1320a-7), the False Claims Act (31 U.S.C. §3729 et seq.) and the Anti-Corruption Laws, throughout its operations (including subsidiaries) engaged in the performance of activities on behalf of such Party contemplated by this Agreement and the operations of such Party's contractors and subcontractors that have responsibility for products, payments or services provided under this Agreement.

The Alliance Managers will facilitate discussions and the sharing of information and experiences between the Parties' respective compliance and ethics organizations.

ARTICLE XII
TERM AND TERMINATION

12.1 **Term.**

(a) **HSR and Other Governmental Filings**. The Parties shall each, as soon as practicable after the Execution Date, file or cause to be filed with the U.S. Federal Trade Commission and the U.S. Department of Justice and any relevant foreign governmental authority any notifications required to be filed under the HSR Act (the "**HSR Filing**") or any similar applicable foreign law or regulation with respect to the transactions contemplated hereby; *provided* that the Parties shall each make the HSR Filing within ten (10) Business Days after the Execution Date and shall each file any notifications or filings required to be filed under similar applicable foreign laws and regulations as promptly as reasonably practicable. The Parties shall use their commercially reasonable efforts to respond promptly to any requests for additional information made by such agencies. Each Party is responsible for its own filing fees and for the costs and expenses of its own legal and other advice in preparing and conducting the HSR Filing.

(b) **Term**. Notwithstanding anything in this Agreement to the contrary, this Agreement (other than this Article XII and any other provision in this Agreement specifically referencing the Execution Date, each of which is binding and effective as of the Execution Date) shall not become effective until the expiration or earlier termination of the waiting period (or any extension thereof) under the HSR Act in the United States (the date of such expiration or earlier termination, the "**Effective Date**"), and, upon the Effective Date, the full Agreement and all its terms and provisions shall be automatically effective and binding on both Parties. If, on the [***] day after the date of filing under the HSR Act, the waiting period required thereunder has not expired, either Party shall have the right, on written notice to the other Party, to terminate this Agreement, and, upon receipt of such notice by such other Party, this Agreement shall be null and void and have no further force and effect. This Agreement shall commence on the Effective Date (or as specified above on the Execution Date) and, unless terminated earlier pursuant to Sections 12.3 through 12.10, shall continue in full force and effect on a Licensed Product-by-Licensed Product and country-by-country basis as follows (the "**Term**"):

(i)in the Ex-U.S. Territory, until the date on which the Royalty Term for such Licensed Product in such country of the ex-U.S. Territory has expired;

(ii)in the United States, if Protagonist has exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to such Licensed Product, until the date on which the Royalty Term for such Licensed Product in the United States has expired; and

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(iii)in the United States, if Protagonist has not exercised the Rusfertide Opt-Out Right or a Partial Opt-Out Right with respect to such Licensed Product, until the Parties mutually agree in writing to permanently cease the Commercialization of such Licensed Product in the United States.

12.2 **Effects of Expiration**. On a Licensed Product-by-Licensed Product and country-by-country basis, upon the expiration of the Royalty Term for such Licensed Product in such country, the licenses granted to Takeda pursuant to Section 2.1(a)(ii) with respect to such Licensed Product in such country shall become fully paid-up, royalty-free, exclusive, and perpetual.

12.3 **Termination for Convenience**. [***], Takeda shall have the right to terminate this Agreement on a [***] at any time, for any or no reason, upon (i) [***] written notice to Protagonist if before the First Commercial Sale of a Licensed Product in the Territory and (ii) [***] written notice to Protagonist as of and following the First Commercial Sale of a Licensed Product in the Territory; *provided that*, if Takeda terminates this Agreement in the U.S., Europe (including all members of the European Economic Area, the United Kingdom, and Switzerland), and Japan, then Takeda will be deemed to have terminated this Agreement in its entirety.

12.4 **Termination for Cause.**

(a) This Agreement may be terminated at any time during the Term immediately in its entirety upon written notice by either Party (the "**Non-Breaching Party**") if the other Party (the "**Breaching Party**") is in material breach of this Agreement and has not cured such breach within [***] in the case of a payment breach, or within [***] in the case of all other breaches, after written notice requesting cure of the breach, or, if cure of such breach other than non-payment cannot reasonably be effected within such [***], after written notice requesting delivery to the Non-Breaching Party of a plan reasonably designed to cure such breach within a timeframe that is reasonably prompt in light of the circumstances then prevailing, but in any event within [***] from receipt of the Breach Notice. Following the delivery of such plan, the Breaching Party will carry out such plan. If the Breaching Party fails to cure such breach within [***] or diligently carry out such cure plan and cure such breach within [***] or [***], as applicable, or to diligently carry out such plan and cure such breach within [***], if applicable, then the Non-Breaching Party may terminate this Agreement upon written notice to the Breaching Party.

(b) If the alleged Breaching Party disputes in good faith the existence or materiality of a breach specified in a written notice provided by the other Party in accordance with Section 12.4(a) or disputes that it has not timely cured such breach, and such alleged Breaching Party provides the other Party written notice of such dispute within, as applicable, such [***] period or [***] period, then the Non-Breaching Party shall not have the right to terminate this Agreement under Section 12.4(a) unless and until such dispute is resolved in accordance with Article XIV. It is understood and agreed that, during the pendency of such dispute, all of the terms and conditions of this Agreement shall remain in effect and the Parties shall continue to perform all of their respective obligations hereunder.

12.5 **Termination Following Enrollment Failure**. Takeda may, at its election, terminate this Agreement in its entirety immediately upon written notice to Protagonist in the event that Enrollment for the VERIFY Clinical Trial for the Initial Indication has not been completed within twelve (12) months from the Effective Date.

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12.6 **Termination for Patent Challenge**. Protagonist may terminate this Agreement in its entirety upon written notice to Takeda in the event that (a) Takeda, or any of its Affiliates or Sublicensees directly asserts in its own respective name, or directs a Third Party to assert, an action challenging the validity, enforceability or patentability of any Licensed Patent, and (b) within [***] after written notice thereof by Protagonist, such action is not withdrawn, unless such challenge was made by Takeda or its Affiliate or Sublicensee in defense of any claim, suit or proceeding pursuant to which Protagonist or any of its Affiliates is alleging infringement of a Licensed Patent against Takeda (or such of its Affiliates or Sublicensees) in connection with its activities under this Agreement, in which case this Section 12.6 will not apply with respect to such defensive challenge, and, further provided that, Protagonist may not terminate this Agreement if Takeda promptly terminates the sublicense granted to any Sublicensee upon such Sublicensee's failure to cause any challenge of any Licensed Patent initiated by such Sublicensee that is not a defensive challenge to be dismissed within such [***] period.

12.7 **Termination for Insolvency**. To the extent permitted by Applicable Law, each Party shall have the right to terminate this Agreement in its entirety upon delivery of written notice to the other Party in the event that (a) such other Party files in any court or agency pursuant to any statute or regulation of any jurisdiction a petition in bankruptcy or insolvency or for reorganization or similar arrangement for the benefit of creditors or for the appointment of a receiver or trustee of such other Party or its assets, (b) such other Party is served with an involuntary petition against it in any insolvency proceeding and such involuntary petition has not been stayed or dismissed within [***] of its filing, or (c) such other Party makes an assignment of substantially all of its assets for the benefit of its creditors.

12.8 **Termination for Safety Concern**. Solely during such portion of the Term before Takeda's termination right under Section 12.3 becomes effective, Takeda may, at its election, terminate this Agreement in its entirety immediately upon written notice to Protagonist if Takeda in good faith believes that it is not advisable for Takeda to continue to Develop or Commercialize a Licensed Product as a result of a Safety Concern regarding the use of such Licensed Product.

12.9 **Termination for [***]**. Protagonist may terminate this Agreement with respect to the [***] for all Licensed Products upon written notice to Takeda in the event that Takeda [***] not to proceed with the Development, Regulatory Approval and Commercialization of Rusfertide in the [***] pursuant to Section [***].

12.10 **Rights in Bankruptcy; Section 365(n) of the Bankruptcy Code**. All rights and licenses granted under or pursuant to this Agreement by a Party to the other Party, including those set forth in Section 2.1 and Section 12.11(d), are and shall otherwise be deemed to be, for purposes of Section 365(n) of the U.S. Bankruptcy Code, licenses of rights to "intellectual property" as defined under Section 101 of the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction. The Parties agree that the Parties and their respective Affiliates, as licensees or sublicensees of such rights under this Agreement, shall retain and may fully exercise all of their rights and elections under the U.S. Bankruptcy Code and any foreign counterpart thereto. The Parties further agree that upon commencement of a bankruptcy proceeding by or against a Party (the "**Bankrupt Party**") under the U.S. Bankruptcy Code or any analogous provisions in any other country or jurisdiction, the other Party (the "**Non-Bankrupt Party**") will be entitled to a complete duplicate of, or complete access to (as the Non-Bankrupt Party reasonably deems appropriate), all such intellectual property and all embodiments of such intellectual property. The Bankrupt Party

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hereby agrees to grant and hereby grants to the Non-Bankrupt Party and its Affiliates a right to access and to obtain possession of and to benefit from and, in the case of any chemical or biological material or other tangible item of which there is a fixed or limited quantity, to obtain a pro rata portion of, each of the following to the extent related to any Licensed Compound or Licensed Product, or otherwise covered under any right or license granted under or pursuant to this Agreement: (i) copies of pre-clinical and clinical research data and results; (ii) all of the following (to the extent that any of the following are so related): cell lines, antibodies, assays, reagents and other biological materials; (iii) samples of Licensed Compound and Licensed Product; (iv) laboratory notes and notebooks; (v) Licensed Compounds and Licensed Products data or filings, and (vi) rights of reference in respect of filings for and Regulatory Approvals, all of which (inclusive of clauses (i) through (vi)) constitute "embodiments" of intellectual property pursuant to Section 365(n) of the Bankruptcy Code, and (viii) all other embodiments of such intellectual property, whether any of the foregoing are in the Bankrupt Party's possession or control or in the possession and control of any Third Party but which the Bankrupt Party has the right to access or benefit from and to make available to the Non- Bankrupt Party. Such intellectual property and all embodiments of such intellectual property will be promptly delivered to the Non-Bankrupt Party (a) upon any such commencement of a bankruptcy proceeding and upon written request by the Non-Bankrupt Party, unless the Bankrupt Party elects to continue to perform all of its obligations under this Agreement, or (b) if not delivered under (a) above, upon the rejection of this Agreement by or on behalf of the Bankrupt Party and upon written request by the Non-Bankrupt Party. The Bankrupt Party (in any capacity, including debtor-in-possession) and its successors and assigns (including any trustee) agree not to interfere with the exercise by the Non-Bankrupt Party or its Affiliates of its rights and licenses to such intellectual property and such embodiments of intellectual property in accordance with this Agreement, and agrees to assist the Non-Bankrupt Party and its Affiliates in obtaining such intellectual property and such embodiments of intellectual property in the possession or control of Third Parties as reasonably necessary or desirable for the Non-Bankrupt Party to exercise such rights and licenses in accordance with this Agreement. The foregoing provisions are without prejudice to any rights the Non-Bankrupt Party may have arising under the U.S. Bankruptcy Code, any analogous provisions in any other country or jurisdiction, or other Applicable Laws. The Parties acknowledge and agree that the payments provided for under ARTICLE VIII and all other payments by Takeda to Protagonist hereunder, other than royalty payments pursuant to Section 8.6, do not constitute royalties within the meaning of Section 365(n) of the Bankruptcy Code or relate to licenses of intellectual property hereunder. No Party by way of this Agreement is presently making an election under Section 365(n) of the U.S. Bankruptcy Code or any other analogous provisions in any other country or jurisdiction.

12.11 **Effects of Termination**. Upon any termination of this Agreement (i) in its entirety or (ii) with respect to a Terminated Region, as applicable, the following will apply:

(a) **Termination of Licenses**. If this Agreement is terminated in its entirety, then all licenses granted under Article II will terminate, and all diligence and other obligations of Takeda under this Agreement will cease. If this Agreement is terminated in part with respect to a Terminated Region, then all licenses granted under Article II will terminate only with respect to all Licensed Compounds and all Licensed Products for such Terminated Region, and all diligence, as applicable pursuant to Sections 4.5 and 7.2, and other obligations of Takeda, in each case, with respect to such Terminated Region will cease.

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(b) **Termination of Exclusivity.** If this Agreement is terminated in its entirety, the Parties' rights and obligations under Section 2.7 will terminate in their entirety, and, if this Agreement is terminated in part with

respect to a Terminated Region, the Parties' rights and obligations under Section 2.7 will terminate for such Terminated Region.

(c) **Development Activities Transfer and Wind Down**. Takeda will, at its cost and expense, wind down the conduct of any ongoing Clinical Trials for Licensed Products for which this Agreement has been terminated (subject to ethical obligations or requirements under Applicable Law), *unless*, for any such ongoing Clinical Trial for a Licensed Product Protagonist elects for Takeda instead to transfer such Clinical Trial to Protagonist, in which case, Section 12.11(f)(i) and the provisions of the Transition Plan will apply.

(d) **Reversion License.**

(i)Takeda, for itself and on behalf of its Affiliates, shall and hereby does grant to Protagonist a sublicensable, through multiple tiers, license (the "**Reversion License**") in and to (A) the [***] to Develop, Manufacture, Commercialize and otherwise Exploit the Licensed Products in the Field in the Territory (in case of termination of this Agreement in its entirety) or in the Terminated Region (in case of termination of this Agreement in part with respect to a Terminated Region), and (B) the [***], Develop, Manufacture, Commercialize and otherwise Exploit the Licensed Products in the Field in the Territory (in case of termination of this Agreement in its entirety) or in the Terminated Region (in case of termination of this Agreement in part with respect to a Terminated Region), including, in each case ((A) and (B)) for clarity, with respect to any Patent Rights in, as applicable, the [***], any other Patent Right that claims priority, directly or indirectly, to any such Patent Right existing prior to the effective date of termination regardless of when any such other Patent Right is filed or issued), where the event triggering Reversion License will be, at Protagonist's election specified in a written notice to Takeda no later than [***] after such notice except as may effective date of termination, either [***] and [***] for the [***], or [***] and [***] for the [***], in each case, solely to Develop, Manufacture, Commercialize and otherwise be expressly set forth herein.

10. Payment Exploit the Licensed Products in the Field in the Territory (in case of Exercise Price. Notwithstanding anything contained herein to the contrary, the Holder may, termination of this Agreement in its sole discretion, satisfy its obligation to pay entirety) or in the Exercise Price through a "cashless exercise," Terminated Region (in case of termination of this Agreement in which event the Company shall issue to the Holder the number of Warrant Shares determined as follows:

X = Y [(A-B)/A]

where:

"X" equals the number of Warrant Shares to be issued to the Holder;

"Y" equals the total number of Warrant Shares part with respect to which this Warrant is then being exercised; a Terminated Region).

"A" equals (ii)After receiving Protagonist's written notice in accordance with subsection (i) above, the VWAP Parties will discuss in good faith via their respective Executive Officers or their direct reports to agree on an equitable royalty payable by Protagonist to Takeda to reflect the value of the [***] and, if applicable, [***], upon the effective date of such termination and related payment terms. If the Executive Officers are unable to reach unanimous agreement on the Trading Day immediately preceding amount of such royalty within [***] of this matter being referred to them, then the Executive Officers or their designees will submit their respective positions on such matter to be resolved in accordance with Section 14.2(c). If any of the [***] included in the Reversion License pursuant to subsection (i) above is in-licensed by Takeda or any of its Affiliates, then (A) Protagonist will also be responsible for all amounts owed by Takeda or its Affiliate for such [***] due to the Development, Manufacture, Commercialization and other Exploitation by Protagonist, its Affiliates or (sub)licensees of the Licensed Products in, as applicable, the Territory or the Terminated Region of which Protagonist has been made aware and (B) Protagonist's rights under the Reversion License will be subject to the applicable terms of the applicable Third Party agreement for such [***] of which Protagonist has been made aware. For clarity, while the

Reversion License is effectively granted to Protagonist by Takeda as of the Effective Date, Protagonist shall [***].

(iii)If Protagonist's written notice in accordance with subsection (i) above is [***], then at such time as the [***], the Parties will negotiate in good faith to agree upon terms with respect to the Patent Rights within the [***] that specifically Cover a Licensed Product in the Territory (in case of termination of this Agreement in its entirety) or in the Terminated Region (in case of termination of this Agreement in part with respect to a Terminated Region) pursuant to which (A) in the event that Takeda or such Affiliate elects not to prepare, file, prosecute and maintain (or continue to prepare, file, prosecute and maintain, including filing a Patent Right claiming priority to a Patent Right prior to its issuance) any such Patent Right, Protagonist would have the right to assume sole responsibility, at Protagonist's sole cost and expense, to prepare, file, prosecute and maintain such Patent Right, and (B) Protagonist would have the right to enforce or defend such Patent Right to abate infringement by a Third Party.

(iv)The Reversion License may be terminated at any time during the term thereof by either Party in accordance with the provisions of Section 12.4 or 12.7 which shall apply *mutatis mutandis*.

(v)Takeda may terminate the Reversion License granted pursuant to this 13.11(d), upon written notice to Protagonist in the event that (a) Protagonist, or any of its Affiliates or Sublicensees directly asserts in its own respective name, or directs a Third Party to assert, an action challenging the validity, enforceability or patentability of any Patent included in the Reversion License, and (b) within [***] after written notice thereof by Takeda, such action is not withdrawn, unless such challenge was made by Protagonist or its Affiliate or Sublicensee in defense of any claim, suit or proceeding pursuant to which Takeda or any of its Affiliates is alleging infringement of a Patent included in the Reversion License against Protagonist (or such of its Affiliates or Sublicensees), in which case this subsection (iv) will not apply with respect to such defensive challenge, and, further provided that, Takeda may not terminate the Reversion License if Protagonist promptly terminates the sublicense granted to any Sublicensee upon such Sublicensee's failure to cause any Patent challenge initiated by such Sublicensee that is not a defensive challenge to be dismissed within such [***] period.

(e) **Data; Regulatory Documentation; Commercial Materials**. Takeda, on behalf of itself and its Related Parties, at its cost, will (i) assign to Protagonist or Protagonist's designee possession and ownership of all Regulatory Approvals, Regulatory Documentation, Pricing and Reimbursement Approvals and material correspondence and conversation logs relating solely and specifically to the Licensed Products in the Territory (in case of termination of this Agreement in its entirety) or in the Terminated Region (in case of termination of this Agreement in part with respect to a Terminated Region), in each case, in such Person's Control, and (ii) provide and transfer to Protagonist copies of all data, reports, records, materials and information, including customer lists and other sales and marketing information, generated by and in such Person's Control with respect to the Licensed Products to the extent that such data, reports, records, materials or other information is solely and specifically related to the Licensed Products in the Territory (in case of termination of this Agreement in its entirety) or in the Terminated Region (in case of termination of this Agreement in part with respect to a Terminated Region) and can be transferred to Protagonist in accordance with Applicable Law, including all nonclinical and clinical data and all adverse event data related to the Licensed Products. In the event of failure to obtain such assignment, effective

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upon the effective date of termination, Takeda, on behalf of itself and its Related Parties hereby consents and grants to Protagonist the right to access and reference (without any further action required on the part of Takeda, such Affiliate or such Sublicensee, whose authorization to file this consent with, as applicable, any Regulatory Authority of the Territory or the Regulatory Authority of the Terminated Region is hereby granted effective as of the date of termination) any such item with respect to the Licensed Products, as applicable, in the Territory or the Terminated Region.

(f) **Transition Plan.** In the event of termination of this Agreement, whether in its entirety or with respect to a Terminated Region, Protagonist and Takeda shall negotiate in good faith the establishment of a transition plan to effectuate the transition back to Protagonist of the Licensed Products, which plan will include at a minimum the following elements (the "Transition Plan").

(i)*Development Activities Transfer*. If, at the time of either Party's delivery of a written notice of termination, Takeda (or any of its Affiliates or Sublicensees) is conducting any Clinical Trials for any Licensed Product in support of obtaining Regulatory Approval for Commercialization in, as applicable, the Territory or a Terminated Region, Protagonist will notify Takeda whether Protagonist would like to continue such Clinical Trials, on a study-by-study and site-by-site basis. If Protagonist elects to continue one or more such Clinical Trials at one or more sites, Takeda will continue to pay for its allocated costs and expenses (including Shared Development Costs, if applicable) for such Clinical Trials for a period of [***] after the effective date of termination of this Agreement and upon the expiration of such period transfer the conduct of such Clinical Trials at such sites to Protagonist or its designee.

(ii)*Remaining Inventory*. If the effective date of termination of this Agreement in its entirety or for a Terminated Region, as the case may be, is *before* the First Commercial Sale in, respectively, the Territory or such Terminated Region of a Licensed Product, then, within [***] of such date, Takeda will notify Protagonist of any quantity of usable clinical inventory of the Licensed Products in Takeda's or its Affiliates' inventory, and Protagonist may purchase, in its discretion, any such quantities of the Licensed Products from Takeda and its Affiliates at a transfer price equal to the Manufacturing Cost without mark-up or profit margin (solely for any portion of such Manufacturing Costs which were not previously shared with Protagonist). If the effective date of termination of this Agreement in its entirety or for a Terminated Region, as the case may be, is *after* the First Commercial Sale in, respectively, the Territory or such Terminated Region of a Licensed Product, then, within [***] after the end of the Commercialization Wind-Down Period, Takeda will notify Protagonist of any quantity of the Licensed Products for the Territory or such Terminated Region remaining in Takeda's or its Affiliates' inventory, and Protagonist may purchase, in its discretion, any such quantities of the Licensed Products from Takeda at a transfer price equal to (A) the Manufacturing Cost of such quantities (solely if any portion of such Manufacturing Costs were not previously shared with Protagonist), for any such quantity in inventory for the U.S. of such Licensed Products if Protagonist had not exercised an Opt-Out Right for such Licensed Products prior to the effective date of termination, and (B) the Manufacturing Cost plus [***] percent ([***]%) of such quantities, for any such quantity in inventory for the Ex-U.S. Territory of such Licensed Products and, if applicable, for the U.S. of such Licensed Products if Protagonist had exercised an Opt-Out Right for such Licensed Products prior to the effective date of termination.

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(iii)*Sell Off*. If the effective date of termination of this Agreement in its entirety or for a Terminated Region, as the case may be, is after the First Commercial Sale in the Territory or such Terminated Region of a Licensed Product, then, to the extent permitted by Applicable Law, Takeda, its Affiliates and its Sublicensees will have the right to sell any inventory of the Licensed Products intended for Commercialization, respectively, in the Territory or in such Terminated Region existing as of such effective date of termination in accordance with the terms and conditions of this Agreement by or under the authority of Takeda as of the notice date of the applicable Notice termination, for up to [***] after the effective date of Exercise; the applicable termination or such longer time as may be agreed by the Parties, (the "**Commercialization Wind-Down Period**"). Any Licensed Products sold or disposed of by Takeda, its Affiliates or its Sublicensees in, as applicable, the Territory or the Termination Region during the Commercialization Wind-Down Period will be subject to applicable payment obligations under Article VIII.

(iv)*Continuation of Supply*. Without limiting Protagonist's rights under Section 12.11(f)(ii), upon Protagonist's request, if (A) the effective date of termination of this Agreement in its entirety or for a Terminated Region, as the case may be, is after the First Commercial Sale in the Territory or such Terminated Region of a Licensed Product, (B) as of the effective date of such termination, Takeda or its Related Parties are Manufacturing finished product with respect to the Licensed Products for Commercialization thereof in, as applicable, the Territory or such Terminated Region, and

"B" equals (C) as of the Exercise Price effective date of such termination, neither Protagonist nor any of its Affiliate or its (sub)licensees has obtained all necessary Regulatory Approvals to Manufacture the Licensed Products and procured or developed its own source of finished product supply with respect to the Licensed Products for Commercialization thereof in the Territory, then, at Protagonist's option and at Protagonist's sole cost and

expense, Takeda or its Related Parties will supply to Protagonist such finished product of the Licensed Products for Commercialization in, effect as applicable, the Territory or such Terminated Region at a price equal to the Manufacturing Cost plus [***] percent ([***]%) until the earlier of (1) such time as (x) all Regulatory Approvals held by Takeda or any of its Related Parties in the Territory or such Terminated Region, as applicable, for the Licensed Products have been assigned to Protagonist or its designee, (y) all Regulatory Approvals necessary to Manufacture the Licensed Products for Commercialization in the Territory or such Terminated Region, as applicable, Warrant Shares at the time have been obtained by Protagonist or any of its Affiliates or (sub)licensees, and (z) Protagonist or any of its Affiliates or (sub)licensees has procured or developed its own source of such exercise. finished product supply of the Licensed Products for Commercialization in the Territory or such Terminated Region, as applicable, or (2) [***] following the effective date of such termination.

In (v)*Third Party Agreements*. If Protagonist so requests in writing, and to the event that a registration statement registering extent permitted under Takeda's and its Affiliates' obligations to Third Parties on the Warrant Shares (File No. 333-227216 or a subsequently filed registration statement) is not effective at the time date of exercise termination of this Warrant, then this Warrant Agreement in its entirety or for a Terminated Region, as the case may only be, effective as of the effective date of such termination, Takeda will assign, or will cause its applicable Affiliate to assign, to Protagonist, and Protagonist will assume, any Third Party agreements that solely and specifically relate to the Development, Manufacture, performance of Scientific Exchange Activities with respect to, or Commercialization of the Licensed Products in, as applicable, the Territory or such Terminated Country to which Takeda or any of its Affiliates is a party; *provided that*, (A) if the assignment of any such Third Party agreement requires the consent of any Third Party, such assignment of such Third Party agreement will not occur unless and until such consent is obtained (it being understood that if so requested by Protagonist in writing, Takeda will, at Protagonist's cost, use reasonable efforts to obtain any such consent as promptly as

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reasonably practicable under the circumstances) and (B) Protagonist will assume any liability arising under such Third Party agreement from and after the date of assignment.

(vi)*Takeda Product Trademarks*. If as of the effective date of termination of this Agreement in its entirety or for a Terminated Region, as the case may be, (A) Takeda or any of its Affiliates owns any Product Trademarks that are used exclusively for the Licensed Products in the Territory or such Terminated Region and (B) such Product Trademarks have been approved by the Regulatory Authority, as applicable, in any country of the Territory or in such Terminated Region for use with the Licensed Products (such trademarks, the "**Reversion Trademarks**"), then, at Protagonist's written request, promptly following the effective date of such termination, Takeda, on behalf of itself and its Affiliates, will transfer and assign to Protagonist all of Takeda's and its Affiliates' rights, title and interest in and to such Reversion Trademarks for, as applicable, each applicable country of the Territory or for the Terminated Region, pursuant to an agreement that the Parties will negotiate and enter into after such effective date of termination, which agreement will contain, to the extent applicable, indemnification obligations customary of such agreements applying to Protagonist's use of such transferred Reversion Trademark(s) following such assignment.

(vii)*IP Files Transfer*. With respect to any Licensed Patents and Arising Protagonist Patents prepared, filed, prosecuted, maintained and defended (including interferences, reissue proceedings, reexaminations, patent term extensions, applications for supplementary protection certificates, oppositions, invalidation proceedings, and defense of validity or enforceability challenges) by Takeda under Section 9.6(a)(i) or in respect of which Takeda has engaged in the enforcement thereof under Section 9.8(b), at Protagonist's cost and expense, Takeda will transfer to Protagonist or its designee copies of filings, applications, correspondence and other related records received or generated by Takeda in the course of exercising such activities.

(g) **Dissolution of Joint Committees**. If this Agreement is terminated in its entirety, all Joint Committees will be dissolved as of the effective date of such termination, *provided that*, for any surviving provisions requiring action or decision by any of the Joint Committees or an Executive Officer, each Party will appoint representatives to act as its Joint Committee members or Executive Officer, as applicable. If this Agreement is terminated in part as to a Terminated Region, then the subject-matter responsibility of the respective Joint Committees will no longer extend to the Licensed Products in such Terminated Region.

(h) **Sublicense Survival**. Protagonist will, at the written election of any Third Party that is a Sublicensee of Takeda or its Affiliates (to the extent not then in breach of the applicable sublicense agreement), negotiate in good faith the potential grant of a direct license to such Sublicensee, which license will be equivalent in license scope, territory or duration to the sublicense agreement granted by Takeda or its Affiliates to such Sublicensee and not more burdensome on Protagonist in any material manner than the financial terms of Article VIII taking into account the territory and scope of such license (each, a "**New License Agreement**"). Notwithstanding any provision to the contrary set forth in this Agreement, Protagonist will not be obligated to negotiate a New License Agreement with a terminated Sublicensee (A) unless such Sublicensee notifies Protagonist in writing within [***] after the termination of this Agreement that it wishes to negotiate and enter into a New License Agreement or (B) if such notice is provided by

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a cashless basis under terminated Sublicensee within such [***] period, at any time following the expiration of a [***] period after the date of such notice.

(i) **Further Assurances**. Each Party will execute all reasonable documents and take all such further actions as may be reasonably requested by the other Party, at such other Party's cost, in order to give effect to the foregoing clauses of this Section 10. For purposes 12.11.

(j) **Termination of Rule 144 promulgated under the Securities Act, it is intended, understood Rights and acknowledged that the Warrant Shares issued in a "cashless exercise" transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise) Obligations**. Except as set forth in this Section 5(b) (Buy-In remedy) 12.11 and Section 12 (payment 12.12, all rights and obligations of cash in lieu the Parties under this Agreement will terminate as of fractional shares), in no event will the exercise applicable effective date of any termination of this Warrant Agreement.

12.12 **Accrued Rights; Surviving Obligations.**

(a) Termination or expiration of this Agreement (either in its entirety or with respect to one (1) or more country(ies) or other jurisdiction(s) of the Territory) for any reason shall be settled without prejudice to any rights that shall have accrued to the benefit of a Party prior to the effective date of such termination or expiration. Such termination or expiration shall not relieve a Party from any liability or obligations which accrued hereunder prior to the effective date of such termination or expiration.

(b) In addition to the termination consequences set forth in cash. Section 12.11 (Effects of Termination) and this Section 12.12 (Accrued Rights; Surviving Obligations)(and any Sections referenced therein), the following provisions will survive expiration or termination of this Agreement in its entirety for any reason: Article I (Definitions) (to the extent necessary to interpret other surviving sections), Section 2.4 (Combinations), Section 2.5 (No Other Rights), Section 4.6 (Development Records), Section 5.5 (Product Withdrawals and Recalls) (solely with respect to Takeda and a removal action by any Regulatory Authority or other recall or market withdrawal of a Licensed Product in the Territory prior to such expiration or termination of this Agreement), Section 6.4 (Manufacturing Records and Reports), Sections 8.9 (Financial Records) through and including 8.18 (Tax Matters) (solely with respect to any amounts owed as of the effective date of expiration or termination), Section 9.1 (Ownership), Section 9.3 (Payment to Inventors), Section 9.6 (Prosecution and Maintenance of Patent Rights) (solely with respect to Joint Patents), Section 10.2 (Nondisclosure Obligation), Section 10.4 (Return of Confidential Information), Section 11.3 (No Warranties), Section 12.2 (in case of expiration but not termination), Section 12.10 (Rights in Bankruptcy; Section 365(n) of the Bankruptcy Code), Section 12.13 (Remedies), Sections 13.1 (Indemnification by Protagonist) through and including 13.5 (General Limitation of Liability), and Article XIV (Miscellaneous).

11. 12.1 Limitations on Exercise **Remedies**.

Each Party shall be free to seek, in accordance with Section 14.1 and Section 14.2, damages, expenses and remedies that may be available to it under Applicable Law or in equity, with respect to any breach of this Agreement. Each Party shall be entitled, at such Party's option and its sole discretion, to offset the amount of any damages and expenses obtained against the other Party in a final determination obtained in accordance with Section 14.1 and Section 14.2 against any amounts otherwise due to such other Party under this Agreement.

(a) 12.14 **Remedies in Lieu of Termination by Takeda for Cause**. Notwithstanding anything to the contrary contained in any Section herein, this Agreement, in the number event of Warrant Shares that may be acquired by the Holder upon any exercise a material breach of this Warrant (or Agreement by Protagonist, in lieu of terminating this Agreement pursuant to Section 12.4(a), Takeda may elect

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by written notice to Protagonist to continue under this Agreement, in which case the terms of this Agreement shall remain in full force and effect until this Agreement is subsequently terminated by a Party in accordance with this Article XII, subject to, from and after the date of such notice, the reduction of all royalty payments thereafter due and payable by Takeda to Protagonist during the Term pursuant to Article VIII by [***] ([***]%) of the applicable amounts otherwise set forth in respect hereof) Article VIII, as applicable.

ARTICLE XIII
INDEMNIFICATION; LIMITATION OF LIABILITY; INSURANCE

13.1 **Indemnification by Protagonist**. Protagonist shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder indemnify, defend and hold harmless Takeda and its Affiliates and its and their directors, officers, employees, and agents (each, a "Takeda Indemnitee") from and against any other Persons whose beneficial ownership and all Losses incurred by any Takeda Indemnitee as a result of Common Stock would be aggregated with any Third Party Claim after the Holder's for purposes Effective Date to the extent such Losses arise out of: (a) subject to Section 13.3, the performance of Section 13(d) Development, Manufacture, Scientific Exchange Activities, or Commercialization, as applicable, of the Exchange Act (such Affiliated Licensed Compounds or the Licensed Products by or on behalf of Protagonist or any of its Affiliates or Sublicensees (excluding such conduct by or on behalf of Takeda, is Affiliates and other Persons, "*Attribution Parties*") its Sublicensees as licensees or sublicensees of Protagonist hereunder), does not exceed a percentage (the "*Beneficial Ownership Limitation*"), which initially shall be 9.99%, including any of the total number foregoing activities with respect to the Licensed Products by Protagonist after the termination of this Agreement in part (with respect to the applicable Licensed Product) or in its entirety, (b) the negligence or willful misconduct by or on the part of any Protagonist Indemnitee in the performance of Protagonist's obligations under this Agreement, or (c) any breach of a representation or warranty made by Protagonist in this Agreement or any breach or violation of any covenant or agreement of Protagonist in this Agreement; except, in each case, to the extent such Losses arise out, directly or indirectly, any matters for which Takeda is obligated to indemnify any Protagonist Indemnitee under Section 13.2.

13.2 **Indemnification by Takeda**. Takeda shall indemnify, defend and hold harmless Protagonist and its Affiliates and its and their directors, officers, employees, and agents (each, a "Protagonist Indemnitee") from and against any and all Losses incurred by any Protagonist Indemnitee as a result of any Third Party Claim after the Effective Date to the extent such Losses arise out of: (a) subject to Section 13.3, the performance of Development, Manufacture, Scientific Exchange Activities, or Commercialization, as applicable, of the Licensed Compounds and the Licensed Products by or on behalf of Takeda or any of its Affiliates or Sublicensees, (b) the negligence or willful misconduct by or on the part of any Takeda Indemnitee in the performance of Takeda's obligations under this Agreement, or (c)) any breach of a representation or warranty made by Takeda in this Agreement or any breach or violation of any covenant or agreement of Takeda in this Agreement; except, in each case, to the extent such Losses arise out of, directly or indirectly, any matters for which Protagonist is obligated to indemnify any Takeda Indemnitee under Section 13.1.

13.3 **Certain Third Party Claims Related to Licensed Products in the U.S.** If either Party receives notice, at any time, of a Third Party Claim that is based on any Shared Program Activities with respect to a Licensed Product in the U.S. conducted prior to Protagonist's exercise of an Opt-Out Right in respect of such Licensed Product, then issued such Party will inform the other Party in writing as soon as reasonably practicable, and outstanding shares the Parties will discuss a strategy for how to defend against, and which Party will control the defense of, Common Stock (including such Third Party Claim (*provided that*, absent agreement otherwise, Takeda shall have the right to control the defense). Any Losses

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as they are incurred in connection with any such Third Party Claim, as well as any attorneys' fees and costs of litigation incurred by either Party (or any of the Takeda Indemnitees or Protagonist Indemnitees, as applicable), in each case, that are Shared Program Damages (a) incurred by either Party (or any of the Takeda Indemnitees or Protagonist Indemnitees, as applicable) during the Term, will be deemed to constitute (and will be included in) Shared Development Costs or Shared Commercialization Costs, as applicable, for such purpose Licensed Product, and (b) incurred by either Party (or any of the shares Takeda Indemnitees or Protagonist Indemnitees, as applicable) after the Term, in each case ((a) and (b)), will be shared such that [***] percent ([***]%) thereof are borne by Takeda and [***] percent ([***]%) thereof are borne by Protagonist, and the Party (or any of Common Stock issuable upon the Takeda Indemnitees or Protagonist Indemnitees, as applicable) that has incurred such exercise), it being acknowledged Shared Program Damages will be reimbursed by the Holder that other Party such other Party's [***] percent ([***]%) share no later than [***] after receipt of reasonable documentation evidencing such amounts.

13.4 **Procedure**. The Party claiming indemnity under Section 13.1 or Section 13.2 (the "Indemnified Party") shall give written notice to the Company is not representing to such Holder that such calculation is in compliance with Section 13(d) other Party (the "Indemnifying Party") promptly after learning of the Exchange Act and applicable Third Party Claim; *provided that* the failure to give such Holder is solely responsible for any schedules required notice will not relieve the Indemnifying Party of its indemnity obligation hereunder except to be filed in accordance therewith. To the extent that such failure materially prejudices the limitation contained Indemnifying Party. The Indemnifying Party shall have the right to elect to defend, at its own cost and expense and by its own counsel (which shall be reasonably satisfactory to the Indemnified Party), any Third Party Claim that is indemnifiable hereunder. Within [***] after receipt of the Indemnified Party's written notice (or sooner, if the Third Party Claim at issue so requires), the Indemnifying Party shall notify the Indemnified Party in writing if it is making such election and in such event, the Indemnified Party may employ separate counsel to participate in (but not control) such Indemnifiable Claim at its sole cost and expense. The Indemnified Party shall provide the Indemnifying Party with reasonable assistance, at the Indemnifying Party's expense, in connection with the defense of such Third Party Claim. The Indemnified Party may participate in and monitor such defense with counsel of its own choice at its own expense; *provided*, *however*, that the Indemnifying Party shall have the right to assume and conduct the defense of such Third Party Claim with counsel of its choice. The Indemnifying Party shall not settle such Third Party Claim without the prior written consent of the Indemnified Party, not to be unreasonably withheld, conditioned, or delayed, unless the settlement involves only the payment of money, no admission of wrong-doing or fault by the Indemnified Party, and no restriction on the future actions or activities of the Indemnified Party. So long as the Indemnifying Party is actively defending the Third Party Claim in good faith, the Indemnified Party shall not settle such Third Party Claim without the prior written consent of the Indemnifying Party. If the Indemnifying Party does not assume and conduct the defense of such Third Party Claim, and notify the Indemnified Party in writing of the same, within such [***] period (or sooner, if the Third Party Claim at issue so requires), (a) the Indemnified Party may defend against and consent to the entry of any judgment, or enter into any settlement with respect to, such Third Party Claim in any manner the Indemnified Party may deem reasonably appropriate (and the Indemnified Party need not consult with, or obtain any consent from, the Indemnifying Party in connection therewith so long as the settlement involves only the payment of money, no admission of wrong-doing or fault by the Indemnifying Party, and no restriction on the future actions or activities of the Indemnifying Party), and (b) the Indemnifying Party will remain responsible to indemnify the Indemnified Party as provided in this Article XIII.

13.5 **General Limitation of Liability**. NEITHER PARTY WILL BE LIABLE FOR SPECIAL, INCIDENTAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, INCLUDING

LOSS OF PROFITS OR BUSINESS INTERRUPTION (TO THE EXTENT THE SAME ARE CONSEQUENTIAL DAMAGES), HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, BREACH OF STATUTORY DUTY OR OTHERWISE IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREBY, OR THE EXERCISE OF ITS RIGHTS OR THE PERFORMANCE OF ITS OBLIGATIONS HEREUNDER REGARDLESS OF ANY NOTICE OF SUCH DAMAGES, EXCEPT AS A RESULT OF (A) A PARTY'S FRAUD, GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, (B) A MATERIAL BREACH OF THE CONFIDENTIALITY AND NON-USE OBLIGATIONS IN Article IX, OR (C) AMOUNTS PAID TO THIRD PARTIES IN CONNECTION WITH CLAIMS SUBJECT TO INDEMNIFICATION UNDER SECTION 13.1 OR SECTION 13.2.

13.6 **Insurance**. Each Party shall have and maintain such type and amounts of insurance covering its obligations under this Agreement as is (a) normal and customary in the pharmaceutical industry generally for Persons similarly situated and (b) otherwise required by Applicable Law. Notwithstanding the foregoing, Takeda will be permitted to satisfy any and all of its obligations under this Section 11(a)13.6 through a program of self-insurance, in whole or in part.

ARTICLE XIV
MISCELLANEOUS

applies, **Governing Law**. This Agreement, and all questions regarding the determination existence, validity, interpretation, breach, or performance of whether this Warrant Agreement, shall be construed and the respective rights of the Parties determined according to the Applicable Laws of the State of New York, excluding any of its conflicts of laws principles other than New York General Obligations Law §5-1401.

14.2 **Dispute Resolution.**

(a) **Disputes**. Except for matters to be resolved as set forth in Section 2.10(b)(ii)(B), 3.6 or 9.5(d), disputes of any nature arising under, relating to, or in connection with this Agreement ("**Disputes**") will be resolved pursuant to this Section 14.2.

(b) **Dispute Escalation**. In the event of a Dispute between the Parties, the Parties will first attempt to resolve such Dispute by negotiation and consultation between themselves at the JSC. In the event that such Dispute is exercisable (in relation not resolved on an informal basis within [***] of such Dispute being referred to the JSC, any Party may, by written notice to the other, securities owned have such Dispute referred to the Executive Officers (or their designee, which designee is required to have decision-making authority on behalf of such Party), who will attempt to resolve such Dispute by negotiation and consultation for a [***] period following receipt of such written notice. Any final decision agreed by the Holder) Executive Officers will be conclusive and of which a portion binding on the Parties under the then existing circumstances, *provided that* no such decision will modify or amend the terms or conditions of this Warrant is exercisable shall be Agreement. In the event the Parties have not resolved such Dispute within [***] of having referred such Dispute to the Executive Officers, then (i) if such Dispute has been expressly stated in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed this Agreement to be the Holder's determination of whether this Warrant is exercisable (in relation resolved pursuant to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination under this Section 11(a) as to any group status shall Expedited Arbitration, it will be determined resolved in accordance with Section 13(d) 14.2(c), (ii) a such Disputes involves the scope, construction, validity, and enforceability of any Patent Rights or trademark rights relating to a Licensed Product, it will be resolved in accordance with Section 14.2(e), or (iii) with respect to any other Dispute,

either Party will have the right to pursue any and all remedies available at law or equity consistent with Section 14.2(d).

(c) **Expedited Arbitration**. Any Dispute expressly stated in this Agreement to be resolved pursuant to this Section 14.2(c) will take place pursuant to the following procedures.

(i)The Dispute will be resolved by final and binding arbitration administered by Judicial Arbitration and Mediation Services, Inc. (JAMS) pursuant to its rules then in effect for such proceedings (the "**Rules**"), except as otherwise provided herein and applying the substantive law specified in Section 14.1. The arbitration will be conducted by a single independent, conflict-free arbitrator with the requisite pharmaceutical and biotechnology industry experience selected by JAMS in accordance with the Rules (such arbitrator, the "**Expert**"). The Parties may select a different Expert for each Dispute depending on the nature of the Exchange Act issues presented and desired expertise.

(ii)No later than [***] after the Expert's appointment, each Party will submit to both the Expert and the rules and regulations promulgated thereunder. For purposes other Party a detailed written proposal setting forth such Party's proposed resolution of the Dispute. The Parties will also provide to the Expert a copy of this Agreement, as may be amended at such time.

(iii)No later than [***] after the delivery of the Parties' detailed written proposals to the Expert, each Party will submit to both the Expert and the other Party a legal brief (and any exhibits) explaining and supporting the Party's detailed written proposal, which legal brief will be no more than [***].

(iv)There will be no discovery and there will be no hearing, although such arbitration proceeding will be deemed to have its seat in New York, New York, and all arbitration proceedings will be conducted in the English language.

(v)With respect to a Dispute under Section 11(a)12.11(d)(ii), no later than [***] after the submission of the Parties' legal briefs, the Expert will select one of the two detailed written proposals (without modification) provided by the Parties that the Expert believes is most consistent with the intention underlying and agreed principles set forth in determining this Agreement. The detailed written proposal selected by the number of outstanding shares of Common Stock, the Holder may rely Expert will automatically be final, unappealable and binding on the number Parties. With respect to any other Dispute to be resolved pursuant to this Section 14.2(c), the Expert will be free to decide whether to select one of outstanding shares the two detailed written proposals provided by the Parties, with or without modifications, combine elements from both proposals, or propose a different solution. The decision of Common Stock as reflected the Expert will be final, unappealable and binding on the Parties.

(vi)Each Party will bear its own attorneys' fees, costs and disbursements arising out of the arbitration, and will pay an equal share of the fees and costs of the Expert.

(d) **Jurisdiction; Venue**. The Parties hereby (i) irrevocably submit to the jurisdiction of the state and federal courts in (x) the Company's most recent Form 10-Q State of New York and agree that all claims shall be heard and determined in any such court, (ii) waive any defense of inconvenient forum to the maintenance of any such claims and further agree not to bring any such claims in any other court,

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and (iii) irrevocably consent to service of process by certified mailing, postage prepaid, or Form 10-K, delivering such service to the Party at its respective notice address set forth in Section 14.5. Notwithstanding anything to the contrary in this Section 14.2, either Party may seek injunctive relief in any court in any jurisdiction where appropriate.

(e) **Patent and Trademark Disputes**. Notwithstanding any provision to the contrary set forth in this Agreement, any and all issues regarding the scope, construction, validity, and enforceability of any Patent Rights or trademark rights relating to a Licensed Product will be determined in a court or other tribunal, as the case may be, (y) a more recent public announcement by of competent jurisdiction under the Company applicable patent or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request trademark laws of the Holder, the Company shall, within three (3) Trading Days, confirm orally and country in writing to which such Holder the number of shares of Common Stock then outstanding. By written notice to the Company, which will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, the Holder may increase the Beneficial Ownership Limitation to such percentage of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of Patent Right or trademark was granted or arose.

14.3 **Assignment**. Except as provided in this Warrant as the Holder shall determine (not to exceed 19.99%), in its sole discretion, subject to Section 11(b), and the provisions of 14.3, this Section 11(a) shall continue to apply. Upon such a change by a Holder of the Beneficial Ownership Limitation, the Beneficial Ownership Limitation Agreement may not be further increased assigned or otherwise transferred, nor may any right or obligation hereunder be assigned or transferred, by such Holder either Party without first providing the minimum notice required by this Section 11(a). prior written consent of the other Party. Notwithstanding the foregoing, at either Party may, without the other Party's prior written consent, assign or otherwise transfer this Agreement and its rights and obligations hereunder, in whole or in part, to (i) to an Affiliate, so long as such Party remains responsible for performance of this Agreement and any time following notice acts or omissions of such Affiliate in connection therewith, *provided that* if the entity to which this Agreement is assigned ceases to be an Affiliate of the assigning Party, then the Agreement shall be automatically assigned back to the assigning Party or its successor, or (ii) to a Fundamental Transaction Third Party in connection with the transfer or sale of all or substantially all of the business or assets of such Party to which this Agreement relates, whether by merger, consolidation, divesture, restructure, sale of stock, sale of assets, Change of Control, or otherwise. Any permitted successor or assignee of any rights or obligations under this Agreement must expressly assume performance thereof. Notwithstanding the foregoing, the assigning Party will remain responsible for the performance by its assignee of any obligation hereunder so assigned. Any purported assignment in violation of this Section 9(f)(ii)14.3 will be void.

14.4 **Entire Agreement; Amendments**. This Agreement, including the Schedules, contains the entire understanding of the Parties with respect to a Section 9(c)(iii) Fundamental Transaction, the Holder may change the Beneficial Ownership Limitation effective immediately upon written notice subject matter hereof, and supersedes all previous arrangements with respect to the Company and subject matter hereof, whether written or oral, including the Confidentiality Agreement. This Agreement (including the Schedules hereto) may reinstitute be amended, or any term hereof modified, only by a Beneficial Ownership Limitation at any time thereafter effective immediately upon written notice to the Company.

(b) This Section 11 shall not restrict the number instrument duly executed by authorized representatives of shares of Common Stock both Parties.

14.5 **Notices**. All notices which a Holder may receive are required or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9 of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares permitted to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Notices. Any and all notices or other communications or deliveries given hereunder (including, without

limitation, any Exercise Notice) shall be in writing and shall be deemed given to have been duly delivered and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified below prior to 5:30 P.M., New York City time, on a Trading Day, (ii) the next Trading Day received hereunder (a) [***] after the date of transmission, if such notice or communication is delivered via facsimile or confirmed e-mail at the facsimile number or e-mail address specified below on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day, (iii) the Trading Day following the date of mailing, if being sent by nationally recognized registered or certified mail, return receipt requested, postage prepaid, (b) [***] after being sent for [***] delivery, fees prepaid, via a reputable international overnight courier service, specifying next business day or (c) immediately upon delivery by email or (iv) upon actual receipt facsimile (with transmission confirmed and confirmed by hard copy delivered as soon as practicable thereafter by the Person method described in either clause (a) or (b)) or by hand, in each case to the intended recipient as set forth below (or to such other address as the Party to whom such notice is required to be given if by hand delivery. may have furnished to the other Party in writing in accordance herewith):

Notices to Protagonist shall be addressed to:

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Protagonist Therapeutics, Inc.
7707 Gateway Blvd., Suite 140
Newark, CA 94560
Attention: General Counsel
14. Email: Warrant Agent[***]

with a copy to (which shall not constitute notice):
Gibson Dunn & Crutcher LLP
555 Mission Street
San Francisco, CA 94105-0921
Attention: Karen A. Spindler
Email: [***]

Notices to Takeda shall be addressed to:

Takeda Pharmaceutical Company Limited
1-1, Doshomachi 4-chome,
Chuo-ku, Osaka 540-8645
Attention: General Counsel, Legal Department
Facsimile: [***]

with a copy to (which shall not constitute notice):
Takeda Pharmaceuticals U.S.A., Inc.
95 Hayden Ave
Lexington, MA 02421
Attention: Regional General Counsel
Facsimile: [***]

14.6 **Force Majeure**. The Company Each Party shall initially serve as warrant agent be excused from liability for the failure or delay in performance of any obligation under this Warrant. Upon thirty (30) days' notice Agreement to the Holder, extent such failure or delay is caused by or results from acts of God, fire, flood, explosion, earthquake, epidemics or pandemics (excluding the Company may appoint a new warrant agent. Any

corporation into which COVID-19 pandemic as it exists as the Company Effective Date), or other natural forces, war, civil unrest, acts of terrorism, accident, destruction, or other casualty, any lack or failure of transportation facilities, any lack or failure of supply of raw materials, or any new warrant agent may be merged or any corporation resulting other event similar to those enumerated above. Such excuse from any consolidation to which the Company or any new warrant agent liability shall be effective to the extent and duration of the event(s) causing the failure or delay in performance and *provided that* the Party has not caused such event(s) to occur and is using reasonable efforts to remove the condition. Notice of a party Party's failure or any corporation delay in performance due to force majeure must be given to the other Party as soon as reasonably practicable after its occurrence. The affected Party will provide a good faith estimate of the period for which its failure or delay in performance under the Company or any new warrant agent transfers substantially all Agreement is expected to continue based on currently available information, and will undertake reasonable efforts necessary to mitigate and overcome such force majeure circumstances and resume normal performance of its corporate trust or shareholders services business obligations hereunder as soon as reasonably practicable under the circumstances. When the force majeure no longer exists, the affected Party must promptly resume performance. All delivery dates under this Agreement that have been affected by force majeure shall be tolled for the duration of such force majeure. In no event will any Party be required to prevent or settle any labor disturbance

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or dispute. Notwithstanding the foregoing, a successor warrant agent under this Warrant without any further act. Any Party will not be excused from making payments owed hereunder because of a force majeure affecting such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

Party.

15. 14.7 Miscellaneous.

(a) **No Rights as a StockholderStrict Construction**. The Holder, solely in such Person's capacity as a holder of this Warrant, This Agreement has been prepared jointly and shall not be entitled strictly construed against any Party.

14.8 **Headings**. The captions or headings of the Sections or other subdivisions hereof are inserted only as a matter of convenience or for reference and shall have no effect on the meaning of the provisions hereof.

14.9 **No Implied Waivers; Rights Cumulative**. No failure on the part of Protagonist or Takeda to vote exercise, and no delay in exercising, any right, power, remedy or receive dividends privilege under this Agreement, or provided by statute or at law or in equity or otherwise, shall impair, prejudice or constitute a waiver of any such right, power, remedy or privilege or be deemed construed as a waiver of any breach of this Agreement or as an acquiescence therein, nor shall any single or partial exercise of any such right, power, remedy or privilege preclude any other or further exercise thereof or the holder exercise of share capital any other right, power, remedy or privilege. Any waiver by a Party of a particular term or condition shall be effective only if set forth in a written instrument duly executed by or on behalf of the Company Party waiving such term or condition.

14.10 **Severability**. If any provision hereof should be held invalid, illegal or unenforceable in any respect in any jurisdiction, the Parties shall substitute, by mutual consent, valid provisions for such invalid, illegal or unenforceable provisions, which valid provisions best reflect the original intent of the Parties and in their economic

effect are sufficiently similar to the invalid, illegal or unenforceable provisions that it can be reasonably assumed that the Parties would have entered into this Agreement with such valid provisions. In case such valid provisions cannot be agreed upon, the invalid, illegal or unenforceable of one or several provisions of this Agreement shall not affect the validity of this Agreement as a whole, unless the invalid, illegal or unenforceable provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the Parties would not have entered into this Agreement without the invalid, illegal or unenforceable provisions.

14.11 **Interpretation**. Whenever the context may require, any purpose, nor pronoun shall anything contained in this Warrant include the corresponding masculine, feminine and neuter forms. The words "include", "includes" and "including" shall be deemed to be followed by the phrase "without limitation." The word "will" shall be construed to confer upon have the Holder, solely in such Person's capacity same meaning and effect as the Holder word "shall." Unless the context requires otherwise, (a) any definition of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent reference to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance agreement, instrument or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant other document herein shall be construed as imposing referring to such agreement, instrument or other document as from time to time amended, supplemented or otherwise modified (subject to any liabilities restrictions on such amendments, supplements or modifications set forth herein or therein), (b) any reference to any Applicable Laws herein shall be construed as referring to such Applicable Laws as they from time to time may be enacted, repealed or amended, (c) any reference herein to any Person shall be construed to include the Holder Person's successors and assigns, (d) the words "herein", "hereof" and "hereunder", and words of similar import, shall be construed to purchase refer to this Agreement in its entirety and not to any securities (upon exercise particular provision hereof, (e) all references in this Agreement to the singular shall include the plural where applicable, (f) all references herein to Articles, Sections, or Schedules shall be construed to refer to Articles, Sections and Schedules of this Warrant Agreement, (g) the word "or" shall be construed to have the same meaning and effect as "and/or" unless the context

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dictates otherwise because the subjects of the conjunction are mutually exclusive, (h) a term not defined herein but reflecting a different part of speech than a term which is defined herein shall be interpreted in a correlative manner, (i) any reference in this Agreement to a "day" or otherwise) or a number of "days" (without explicit reference to "Business Days") shall be interpreted as a stockholder reference to a calendar day or number of calendar days, and (j) if the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares.

(i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such

increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon last day for the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions any privilege or consents from the discharge of any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations duty under this Warrant. Agreement falls upon a day which is not a Business Day, then the Party having such privilege or duty will have until the end of the next succeeding regular Business Day to exercise such privilege or to discharge such duty.

(ii) Before taking14.12 **Relationship of the Parties**. It is expressly agreed that Protagonist and Takeda are independent contractors and that the relationship between the two Parties will not constitute a partnership, joint venture, or agency, including for Tax purposes. Neither Protagonist nor Takeda will have the authority to make any statements, representations, or commitments of any kind, or to take any action, which would result in an adjustment in will be binding on the number of Warrant Shares for which this Warrant is exercisable or in other Party, without the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the prior written consent of the Holder except other Party. Nothing contained in this Agreement shall be deemed to a successor in the event make any member of a Joint Committee or any subcommittee or project team a partner, agent, or legal representative of the other Party, or to create any fiduciary relationship for any purpose whatsoever. Except as may be explicitly provided in this Agreement, no member of a Joint Committee or any subcommittee or project team will have any authority to act for, or to assume any obligation or responsibility on behalf of, any other member of a Joint Committee, subcommittee or project team (as applicable) of the other Party.

814.13 **Performance by Affiliates**. Either Party may discharge any obligations and exercise any right hereunder through any of its Affiliates.

Fundamental Transaction. This Warrant14.14 **Binding Effect; No Third Party Beneficiaries**. As of the Effective Date, this Agreement shall be binding on upon and inure to the benefit of the Company and the Holder Parties and their respective successors and permitted assigns. Subject to the preceding sentence, nothing Except as expressly set forth in this Warrant shall be construed to give to any Agreement, no Person other than the Company Parties and their respective Affiliates and permitted assigns shall be deemed an intended Third Party beneficiary hereunder or have any right to enforce any obligation of this Agreement.

14.15 **Expenses**. All fees, costs, and expenses incurred in connection with the Holder any evaluation, negotiation, and execution of this Agreement shall be paid by the Party incurring such fees, costs and expenses, including fees, costs, and expenses of legal, or equitable right, remedy accounting, consulting, financial, and other Third Party advisors retained by such Party.

14.16 **Further Assurances**. Each Party agrees to duly execute and deliver, or cause to be duly executed and delivered, such further instruments and do and cause to be done such further acts and things, including the filing of action such additional assignments, agreements, documents and instruments, as the other Party may at any time and from time to time reasonably request in connection with this Agreement or to carry out more effectively the provisions and purposes of, or to better assure of and confirm unto such other Party its rights and remedies under, this Warrant. Agreement.

14.17 **Counterparts; Electronic Signatures**. The Parties agree that each may execute this Agreement using electronic signatures. This Warrant Agreement may be amended only executed in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. This Warrant may be modified or amended or the provisions hereof waived, only with the written consent of the Company and the Holders of Warrants representing no less than a majority of the Warrant Shares obtainable upon exercise of the Warrants then outstanding.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one two or more counterparts, each of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, deemed an original, but all of which together shall constitute one and upon so agreeing, the same instrument. Facsimile signatures and signatures transmitted via PDF or electronic signatures shall incorporate such substitute provision in this Warrant.
be treated as original signatures.

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IN WITNESS WHEREOF the Company has, Protagonist and Takeda have caused this Warrant Agreement to be duly executed by its their authorized officer representatives, as of the date first indicated above. Execution Date.

PROTAGONIST THERAPEUTICS, INC.

TAKEDA PHARMACEUTICALS USA, INC.

PROTAGONIST THERAPEUTICS, INC.

By: /s/ Julie Kim
Name: Julie Kim
Title:

By: /s/ Dinesh V. Patel
Name: Dinesh V. Patel, Ph.D

SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. ___ (the "*Warrant*") issued by Protagonist Therapeutics, Inc., a Delaware corporation (the "*Company*"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

☐ Cash Exercise

☐ "Cashless Exercise" under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of $ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) or Section 11(b), as applicable, of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name:

Title: President and CEO

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: November 2, 2023 May 7, 2024

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, Asif Ali, 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.

Date: November 2, 2023 May 7, 2024

Asif Ali

Executive Vice President, Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

Pursuant to 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, Dinesh V. Patel, Chief Executive Officer of Protagonist Therapeutics, Inc. (the "Company"), and Asif Ali, 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 September 30, 2023 March 31, 2024, 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 Securities Exchange Act of 1934, as amended; 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 for the periods presented herein. Company.

Date: November 2, 2023 May 7, 2024

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

Dinesh V. Patel, Ph.D.

President, Chief Executive Officer

Date: November 2, 2023 May 7, 2024

/s/ Asif Ali

Asif Ali

Executive Vice President, Chief Financial Officer

This certification accompanies the Form 10-Q to which it relates, and is not deemed to be 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.

DISCLAIMER

THE INFORMATION CONTAINED IN THE REFINITIV CORPORATE DISCLOSURES DELTA REPORT™ IS A COMPARISON OF TWO FINANCIALS PERIODIC REPORTS. THERE MAY BE MATERIAL ERRORS, OMISSIONS, OR INACCURACIES IN THE REPORT INCLUDING THE TEXT AND THE COMPARISON DATA AND TABLES. IN NO WAY DOES REFINITIV OR THE APPLICABLE COMPANY ASSUME ANY RESPONSIBILITY FOR ANY INVESTMENT OR OTHER DECISIONS MADE BASED UPON THE INFORMATION PROVIDED IN THIS REPORT. USERS ARE ADVISED TO REVIEW THE APPLICABLE COMPANY'S ACTUAL SEC FILINGS BEFORE MAKING ANY INVESTMENT OR OTHER DECISIONS.

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