UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended **June 30, 2019**

OR

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

For the Transition Period from to

Commission File Number: **001-34949**

ARBUTUS BIOPHARMA CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

British Columbia, Canada	**98-0597776**
(State or Other Jurisdiction of Incorporation or Organization)	(I.R.S. Employer Identification No.)

701 Veterans Circle, Warminster, PA 18974

(Address of Principal Executive Offices and Zip Code)

267-469-0914

(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 Shares, without par value	ABUS	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 [X] 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 during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes [X] 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 [X]	Non-accelerated filer [ ]	Smaller reporting company [X]	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 [X]

As of July 31, 2019, the registrant had 56,850,172 common shares, without par value, outstanding.

ARBUTUS BIOPHARMA CORP.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Balance Sheets
(Unaudited)
(Expressed in thousands of U.S. dollars, except share and per share amounts)
(Prepared in accordance with US GAAP)

		June 30, 2019		December 31, 2018
Assets				
Current assets:				
Cash and cash equivalents (note 3)	**$**	**78,872**	$	36,942
Short-term investments (note 3)		**16,410**		87,675
Accounts receivable		**1,531**		1,431
Prepaid expenses and other current assets		**2,770**		3,181
Total current assets		**99,583**		129,229
Investment in Genevant (note 4)		**14,377**		22,224
Property and equipment, net of accumulated depreciation $8,105 (2018-$7,090)		**9,402**		10,145
Right of use asset (note 8)		**2,901**		—
Intangible assets (note 5)		**43,836**		43,836
Goodwill (note 5)		**22,471**		22,471
Total assets	**$**	**192,570**	$	227,905
Liabilities and stockholders' equity				
Current liabilities:				
Accounts payable and accrued liabilities (note 6)	**$**	**7,940**	$	9,429
Site consolidation accrual (note 7)		**342**		1,331
Liability-classified options (note 3)		**141**		479
Lease liability, current (note 8)		**376**		—
Total current liabilities		**8,799**		11,239
Deferred rent and inducements, non-current		**—**		645
Contingent consideration (notes 3 and 11)		**3,381**		3,126
Lease liability, non-current (note 8)		**3,263**		—
Deferred tax liability		**12,661**		12,661
Total liabilities		**28,104**		27,671
Stockholders' equity:				
Preferred shares (note 9)				
Authorized - 1,164,000 without par value				
Issued and outstanding: 1,164,000 (December 31, 2018 - 1,164,000)		**131,613**		126,136
Common shares				
Authorized - unlimited number without par value				
Issued and outstanding: 56,850,172 (December 31, 2018 - 55,518,800)		**884,623**		879,405
Additional paid-in capital		**53,738**		48,084
Deficit		**(857,264)**		(805,221)
Accumulated other comprehensive loss		**(48,244)**		(48,170)
Total stockholders' equity		**164,466**		200,234
Total liabilities and stockholders' equity	**$**	**192,570**	$	227,905

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Operations
(Unaudited)

(Expressed in thousands of U.S. dollars, except share and per share amounts)
(Prepared in accordance with US GAAP)

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	**2019**	2018
Revenue (note 10)	**$ 653**	$ 1,244	**$ 1,332**	$ 2,680
Expenses				
Research, development, collaborations and contracts	**12,740**	16,356	**27,452**	30,305
General and administrative	**8,189**	3,775	**12,601**	7,444
Depreciation	**505**	578	**1,014**	1,180
Site consolidation (note 7)	**(266)**	2,581	**(149)**	4,202
Total expenses	**21,168**	23,290	**40,918**	43,131
Loss from operations	**(20,515)**	(22,046)	**(39,586)**	(40,451)
Other (loss) income				
Interest income	**606**	805	**1,206**	1,563
Interest expense	**(2)**	—	**(14)**	(104)
Foreign exchange gain (loss)	**60**	(359)	**68**	(885)
Gain on investment (note 4)	**—**	24,884	**—**	24,884
Equity investment loss (note 4)	**(3,334)**	—	**(7,985)**	—
Decrease (increase) in fair value of contingent consideration (notes 3 and 10)	**(130)**	(193)	**(255)**	655
Total other (loss) income	**(2,800)**	25,137	**(6,980)**	26,113
Net (loss) income before income taxes	**$ (23,315)**	$ 3,091	**$ (46,566)**	$ (14,338)
Items applicable to preferred shares:				
Accrual of coupon on convertible preferred shares	**(2,762)**	(2,541)	**(5,477)**	$ (4,877)
Net (loss) income attributable to common shares	**$ (26,077)**	$ 550	**$ (52,043)**	$ (19,215)
Net (loss) income attributable to common shareholders, per share (note 2)				
Basic	**$ (0.46)**	$ 0.01	**$ (0.92)**	$ (0.35)
Diluted	**$ (0.46)**	$ 0.01	**$ (0.92)**	$ (0.35)
Weighted average number of common shares				
Basic	**56,805,583**	55,211,294	**56,275,795**	55,149,674
Diluted	**56,805,583**	56,487,220	**56,275,795**	55,149,674

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Comprehensive Income (Loss)
(Unaudited)

(Expressed in thousands of U.S. dollars, except share and per share amounts)

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	**2019**	2018
Net income (loss)	**$ (23,315)**	$ 3,091	**$ (46,566)**	$ (14,338)
Other comprehensive loss:				
Share of other comprehensive loss of equity method investment (note 4)	**(52)**	—	**(74)**	—
Comprehensive income (loss)	**$ (23,367)**	$ 3,091	**$ (46,640)**	$ (14,338)

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)
(Expressed in thousands of U.S. dollars, except share and per share amounts)
(Prepared in accordance with US GAAP)

	Convertible Preferred Shares		Common Shares					
	Number of shares	Share capital	Number of shares	Share capital	Additional paid-in capital	Deficit	Accumulated other comprehen-sive loss	Total stockholders' equity
Balance at December 31, 2018	**1,164,000**	**$ 126,136**	**55,518,800**	**$ 879,405**	**$ 48,084**	**$ (805,221)**	**$ (48,170)**	**$ 200,234**
Accretion of coupon on Preferred Shares	—	2,715	—	—	—	(2,715)	—	—
Stock-based compensation	—	—	—	—	1,665	—	—	1,665
Certain fair value adjustments to liability stock option awards	—	—	—	—	47	—	—	47
Issuance of common shares pursuant to the Open Market Sale Agreement	—	—	614,401	2,248	—	—	—	2,248
Issuance of common shares pursuant to exercise of options	—	—	122,603	490	(202)	—	—	288
Other comprehensive loss - currency translation adjustment	—	—	—	—	—	—	(22)	(22)
Net loss	—	—	—	—	—	(23,251)	—	(23,251)
Balance, March 31, 2019	**1,164,000**	**$ 128,851**	**56,255,804**	**$ 882,143**	**$ 49,594**	**$ (831,187)**	**$ (48,192)**	**$ 181,209**
Accretion of coupon on Preferred Shares	—	2,762	—	—	—	(2,762)	—	—
Stock-based compensation	—	—	—	—	3,915	—	—	3,915
Certain fair value adjustments to liability stock option awards	—	—	—	—	230	—	—	230
Issuance of common shares pursuant to the Open Market Sale Agreement	—	—	593,689	2,477	—	—	—	2,477
Issuance of common shares pursuant to exercise of options	—	—	679	3	(1)	—	—	2
Other comprehensive loss - currency translation adjustment	—	—	—	—	—	—	(52)	(52)
Net loss	—	—	—	—	—	(23,315)	—	(23,315)
Balance, June 30, 2019	**1,164,000**	**$ 131,613**	**56,850,172**	**$ 884,623**	**$ 53,738**	**$ (857,264)**	**$ (48,244)**	**$ 164,466**

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statement of Stockholders' Equity (continued)
(Unaudited)
(Expressed in thousands of U.S. dollars, except share and per share amounts)
(Prepared in accordance with US GAAP)

	Convertible Preferred Shares		Common Shares					
	Number of shares	Share capital	Number of shares	Share capital	Additional paid-in capital	Deficit	Accumulated other comprehen-sive loss	Total stockholders' equity
Balance at December 31, 2017	**500,000**	**$ 49,780**	**55,060,650**	**$ 876,108**	**$ 42,840**	**$ (738,070)**	**$ (48,185)**	**$ 182,473**
Issuance of Preferred Shares, net of issuance costs of $135	664,000	66,265	—	—	—	—	—	66,265
Accretion of coupon on Preferred Shares	—	2,336	—	—	—	(2,336)	—	—
Stock-based compensation	—	—	—	—	1,510	—	—	1,510
Certain fair value adjustments to liability stock option awards	—	—	—	—	(504)	—	—	(504)
Issuance of common shares pursuant to exercise of options	—	—	26,541	180	(77)	—	—	103
Net loss	—	—	—	—	—	(17,429)	—	(17,429)
Balance, March 31, 2018	**1,164,000**	**$ 118,381**	**55,087,191**	**$ 876,288**	**$ 43,769**	**$ (757,835)**	**$ (48,185)**	**$ 232,418**
Issuance of Preferred Shares, net of issuance costs of $135	—	—	—	—	—	—	—	—
Accretion of coupon on Preferred Shares	—	2,541	—	—	—	(2,541)	—	—
Stock-based compensation	—	—	—	—	1,862	—	—	1,862
Certain fair value adjustments to liability stock option awards	—	—	—	—	(34)	—	—	(34)
Issuance of common shares pursuant to exercise of options	—	—	238,059	**1,903**	(1,168)	—	—	735
Net income	—	—	—	—	—	3,091	—	3,091
Balance, June 30, 2018	**1,164,000**	**$ 120,922**	**55,325,250**	**$ 878,191**	**$ 44,429**	**$ (757,285)**	**$ (48,185)**	**$ 238,072**

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Cash Flow
(Unaudited)

(Expressed in thousands of U.S. dollars)
(Prepared in accordance with US GAAP)

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	**2019**	2018
OPERATING ACTIVITIES				
Net (loss)/income for the period	**$ (23,315)**	$ 3,091	**$ (46,566)**	$ (14,338)
Items not involving cash:				
Depreciation of property and equipment	**505**	578	**1,014**	1,180
Gain on sale of property and equipment	**(2)**	—	**(11)**	—
Stock-based compensation expense	**3,784**	2,661	**5,306**	3,616
Unrealized foreign exchange (gains) losses	**(57)**	361	**(95)**	926
Change in fair value of contingent consideration	**130**	193	**255**	(655)
Site consolidation non-cash portion	**—**	395	**—**	395
Gain on equity investment	**—**	(24,884)	**—**	(24,884)
Equity investment loss	**3,334**	—	**7,985**	—
Net change in non-cash operating items:				
Accounts receivable	**(608)**	(603)	**(100)**	(920)
Prepaid expenses and other current assets	**(1,616)**	222	**759**	907
Accrued revenue	**—**	128	**—**	128
Accounts payable and accrued liabilities	**888**	921	**(1,858)**	(3,266)
Deferred revenue	**—**	(746)	**—**	(1,768)
Site consolidation accrual	**(640)**	61	**(779)**	1,090
Other non-current liabilities	**(8)**	—	**(95)**	—
Net cash used in operating activities	**(17,605)**	(17,622)	**(34,185)**	(37,589)
INVESTING ACTIVITIES				
Acquisition of short-term investments	—	—	—	(60,015)
Disposition of short-term investments	**10,210**	15,403	**71,265**	—
Proceeds from sale of property and equipment	**2**	2	**11**	2
Acquisition of property and equipment	**(240)**	(425)	**(271)**	(673)
Net cash provided by (used) in investing activities	**9,972**	14,980	**71,005**	(60,686)
FINANCING ACTIVITIES				
Promissory note repayment	**—**	—	**—**	(12,001)
Proceeds from sale of Series A Preferred Shares, net of issuance costs	**—**	—	**—**	66,265
Issuance of common shares pursuant to the Open Market Sale Agreement	**2,477**	—	**4,725**	—
Issuance of common shares pursuant to exercise of options	**2**	735	**290**	838
Net cash provided by financing activities	**2,479**	735	**5,015**	55,102
Effect of foreign exchange rate changes on cash and cash equivalents	**57**	(361)	**95**	(926)
Increase (Decrease) in cash, cash equivalents, and restricted investment	**(5,097)**	(2,268)	**41,930**	(44,099)
Cash, cash equivalents, and restricted investment, beginning of period	**83,969**	12,461	**36,942**	54,292
Cash, cash equivalents, and restricted investment, end of period	**$ 78,872**	$ 10,193	**$ 78,872**	$ 10,193
Supplemental cash flow information				
Non-cash transactions:				
Preferred shares dividends accrued (note 9)	**$ 2,762**	$ 2,541	**$ 5,477**	$ 4,877

See accompanying notes to the condensed consolidated financial statements.

1. Nature of business and future operations

Arbutus Biopharma Corporation (the “Company” or “Arbutus”) is a biopharmaceutical business dedicated to discovering, developing, and commercializing a cure for patients suffering from chronic hepatitis B infection, a disease of the liver caused by the hepatitis B virus (“HBV”). To pursue its strategy of developing a curative combination regimen, the Company has assembled a pipeline of multiple drug candidates with differing and complementary mechanisms of action targeting HBV. These include AB-506, the Company's oral capsid inhibitor currently in a Phase 1a/1b clinical trial, AB-729, the Company's second generation RNA interference ("RNAi") therapeutic candidate also currently in a Phase 1a/1b clinical trial, and AB-452, the Company's lead oral HBV RNA destabilizer candidate currently in pre-clinical testing.

The success of the Company is dependent on obtaining the necessary regulatory approvals to bring its products to market and achieving profitable operations. The Company's research and development activities and commercialization of its products are dependent on its ability to successfully complete these activities and to obtain adequate financing through a combination of financing activities and operations. It is not possible to predict either the outcome of the Company's existing or future research and development programs or the Company’s ability to continue to fund these programs in the future.

2. Significant accounting policies

Basis of presentation

These unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“U.S. GAAP”) for interim financial statements and accordingly, do not include all disclosures required for annual financial statements. These statements should be read in conjunction with the Company’s audited consolidated financial statements and notes thereto for the year ended December 31, 2018 included in the Company’s Annual Report on Form 10-K for the year ended December 31, 2018 (the “2018 Form 10-K”). These unaudited condensed consolidated financial statements reflect, in the opinion of management, all adjustments and reclassifications necessary to fairly present the Company's financial position as of June 30, 2019 and the Company's results of operations and cash flows for the three and six months ended June 30, 2019 and 2018. The results of operations for the three and six months ended June 30, 2019 and 2018, respectively, are not necessarily indicative of the results for the full year. These unaudited condensed consolidated financial statements follow the same significant accounting policies as those described in the notes to the audited consolidated financial statements of the Company for the year ended December 31, 2018, except as described below under Recent Accounting Pronouncements.

Principles of consolidation

These unaudited condensed consolidated financial statements include the accounts of the Company and its two wholly-owned subsidiaries, Arbutus Biopharma Inc. ("Arbutus Inc.") and Arbutus Biopharma US Holdings, Inc. All intercompany transactions and balances have been eliminated in consolidation.

Income or loss per share

The Company follows the two-class method when computing net loss attributable to common shareholders per share as the Company has issued Series A participating convertible preferred shares (the "Preferred Shares"), as further described in note 9, that meet the definition of participating securities. The Preferred Shares entitle the holders to participate in dividends but do not require the holders to participate in losses of the Company. Accordingly, if the Company reports a net loss attributable to holders of the Company's common shares, net losses are not allocated to holders of the Preferred Shares.

Net loss attributable to common shareholders per share is calculated based on the weighted average number of common shares outstanding. Diluted net loss attributable to common shareholders per share does not differ from basic net loss attributable to

common shareholders per share since the effect of the Company's stock options was anti-dilutive. During the six months ended June 30, 2019, potential common shares of approximately 28 million (six months ended June 30, 2018 – approximately 24 million), consisting of the as-if converted number of Preferred Shares and outstanding stock options, were excluded from the calculation of net loss per common share because their inclusion would be anti-dilutive.

The following table sets out the computation of basic and diluted net income (loss) attributable to common shareholders per share:

(Expressed in thousands of U.S. dollars, except share and per share amounts)

	Three months ended June 30, 2019	Six months ended June 30, 2019
Numerator:		
Allocation of distributable earnings	$ —	$ —
Allocation of undistributed loss	(26,077)	(52,043)
Allocation of income (loss) attributed to shareholders	$ (26,077)	$ (52,043)
Denominator:		
Weighted average number of shares - basic and diluted	56,805,583	56,275,795
Weighted average number of shares - diluted	56,805,583	56,275,795
Basic and diluted net income (loss) attributable to shareholders per share	$ (0.46)	$ (0.92)

Equity method investment

The Company accounts for its investment in associated companies in accordance with the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 323, *Investments - Equity Method and Joint Ventures* ("ASC 323"). In accordance with ASC 323, associated companies are accounted for as equity method investments. Results of associated companies are presented on a one-line basis. Investments in, and advances to, associated companies are presented on a one-line basis in the caption "Investment in Genevant" in the Company's Condensed Consolidated Balance Sheets, net of allowance for losses, which represents the Company's best estimate of probable losses inherent in such assets. The Company's proportionate share of any associated companies' net income or loss is presented on a one-line basis in the caption "Equity investment (loss)" in the Company's Condensed Consolidated Statement of Operations. Transactions between the Company and any associated companies are eliminated on a basis proportional to the Company's ownership interest. Financial results of Genevant Sciences Ltd. ("Genevant") are recorded on a one-quarter lag basis.

Revenue recognition

The Company recognizes the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers under a five-step model: (i) identify contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when or as a performance obligation is satisfied.

The Company generates revenue primarily through collaboration agreements and license agreements. Such agreements may require the Company to deliver various rights and/or services, including intellectual property rights or licenses and research and development services. Under such agreements, the Company is generally eligible to receive non-refundable upfront payments, funding for research and development services, milestone payments, and royalties.

In contracts where the Company has more than one performance obligation to provide its customer with goods or services, each performance obligation is evaluated to determine whether it is distinct based on whether (i) the customer can benefit from the

good or service either on its own or together with other resources that are readily available and (ii) the good or service is separately identifiable from other promises in the contract. The consideration under the contract is then allocated between the distinct performance obligations based on their respective relative stand-alone selling prices. The estimated stand-alone selling price of each deliverable reflects the Company's best estimate of what the selling price would be if the deliverable was regularly sold on a stand-alone basis and is determined by reference to market rates for the good or service when sold to others or by using an adjusted market assessment approach if the selling price on a stand-alone basis is not available.

The consideration allocated to each distinct performance obligation is recognized as revenue when control is transferred to the customer for the related goods or services. Consideration associated with at-risk substantive performance milestones, including sales-based milestones, is recognized as revenue when it is probable that a significant reversal of the cumulative revenue recognized will not occur. Sales-based royalties received in connection with licenses of intellectual property are subject to a specific exception in the revenue standards, whereby the consideration is not included in the transaction price and recognized in revenue until the customer’s subsequent sales or usages occur.

Segment information

The Company operates as a single segment.

Recent accounting pronouncements

From time to time, new accounting pronouncements are issued by the FASB or other standard setting bodies that are adopted by the Company as of the specified effective date. Unless otherwise discussed, the Company believes that the impact of recently issued standards that are not yet effective will not have a material impact on the Company's financial position or results of operations upon adoption.

The Company adopted ASU No. 2016-02, *Leases* (Topic 842), as of January 1, 2019, using the modified retrospective approach with the effective date transition method (note 8). Accordingly, all periods prior to adoption are presented in accordance with legacy accounting and the Company recorded no retrospective adjustments to the comparative periods presented. In addition, the Company elected the package of practical expedients permitted under the transition guidance within ASC 842, which among other things, allowed the Company to carry forward its historical lease classification. In addition, the Company elected the short term exemption, which allows entities to not capitalize their leases with a term of 12 months or less. Adoption of the new standard resulted in the recording of operating lease right-of-use assets (“ROU assets”) and lease liabilities of approximately $3.2 million and $4.1 million, respectively, as of January 1, 2019. The standard did not materially impact the Company’s consolidated statements of operations and statements of cash flow.

In November 2018, the FASB issued targeted amendments to ASU No. 2018-18, *Collaborative Arrangements* (Topic 808), and ASU No. 2016-10, *Revenue from Contracts with Customers* (Topic 606), to clarify that certain transactions between parties to collaborative arrangements should be accounted for in accordance with FASB revenue guidance when the counterparty is a customer. This guidance also prohibits the presentation of collaborative arrangements as revenues from contracts with customers if the counterparty is not a customer. This guidance, which is required to be applied retrospectively and is effective for interim and annual periods beginning after December 15, 2019, with early adoption permitted, is not expected to have a material impact on the Company’s consolidated financial statements.

3. Fair value of financial instruments

The Company measures certain financial instruments and other items at fair value.

To determine the fair value, the Company uses the fair value hierarchy for inputs used in measuring fair value that maximizes the use of observable inputs and minimizes the use of unobservable inputs by requiring that the most observable inputs be used when available. Observable inputs are inputs market participants would use to value an asset or liability and are developed based on market data obtained from independent sources. Unobservable inputs are inputs based on assumptions about the factors market participants would use to value an asset or liability. The three levels of inputs that may be used to measure fair value are as follows:

- Level 1 inputs are quoted market prices for identical instruments available in active markets.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability either directly or indirectly. If the asset or liability has a contractual term, the input must be observable for substantially the full term. An example includes quoted market prices for similar assets or liabilities in active markets.
- Level 3 inputs are unobservable inputs for the asset or liability and will reflect management's assumptions about market assumptions that would be used to price the asset or liability.

The following table presents information about the Company's assets and liabilities that are measured at fair value on a recurring basis, and indicates the fair value hierarchy of the valuation techniques used to determine such fair value:

	Level 1	Level 2	Level 3	June 30, 2019
Assets				
Cash and cash equivalents	$ 78,872	—	—	$ 78,872
Short-term investments	16,410	—	—	16,410
Total	$ 95,282	$ —	$ —	$ 95,282
Liabilities				
Liability-classified options	—	—	$ 141	$ 141
Contingent consideration	—	—	3,381	3,381
Total	$ —	$ —	$ 3,522	$ 3,522

	Level 1	Level 2	Level 3	December 31, 2018
Assets				
Cash and cash equivalents	$ 36,942	—	—	$ 36,942
Short-term investments	87,675	—	—	87,675
Total	$ 124,617	$ —	$ —	$ 124,617
Liabilities				
Liability-classified options	—	—	$ 479	$ 479
Contingent consideration	—	—	3,126	3,126
Total	$ —	$ —	$ 3,605	$ 3,605

The following table presents the changes in fair value of the Company's liability-classified stock option awards:

	Liability at beginning of the period	Fair value of liability-classified options exercised in the period	Increase (decrease) in fair value of liability	Liability at end of the period
Six months ended June 30, 2018	$ 1,239	$ —	$ 853	$ 2,092
Six months ended June 30, 2019	$ 479	$ —	$ (338)	$ 141

The following table presents the changes in fair value of the Company's contingent consideration:

	Liability at beginning of the period	Increase (decrease) in fair value of Contingent Consideration	Liability at end of the period
Six months ended June 30, 2018	$ 10,424	$ (655)	$ 9,769
Six months ended June 30, 2019	$ 3,126	$ 255	$ 3,381

4. Equity method investment

In April 2018, the Company entered into an agreement with Roivant Sciences Ltd. (“Roivant”), its largest shareholder, to launch Genevant, a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by the Company's lipid nanoparticle ("LNP") and ligand conjugate delivery technologies. The Company licensed exclusive rights to its LNP and ligand conjugate delivery platforms to Genevant for RNA-based applications outside of HBV. Genevant plans to develop products in-house and pursue industry partnerships to build a diverse pipeline of therapeutics across multiple modalities, including RNAi, mRNA, and gene editing.

Under the terms of the agreement, Roivant contributed $37.5 million in seed capital to Genevant. The Company retained all rights to its LNP and conjugate delivery platforms for HBV, and is entitled to a tiered low single-digit royalty from Genevant on future sales of products enabled by the delivery platforms licensed to Genevant. The Company also retained the entirety of its royalty entitlement on the commercialization of Alnylam Pharmaceuticals Inc.'s ("Alnylam") ONPATTRO™ (Patisiran/ALN-TTR02). The Company recognized a non-cash gain of $24.9 million in the second quarter of 2018 in connection with the equity interest received by Arbutus upon Genevant’s formation.

As of June 30, 2019, the Company held an equity interest of approximately 40% of the common equity of Genevant and accounts for its interest in Genevant using the equity method. The carrying value of the Company's interest in Genevant as of June 30, 2019 was $14.4 million. The basis difference between the Company’s carrying value in Genevant and the Company’s share of Genevant's net assets is attributed primarily to indefinite-lived in-process research and development ("IPR&D") (the delivery technology transferred to Genevant). For the three and six months ended June 30, 2019, the Company recorded equity investment losses of $3.3 million and $8.0 million, respectively, for its proportionate share of Genevant’s net loss, recorded on a one-quarter lag basis.

5. Intangible assets and goodwill

All acquired IPR&D relates to our covalently closed circular DNA ("cccDNA") program and is currently classified as indefinite-lived and is not currently being amortized. IPR&D becomes definite-lived upon the completion or abandonment of the associated research and development efforts and will be amortized from that time over an estimated useful life based on respective patent terms. Goodwill represents the excess of purchase price over the value assigned to the net tangible and identifiable intangible assets of Arbutus Inc.

The Company evaluates the recoverable amount of intangible assets on an annual basis and performs an annual evaluation of goodwill as of December 31 of each year, unless there is an event or change in the business that could indicate impairment, in which case earlier testing is performed. During the three and six months ended June 30, 2019, the Company did not identify any new indicators of impairment.

6. Accounts payable and accrued liabilities

Accounts payable and accrued liabilities are comprised of the following, in thousands:

	June 30, 2019	December 31, 2018
Trade accounts payable	**$ 685**	$ 3,192
Research and development accruals	**2,528**	2,716
Professional fee accruals	**566**	871
Payroll accruals	**4,159**	2,341
Other accrued liabilities	**2**	309
Total accounts payable and accrued liabilities	**$ 7,940**	$ 9,429

7. Site consolidation

In 2018, the Company substantially completed a site consolidation and organizational restructuring to align its HBV business in Warminster, PA, including a reduction of its global workforce by approximately 35% and closure of its Burnaby facility. The Company estimates that the total expenses to complete the site consolidation will be approximately $4.9 million, of which $4.7 million has been incurred as of June 30, 2019. Included in the site consolidation plan was the payment of one-time employee termination benefits, employee relocation costs, and site closure costs. The Company ceased using its Burnaby facility as of June 30, 2018 and recognized the remaining committed cost, less sublease income under contract, in site consolidation expenses in 2018. The lease for the Burnaby facility expired on July 31, 2019.

Site consolidation expenses were as follows, in thousands:

	Six months ended June 30,	
	2019	**2018**
Employee severance and relocation	**$ 197**	$ 3,201
Facility and other expenses	**(346)**	1,001
Total site consolidation expenses	**$ (149)**	$ 4,202

Site consolidation activity was as follows, in thousands:

	Employee severance and relocation	**Facility and other expenses**	**Total**
Site consolidation accrual as of December 31, 2018	$ 697	$ 634	$ 1,331
Additional accruals and other adjustments	197	(346)	(149)
Payments	(733)	(107)	(840)
Site consolidation accrual as of June 30, 2019	**$ 161**	**$ 181**	**$ 342**

8. Leases

The Company has two operating leases for office and laboratory space. The Company's corporate headquarters is located at 701 Veterans Circle, Warminster, Pennsylvania. The lease expires on April 30, 2027, and the Company has the option of extending the lease for two further five-year terms. The Company also leases office space located at 626 Jacksonville Rd, Warminster, Pennsylvania under a lease that expires on December 31, 2021, and the Company has an option to extend the lease term to April 30, 2027. In connection with the Company's site consolidation in 2018, the Company ceased using its office and laboratory space located in Burnaby, British Columbia, Canada on June 30, 2018. The Company subleased a portion of the Burnaby facility to various tenants, including Genevant, until the lease expired on July 31, 2019. The Company recognized the remaining lease payments for the Burnaby facility, less sublease income under contract, in site consolidation expenses in 2018. The Company’s lease agreements do not contain any material residual value guarantees or material restrictive covenants.

The Company adopted ASU No. 2016-02, *Leases* (Topic 842) on January 1, 2019 using the modified retrospective basis applied at the effective date of the new standard and elected to utilize a package of practical expedients. Leases with an initial term of 12 months or less are not recorded on the balance sheet. The Company determines if an arrangement is a lease at inception. Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and lease liabilities are recognized based on the present value of lease payments over the lease term. The leases do not provide an implicit rate so, in determining the present value of lease payments, the Company utilized its incremental borrowing rate for the applicable lease, which was 9.0% for the 701 Veterans Circle lease, 7.6% for the 626 Jacksonville Rd. lease and 5.0% for the Burnaby lease. The Company recognizes lease expense on a straight-line basis over the remaining lease term.

During the six months ended June 30, 2019, the Company incurred total operating lease expenses of $0.8 million, which included lease expenses associated with fixed lease payments of $0.6 million, and variable payments associated with common area maintenance and similar expenses of $0.2 million. For the six months ended June 30, 2018, the straight-line fixed expense

for leases was $0.6 million. Sublease income for the six months ended June 30, 2019 was $0.2 million (twenty thousand in 2018).

Weighted average remaining lease term and discount rate were as follows:

	As of June 30, 2019
Weighted average remaining lease term	**7.2**
Weighted average discount rate	**8.7%**

The Company did not include options to extend its lease terms as part of its ROU asset and lease liabilities.

Supplemental cash flow information related to the Company's operating leases was as follows, in thousands:

	Six months ended June 30, 2019	2018
Cash paid for amounts included in the measurement of lease liabilities	**$ 623**	$ —

Maturities of lease liabilities were as follows, in thousands:

	As of June 30, 2019
July through December 2019	$ 433
2020	657
2021	677
2022	581
2023	598
Thereafter	2,038
Total Lease Payments	$ 4,984
Less: interest	(1,345)
Present value of lease payments	**$ 3,639**

9. Stockholders' equity and stock-based compensation

Open Market Sale Agreement

In December 2018, the Company entered into an Open Market Sale Agreement (“Sale Agreement”) with Jefferies LLC, under which it may issue and sell common shares, from time to time, for an aggregate sales price of up to $50.0 million. For the three months ended June 30, 2019, the Company issued 593,689 common shares pursuant to the Sale Agreement, resulting in gross proceeds of approximately $2.5 million. For the six months ended June 30, 2019, the Company issued 1,208,090 common shares pursuant to the Sale Agreement, resulting in gross proceeds of approximately $5.2 million.

Series A participating convertible preferred shares

In October 2017, the Company entered into a subscription agreement with Roivant for the sale of 1,164,000 Preferred Shares to Roivant for gross proceeds of $116.4 million. The Preferred Shares are non-voting and are convertible into common shares at an initial conversion price of $7.13 per share. The purchase price for the Preferred Shares plus an amount equal to 8.75% per annum, compounded annually, will be subject to mandatory conversion into approximately 23 million common shares on October 16, 2021 (subject to limited exceptions in the event of certain fundamental corporate transactions relating to Arbutus' capital structure or assets, which would permit earlier conversion at Roivant's option). After conversion of the Preferred Shares into common shares, based on the number of common shares outstanding on June 30, 2019, Roivant would hold approximately 49% of the Company's common shares. Roivant agreed to a four year lock-up period for this investment and its existing holdings in the Company. Roivant also agreed to a four year standstill whereby Roivant will not acquire greater than 49.99% of the Company's common shares or securities convertible into common shares. The initial investment of $50.0 million closed in October 2017, and the remaining amount of $66.4 million closed in January 2018 following regulatory and shareholder approvals.

The Company records the Preferred Shares wholly as equity under ASC 480, *Distinguishing Liabilities From Equity,* with no bifurcation of conversion feature from the host contract, given that the Preferred Shares cannot be cash settled and the redemption features are within the Company's control, which include a fixed conversion ratio with predetermined timing and proceeds. The Company accrues for the 8.75% per annum compounding coupon at each reporting period end date as an increase to preferred share capital, and an increase to deficit (see Condensed Consolidated Statement of Stockholders' Equity).

10. Collaborations, contracts and licensing agreements

Revenue contracts are described in detail in the Overview section of Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Company's 2018 Form 10-K.

In 2012, the Company entered into a license agreement with Alnylam Pharmaceuticals, Inc. (“Alnylam”) that entitles Alnylam to develop and commercialize products with the Company's LNP technology. Alnylam's ONPATTRO™ program, which represents the first approved application of LNP technology, was approved by the U.S. Food and Drug Administration ("FDA") and the European Medicines Agency ("EMA") during the third quarter of 2018 and was launched immediately upon approval in the US. The Company is entitled to tiered low to mid single-digit royalty payments on global net sales of ONPATTRO™ and received its first royalty payment in the fourth quarter of 2018. In July 2019, the Company sold a portion of its royalty entitlement for Alnylam's ONPATTRO™ to OCM IP Healthcare Portfolio LP, an affiliate of the Ontario Municipal Employees Retirement System (collectively, “OMERS”). See Note 13 - Subsequent Events for further details.

Revenue for the three and six months ended June 30, 2019 consists primarily of royalties on net global sales of Alnylam's ONPATTRO™, as well as royalties on net sales of Spectrum Pharmaceuticals, Inc.'s ("Spectrum") Marqibo® and services provided to Gritstone Oncology, Inc. ("Gritstone"). Revenue for the three and six months ended June 30, 2018 consisted primarily of revenue earned under our license agreement with Gritstone, including the earned portion of an upfront license fee and services provided to Gritstone.

11. Contingencies and commitments

Arbitration with the University of British Columbia

Certain early work on LNP delivery systems and related inventions was undertaken by the Company and assigned to the University of British Columbia ("UBC"). These inventions were subsequently licensed back to the Company by UBC under a license agreement, initially entered into in 1998 and subsequently amended in 2001, 2006 and 2007. The Company has granted sublicenses under the UBC license to Alnylam. Alnylam has in turn sublicensed back to the Company under the licensed UBC patents for discovery, development and commercialization of siRNA products. Certain sublicenses were also granted to other parties.

On November 10, 2014, UBC filed a notice of arbitration against the Company and on January 16, 2015, filed a Statement of Claim, which alleges entitlement to $3.5 million in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. The Company filed its Statement of Defense to UBC's Statement of Claims, as well as a Counterclaim involving a patent application that the Company alleges UBC wrongly licensed to a third party. The proceedings have been divided into three phases, with the first hearing taking place in June 2017. In the first phase, the arbitrator determined which agreements are sublicense agreements within UBC's claim. Also in the first phase, UBC updated its alleged entitlement from $3.5 million originally claimed to seek $10.9 million in alleged unpaid royalties, plus interest arising from payments as early as 2008, which could be material. No finding was made as to whether any licensing fees are due to UBC under these agreements; this was the subject of the second phase of arbitration that took place from April 10, 2019 to April 16, 2019. The decision for this phase of the arbitration is expected in the third quarter of 2019. The arbitrator also held in the first phase of the arbitration that the patent application that is the subject of the Counterclaim was not required to be licensed to Arbutus. A schedule for the third phase of the arbitration addressing patent validity, if a third phase is determined to be appropriate by the arbitrator, has not yet been set.

Arbitration and related matters are costly and may divert the attention of the Company's management and other resources that would otherwise be engaged in other activities. The Company continues to dispute UBC's allegations. However, arbitration is subject to inherent uncertainty and an arbitrator could rule against the Company. The Company has not recorded an estimate of the possible loss associated with this arbitration, due to the uncertainties related to both the likelihood and amount of any possible loss or range of loss. Costs related to the arbitration are recorded by the Company as incurred.

License Agreements between Enantigen and Blumberg and Drexel

In October 2014, Arbutus Inc. acquired all of the outstanding shares of Enantigen Therapeutics, Inc. (“Enantigen”) pursuant to a stock purchase agreement. Through this transaction, Arbutus Inc. acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program.

Under the stock purchase agreement, Arbutus Inc. agreed to pay up to a total of $21.0 million to Enantigen’s selling shareholders upon the achievement of specified development and regulatory milestones for (a) the first two products that contain either a capsid compound or an HBV surface antigen compound that is covered by a patent acquired under this agreement, or (b) a capsid compound from an agreed upon list of compounds. The amount paid could be up to an additional $102.5 million in sales performance milestones in connection with the sale of the first commercialized product by Arbutus Inc. for the treatment of HBV, regardless of whether such product is based upon assets acquired under this agreement, and a low single-digit royalty on net sales of such first commercialized HBV product, up to a maximum royalty payment of $1.0 million that, if paid, would be offset against Arbutus Inc.'s milestone payment obligations. The contingent consideration for this acquisition is a financial liability and measured at its fair value at each reporting period, with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss (see note 3). The fair value of the contingent consideration was $3.4 million as of June 30, 2019.

Under the stock purchase agreement, Enantigen must also fulfill its obligations as they relate to the three patent license agreements with The Baruch S. Blumberg Institute ("Blumberg") and Drexel University ("Drexel"). Pursuant to each patent license agreement, Enantigen is obligated to pay Blumberg and Drexel up to approximately $0.5 million in development and regulatory milestones per licensed product, royalties in the low single-digits, and a percentage of revenue it receives from its sub-licensees.

Research Collaboration and Funding Agreement with Blumberg

In November 2018, the Company entered into a new two-year master services agreement with Blumberg that expires in November 2020. The new agreement replaces all rights and obligations of the prior research collaboration and funding agreements, as amended. Under the new agreement, Blumberg will perform specific research activities based upon statements of work and the Company will no longer provide a fixed amount of funding to Blumberg. As of June 30, 2019, the Company has executed statements of work with Blumberg for an aggregate cost of $0.8 million under this new agreement. Intellectual property that is generated during the research activities is the Company's exclusive property and all financial obligations for it to utilize the intellectual property are satisfied in the upfront cost of the research activities. Under the terms of the new agreement, the Company retains all rights to any inventions arising from performance of the agreement and no license is granted to Blumberg and Drexel, nor are milestones for said inventions due to Blumberg and Drexel.

12. Related Party Transactions

The Company purchased certain research and development services from Genevant. These services are billed at agreed hourly rates and reflective of market rates for such services. The total cost of these services was $0 and 33 thousand for the three and six months ended June 30, 2019, respectively. The total cost of these services was $0.1 million and $0.1 million for the three and six months ended June 30, 2018, respectively, and are included in the Condensed Consolidated Statements of Operations under research, development, collaborations and contracts expenses.

Conversely, Genevant purchased certain administrative and transitional services from the Company totaling $0.1 million and $0.2 million for the three and six months ended June 30, 2019, respectively. The total income from these services was $0.2 million and $0.2 million for the three and six months ended June 30, 2018, which were netted against research and development expenses in the Condensed Consolidated Statements of Operations. In addition, Genevant had a sublease for 17,900 square feet in the Company's Burnaby facility. Sublease income from Genevant was $62 thousand and $0.1 million for the three and six months ended June 30, 2019, respectively, and was netted against site consolidation costs and lease liability (see notes 7 and 8). The Company’s Burnaby facility lease and the corresponding sublease to Genevant expired on July 31, 2019.

13. Subsequent Events

On July 2, 2019, the Company entered into a Purchase and Sale Agreement with OMERS, pursuant to which the Company sold to OMERS part of its royalty interest on future global net sales of ONPATTRO™ (patisiran), an RNA interference therapeutic currently being sold by Alnylam.

ONPATTRO utilizes Arbutus' LNP technology, which was licensed to Alnylam pursuant to the Cross-License Agreement, dated November 12, 2012, by and between the Company and Alnylam (the "LNP License Agreement"). Under the terms of the LNP License Agreement, the Company is entitled to tiered royalty payments on global net sales of ONPATTRO ranging from 1.00% - 2.33% after offsets, with the highest tier applicable to annual net sales above $500 million. This royalty interest was sold to OMERS, effective as of January 1, 2019, for $20 million in gross proceeds before advisory fees. OMERS will retain this entitlement until it has received $30 million in royalties, at which point 100% of such royalty interest on future global net sales of ONPATTRO will revert to the Company.

In addition to the royalty from the Alnylam LNP license agreement, the Company is also entitled to a second, lower royalty interest on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas Therapeutics. The royalty from Acuitas has been retained by the Company and was not part of the royalty sale to OMERS.

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

You should read the following discussion and analysis by our management of our financial position and results of operations in conjunction with our audited consolidated financial statements and related notes thereto included as part of our Annual Report on Form 10-K for the year ended December 31, 2018 and our unaudited condensed consolidated financial statements for the three and six month period ended June 30, 2019. Our consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles and are presented in U.S. dollars.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q ("Form 10-Q") contains "forward-looking statements" or "forward-looking information" within the meaning of applicable U.S. and Canadian securities laws (we collectively refer to these items as "forward-looking statements"). Forward-looking statements are generally identifiable by use of the words "believes," "may," "plans," "will," "anticipates," "intends," "budgets," "could," "estimates," "expects," "forecasts," "projects" and similar expressions that are not based on historical fact or that are predictions of or indicate future events and trends, and the negative of such expressions. Forward-looking statements in this Form 10-Q, including the documents incorporated by reference, include statements about, among other things:

- our strategy, future operations, pre-clinical research, pre-clinical studies, clinical trials, prospects and the plans of management;
- the discovery, development and commercialization of a cure for chronic hepatitis B infection, a disease of the liver caused by the hepatitis B virus ("HBV");
- our beliefs and development path and strategy to achieve a cure for HBV;
- obtaining necessary regulatory approvals;
- obtaining adequate financing through a combination of financing activities and operations;
- using the results from our HBV studies to adaptively design additional clinical trials to test the efficacy of the combination therapy and the duration of the result in patients;
- the payment of one-time employee termination benefits, employee relocation costs, and site closure costs, totaling approximately $4.9 million related to the site consolidation and organizational restructuring to align our HBV business in Warminster, PA;
- the expected timing of and amount for payments related to Enantigen Therapeutics, Inc.'s ("Enantigen") transaction and its programs;
- the potential of our drug candidates to improve upon the standard of care and contribute to a curative combination treatment regimen;
- the potential benefits of the royalty monetization transaction for our ONPATTRO™ (Patisiran) royalty interest;
- developing a suite of products that intervene at different points in the viral life cycle, with the potential to reactivate the host immune system;

- using pre-clinical results to adaptively design clinical trials for additional cohorts of patients, testing the combination and the duration of therapy;
- selecting combination therapy regimens and treatment durations to conduct Phase 3 clinical trials intended to ultimately support regulatory filings for marketing approval;
- expanding our HBV drug candidate pipeline through internal development, acquisitions and in-licenses;
- the potential of our assets, including our ownership stake in Genevant Sciences Ltd. (Genevant") and the royalty entitlement on ONPATTRO, to provide significant non-dilutive capital;
- our expectation to submit safety and efficacy data of the initial Phase 1a/1b cohort results of AB-506, including a complete characterization of the ALT flare cases and results from the new 28 day study in healthy subjects, for a scientific meeting later this year;
- our expectation to make a decision regarding AB-452 clinical development in early 2020;
- our expectation to dose additional cohorts for the AB-506 Phase 1a/1b clinical trial, our expectation to have final results available in the first half of 2020, and our ability to utilize the final results to inform next steps toward the combination proof-of-concept Phase 2 clinical trial in subjects with chronic hepatitis B;
- our expectation for AB-729 for preliminary safety and efficacy data from both healthy subjects and several single dose cohorts of subjects with CHB to be available in the first quarter of 2020.
- our expectation to initiate combination clinical trials with AB-506 and AB-729 in the second half of 2020;
- payments from the Gritstone Oncology, Inc. ("Gritstone") licensing agreement;
- the belief that current legal proceedings will not have a material adverse effect on our consolidated results of operations, cash flows, or financial condition;
- the expected return from strategic alliances, licensing agreements, and research collaborations;
- statements with respect to revenue and expense fluctuation and guidance;
- the sufficiency of our cash and cash equivalents to extend into the second half of 2020;
- obtaining funding to maintain and advance our business from a variety of sources including public or private equity or debt financing, collaborative arrangements with pharmaceutical companies and government grants and contracts;
- on-going arbitration and litigation proceedings; and
- the amount and timing of potential funding,

as well as other statements relating to our future operations, financial performance or financial condition, prospects or other future events. Forward-looking statements appear primarily in the sections of this Form 10-Q entitled "Part I, Item 1- Financial Statements (Unaudited)," and "Part I, Item 2-Management's Discussion and Analysis of Financial Condition and Results of Operations".

Forward-looking statements are based upon current expectations and assumptions and are subject to a number of known and unknown risks, uncertainties and other factors that could cause actual results to differ materially and adversely from those expressed or implied by such statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in this Form 10-Q and our Annual Report on Form 10-K for the year ended December 31, 2018 ("Form 10-K"), and in particular the risks and uncertainties discussed under "Item 1A-Risk Factors" of this Form 10-Q and the Form 10-K. As a result, you should not place undue reliance on forward-looking statements.

Additionally, the forward-looking statements contained in this Form 10-Q represent our views only as of the date of this Form 10-Q (or any earlier date indicated in such statement). While we may update certain forward-looking statements from time to time, we specifically disclaim any obligation to do so, even if new information becomes available in the future. However, you are advised to consult any further disclosures we make on related subjects in the periodic and current reports that we file with the Securities and Exchange Commission.

The foregoing cautionary statements are intended to qualify all forward-looking statements wherever they may appear in this Form 10-Q. For all forward-looking statements, we claim protection of the safe harbor for the forward-looking statements contained in the Private Securities Litigation Reform Act of 1995.

This Form 10-Q also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets, and the incidence and prevalence of certain medical conditions. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market and other data from reports, research surveys, studies and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data and similar sources.

OVERVIEW

Arbutus Biopharma Corporation ("Arbutus", the "Company", "we", "us", and "our") is a publicly traded (Nasdaq Global Select Market: ABUS) industry-leading therapeutic solutions company dedicated to discovering, developing, and commercializing a cure for patients suffering from chronic hepatitis B infection, a disease of the liver caused by the hepatitis B virus ("HBV"). HBV represents a significant, global unmet medical need. The World Health Organization estimates that approximately 257 million people worldwide suffer from HBV infection. With high morbidity and mortality, and a cure rate for HBV patients taking standard of care ("SOC") treatment regimens of less than 5%, our objective is to develop safe and effective therapies that can be combined and lead to higher cure rates with finite treatment durations.

To pursue our strategy of developing a potential curative combination regimen for chronic HBV, we are developing a diverse product pipeline consisting of multiple drug candidates with potential complementary mechanisms of action, each of which has the potential to improve upon the SOC and contribute to a curative combination treatment regimen. Our pipeline includes agents that have the potential to form an effective proprietary combination therapy.

In addition to our drug pipeline focused on HBV, we have additional assets that have the potential to provide value to our company. The first is our royalty entitlement on ONPATTRO™ (Patisiran), a drug developed by Alnylam Pharmaceuticals, Inc. ("Alnylam") that incorporates our lipid nanoparticle delivery ("LNP") technology and was approved by the U.S. Food and Drug Administration ("FDA") and the European Medicines Agency ("EMA") during the third quarter of 2018 and launched immediately upon approval in the U.S. In July 2019, we sold a portion of this royalty interest to an affiliate of the Ontario Municipal Employees Retirement System ("OMERS"), effective as of January 1, 2019, for $20 million in gross proceeds before advisory fees. OMERS will retain this entitlement until it has received $30 million in royalties, at which point 100% of such royalty interest on future global net sales of ONPATTRO will revert to us. If this royalty entitlement reverts to us, it has the potential to provide an active royalty stream or to be otherwise monetized again in full or in part. In addition to this royalty from the Alnylam LNP license agreement, we are also entitled to a second, lower royalty interest on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas Therapeutics, Inc. (Acuitas). The royalty from Acuitas has been retained by us and was not part of the royalty sale to OMERS. The second asset is our approximate 40% equity ownership interest in Genevant, a company to which we have licensed our LNP platform and conjugate delivery platform (the "Delivery Platforms") for all applications except HBV. These additional assets have the potential to provide significant non-dilutive capital to fund development of our HBV pipeline.

Strategy

Our objective is to develop a cure for patients with chronic HBV infection. We believe this can best be achieved by:

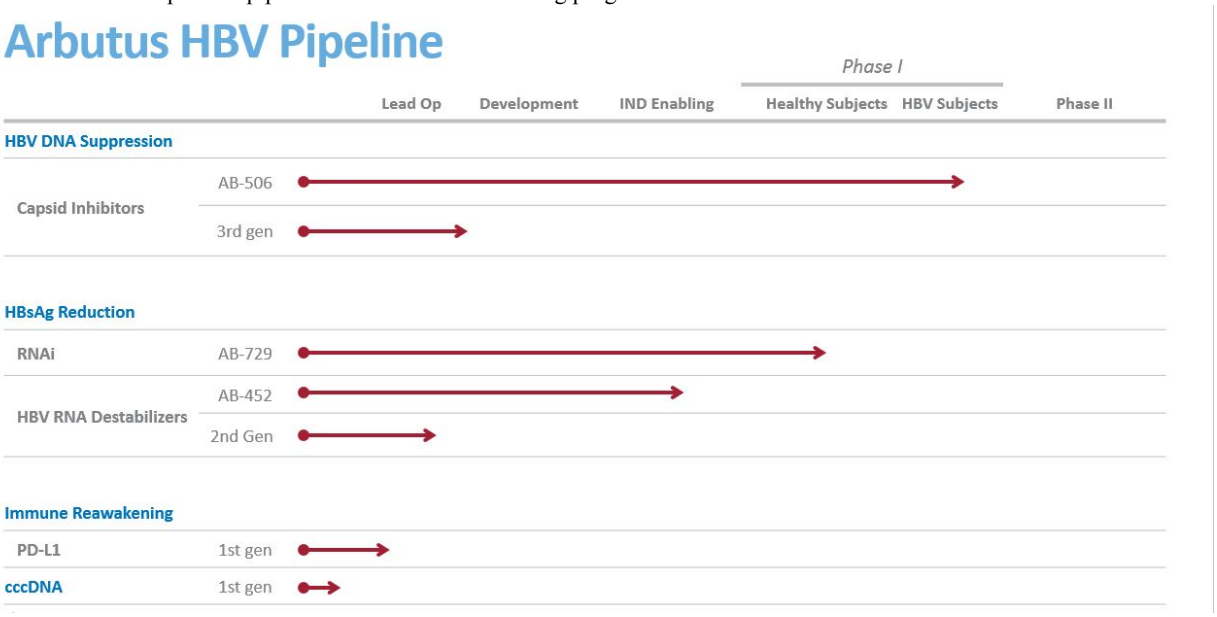
- developing a pipeline of proprietary therapeutic agents that target multiple elements of the HBV viral lifecycle, the most important of which we believe are HBV replication and hepatitis B surface antigen ("HBsAg") expression, and the host immune system; and
- identifying an effective combination of complementary proprietary therapeutic agents administered for a finite treatment duration.

Our primary focus is to:

- progress our clinical and pre-clinical product candidates through Phase 1 and Phase 2 clinical trials;
- identify a safe and effective combination regimen to support a robust Phase 3 clinical registration program;
- obtain regulatory approval for such combination regimen; and
- commercialize such combination regimen.

We are currently conducting two Phase 1a/1b clinical trials and several pre-clinical and investigational new drug ("IND")-enabling studies to evaluate proprietary HBV therapeutic agents alone, together with SOC therapies and in combination with each other. We expect to use the results from these clinical trials and other studies to adaptively design future clinical trials to test the safety, efficacy and duration of potential combination therapies.

Our HBV product pipeline consists of the following programs:



We intend to expand our HBV pipeline through internal discovery and development and possibly acquisitions and in-licenses.

Agents for Combination Therapy

Current treatments for HBV include pegylated interferon-á ("Peg-IFNá") and nucleos(t)ide analogues ("NAs"). These treatments reduce viral load, but have low cure rates of less than 5%. Peg-IFNá, a synthetic version of a substance produced by the body to fight infection, is administered by injection and has numerous side effects including flu-like symptoms and depression. NAs are oral antiviral medications which when taken chronically reduce virus replication and eliminate HBV DNA in the blood. However, liver inflammation and fibrosis still develop and virus replication resumes once NA therapy is stopped.

Given the biology of HBV, we believe combination therapies are the key to more effective HBV treatment and a potential cure. Additionally, we believe the development of an effective combination therapy can be accelerated when multiple components are controlled by a single company. Therefore, our R&D pipeline includes multiple drug candidates that target various steps in the viral lifecycle. We believe each of these mechanisms, when combined with an approved NA, have the potential to improve upon the standard of care and contribute to a curative treatment regimen and a finite treatment duration.

We believe that our RNAi agent, AB-729, could be combined with our capsid inhibitor, AB-506, and approved NAs, in our first combination therapy for HBV patients. Provided the initial clinical trials for AB-506 and AB-729 proceed as expected, we anticipate initiating combination clinical trials with these two agents, and an approved NA, in the second half of 2020. In parallel, we are advancing our HBV RNA destabilizer program forward. This program includes AB-452 and several follow-on compounds from distinct chemical scaffolds.

HBV Suppression

Capsid Inhibitors (AB-506 & AB-423)

HBV core protein assembles into a capsid structure, which is required for viral replication. The current SOC therapy (nucleoside analogues) significantly reduces HBV DNA levels in the serum, but HBV replication continues in the liver, thereby enabling HBV infection to persist. More effective therapy for patients requires new agents which will further block viral replication. We are developing capsid inhibitors (also known as core protein inhibitors) as oral therapeutics which, in combination with NAs, could sufficiently block HBV replication for the treatment of chronic HBV infection. By inhibiting assembly of functional viral capsids, the ability of HBV to replicate is impaired. Capsid inhibitor molecules also inhibit the

uncoating step of the viral life cycle and thus reduce the formation of new covalently closed circular DNA ("cccDNA"), the viral reservoir which resides in the cell nucleus.

Our capsid inhibitor discovery effort generated promising second generation compounds in 2017, which led to the nomination of AB-506 for IND/clinical trial authorization ("CTA")-enabling studies. AB-506 is an orally administered, highly selective capsid inhibitor that has shown improved potency and pharmacokinetics (“PK”) over our first generation capsid inhibitor, AB-423, in pre-clinical studies. We presented AB-506 pre-clinical data at the American Association for the Study of Liver Disease ("AASLD") annual meeting in October 2017 in a presentation titled, "Antiviral Characterization of a Next Generation Chemical Series of HBV Capsid Inhibitors In Vitro and In Vivo," which showed potent inhibition of HBV replication and pre-genomic RNA encapsidation and an accelerated rate of capsid assembly leading to the production of non-functional viral capsids, which results in a disruption of viral replication. Together, these factors indicate improved target engagement compared to first generation capsid inhibitors, including AB-423.

We received regulatory approval of our CTA for AB-506 in the second quarter of 2018. During the third quarter of 2018, we began a double-blind, randomized, placebo controlled, single and multiple dose Phase 1a/1b clinical trial for AB-506 evaluating the safety, tolerability and pharmacokinetics of AB-506, in healthy subjects and HBV-DNA positive subjects with chronic hepatitis B (CHB) infection. The healthy subject portion consisted of a single ascending dose part in which subjects were randomized 6:2 (active: placebo), n=21, to receive AB-506 doses ranging from 30-1000 mg, including investigation of food effect, and a multiple dose part in which subjects (randomized 10:2, n=12) received 400 mg of AB-506 once daily for 10 days. The third part of the trial is enrolling HBV DNA+, HBeAg-positive or -negative CHB subjects (randomized 10:2; n=12 per cohort) at different doses of AB-506, with or without a nucleoside analogue, once daily for 28 days. Dosing of additional cohorts is planned.

In July 2019, we announced preliminary results from a Phase 1a/1b clinical trial in healthy subjects and two cohorts of CHB subjects who received AB-506 monotherapy, which indicated that AB-506 is a potent oral capsid inhibitor in CHB subjects and supports our confidence in its potential to significantly contribute to the inhibition of HBV replication in a combination regimen. No serious adverse events (“SAEs”) or clinically significant safety findings were observed in healthy subjects (N=33). Importantly, alanine aminotransferase (“ALT”) levels and other liver function tests remained normal throughout the 10 days of dosing in healthy subjects.

In two cohorts of CHB subjects, mean HBV DNA and HBV RNA decreases at Day 28 (end of treatment) ranged from -2.0 log (160mg dose) to -2.8 log (400mg dose) and -2.4 log (for both doses), respectively, comparable with other capsid inhibitors currently in development. No SAEs were observed in CHB subjects (N= 24). Four CHB subjects (two in each of the cohorts) experienced Grade 4 ALT flares which returned to baseline levels upon AB-506 discontinuation or completion of the 28-day treatment period. Aspartate aminotransferase values were also elevated to a lesser degree, however, none of the subjects met the criteria for drug induced liver injury as bilirubin values and liver synthetic function remained normal. All four ALT flares occurred after the subjects experienced a >2 log decline in HBV DNA from baseline. We believe at least one of the ALT flare cases was immune-mediated and beneficial, as one subject in the 400 mg cohort who experienced a Grade 4 ALT flare also had notable declines in Hepatitis B surface antigen and Hepatitis B e-antigen of -1.4 log and -2.0 log, respectively, by Day 100 following AB-506 discontinuation. This subject was immediately put on nucleoside analogue therapy after AB-506 discontinuation per investigator’s decision. In addition, serum-based cytokine analysis of this subject showed an abrupt increase in IFN-gamma at the time of the flare, suggesting an immune-mediated response. For the other 3 subjects we continue to investigate the nature of the flares. Of these four subjects, two (one in each cohort) were asymptomatic, the other two (one in each cohort) had various mild to moderate adverse events at the time of their flares, one with mild heaviness in head, flatulence, discomfort and moderate fatigue, one with mild rash (knees, ankles, fingers and buttock). Two subjects in the 160 mg cohort experienced Grade 2 ALT flares. Both were asymptomatic and returned to baseline levels upon completing the 28-day treatment period.

We intend to initiate a healthy subjects study testing 28 days of dosing. Safety and efficacy data of the initial Phase 1a/1b cohort results, including a complete characterization of the ALT flare cases and results from the new 28 day study in healthy subjects, is expected to be submitted for a scientific meeting later this year. We anticipate dosing additional cohorts and final results of this Phase 1a/1b clinical trial, which are expected in the first half of 2020, will inform next steps toward the combination proof-of-concept Phase 2 clinical trial in subjects with chronic hepatitis B.

HBsAg Reduction

RNAi Agents

The development of RNAi drugs, which utilize the RNA interference pathway, allows for a novel approach to treating disease. There are a number of RNAi products currently advancing in human clinical trials. RNAi products are broadly applicable as they can eliminate the production of disease-causing or disease-associated proteins from cells, creating opportunities for therapeutic intervention that have not been achievable with conventional drugs. Our extensive experience in antiviral drug development has been applied to our RNAi program to develop therapeutics for chronic HBV infection.

Our RNAi HBV candidates are designed to reduce HBsAg expression in patients chronically infected with HBV. Reducing HBsAg is thought to be a key prerequisite to enable a patient's immune system to reawaken and respond against the virus.

GalNAc RNAi (AB-729)

Early in 2018, we nominated AB-729 for development. AB-729 is a second generation RNAi therapeutic targeted to hepatocytes using our novel covalently conjugated N-acetylgalactosamine ("GalNAc") delivery technology. This promising new agent acts on multiple HBV viral transcripts and was designed to inhibit viral replication and suppress all viral antigens. AB-729 reduces HBsAg, is administered subcutaneously, and we anticipate will be dosed monthly.

We presented data from pre-clinical studies at the International Liver Congress of the European Association for the Study of the Liver ("EASL") meeting in April 2018 in a presentation titled, "Durable Inhibition of Hepatitis B Virus Replication and Antigenemia Using Subcutaneously Administered siRNA Agent AB-729 in Preclinical Models", which showed robust HBsAg knockdown and more durable in vivo activity than earlier-generation siRNA agents, including our ARB-1467 product candidate, for the treatment of chronic HBV infection.

We successfully completed IND-enabling studies for AB-729 in support of the single ascending dosing portion of a Phase 1a/1b clinical trial, which we filed as part of a CTA. In July 2019, we initiated the healthy subject portion of a single and multiple dose Phase 1a/1b clinical trial for AB-729 to investigate the safety, tolerability, pharmacokinetics, and pharmacodynamics of AB-729 in healthy subjects and CHB subjects. Preliminary safety and efficacy data from both healthy subjects and several single dose cohorts of subjects with CHB are expected in the first quarter of 2020.

Our initial RNAi candidate, ARB-1467, demonstrated the ability to reduce HBsAg in patients but utilized a lipid nanoparticle delivery vehicle which required intravenous delivery and bi-weekly administration. We have discontinued development of ARB-1467 and are focused on AB-729.

HBV RNA Destabilizer (AB-452)

Our HBV RNA destabilizer AB-452, an orally administered agent, has shown novel and broad activity in pre-clinical studies in destabilizing HBV RNA, which leads to RNA degradation and subsequent reduction in HBsAg levels. We presented these preclinical data at the AASLD annual meeting in October 2017 in a presentation titled, "Identification and Characterization of AB-452, a Potent Small Molecule HBV RNA destabilizer In Vitro and In Vivo," which showed that AB-452 has complementary effects when combined with two of Arbutus' proprietary HBV RNAi agents in vitro.

Additional data was presented at the EASL meeting in April 2018 in a presentation titled, "Preclinical antiviral drug combination studies utilizing novel orally bioavailable agents for chronic hepatitis B infection: AB-506, a next generation HBV capsid inhibitor, and AB-452, an HBV RNA destabilizer," which showed that in vivo combinations of AB-452, AB-506 and tenofovir, an NA, led to greater reductions in serum HBV DNA relative to monotherapy with the individual compounds, and an impact on HBsAg when AB-452 was included in the treatment regimen. At the International HBV Meeting in October 2018, in a presentation titled "Mode of Action Studies on HBV RNA Destabilizer AB-452," we presented data that showed that the HBV post-regulatory element is essential to AB-452 activity and that AB-452 induces HBV RNA shortening and RNA body degradation, further elucidating the mechanism of action of AB-452. This molecule has the potential for once daily, oral dosing.

In October 2018, we announced the emergence of nonclinical safety findings in the AB-452 HBV RNA destabilizer program. Given the nature of these observations and the novel mechanism of action of this drug, we felt a sufficient amount of time must be allocated to understanding these findings and their implications before deciding whether to advance AB-452 into clinical trials. We have been evaluating AB-452 in a series of in vitro and in vivo studies to further characterize the compound,

its mechanism of action, safety and pharmacokinetic profile. Following careful assessment of the nonclinical safety findings that led to pausing the entry of AB-452 into human clinical studies, we have concluded that the nonclinical safety study resulted in several confounding observations which included clinical observations with no histological correlation, a lack of dose response regarding some key findings and an unexplained vehicle effect. Because of these confounding observations, we have determined that repeating the 90-day preclinical safety study in two species is appropriate before making a go/no-go decision. We expect that the results of this study will allow us to make that decision early in 2020. We remain committed to the development of oral HBV RNA destabilizers that have shown compelling anti-viral effects in multiple HBV pre-clinical models. While we work to fully understand the nature of the AB-452 pre-clinical findings, we are also continuing to advance back-up compounds with distinct chemical scaffolds into the lead optimization stage.

Research Programs

In addition to our clinical candidates, we have a number of research programs aimed at discovery and development of proprietary HBV candidates with different and complementary mechanisms of action. We have ongoing discovery efforts focused on checkpoint inhibition and cccDNA targeting to identify novel, orally administered small molecule drug candidates to complement our pipeline of agents to form an effective combination therapy for the treatment of HBV.

Strategic Alliances and Licensing Agreements

ONPATTRO® (Patisiran/ALN-TTR02)

In 2012, we entered into a license agreement with Alnylam that entitles Alnylam to develop and commercialize products with our LNP technology. Alnylam's ONPATTRO™ (Patisiran), which represents the first approved application of our LNP technology, was approved by the FDA and EMA during the third quarter of 2018 and was launched immediately upon approval in the US. We are entitled to tiered low to mid single-digit royalty payments on global net sales of ONPATTRO™ and received our first royalty payment in the fourth quarter of 2018.

On July 2, 2019, we entered into a Purchase and Sale Agreement with OMERS, pursuant to which we sold to OMERS a portion of our royalty entitlement on future global net sales of ONPATTRO.

ONPATTRO utilizes our LNP technology, which was licensed to Alnylam pursuant to that certain Cross-License Agreement, dated November 12, 2012, by and between us and Alnylam (the “LNP License Agreement”). Under the terms of the LNP License Agreement, we are entitled to tiered royalty payments on global net sales of ONPATTRO ranging from 1.00% - 2.33% after offsets, with the highest tier applicable to annual net sales above $500 million. This royalty interest was sold to OMERS, effective as of January 1, 2019, for $20 million in gross proceeds before advisory fees. OMERS will retain this entitlement until it has received $30 million in royalties, at which point 100% of this royalty entitlement on future global net sales of ONPATTRO will revert to us.

In addition to the royalty entitlement from the Alnylam LNP license agreement, we are also entitled to a second, lower royalty entitlement on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas Therapeutics. The royalty entitlement from Acuitas has been retained by us and was not part of the royalty entitlement sale to OMERS.

Genevant Sciences

In April 2018, we entered into an agreement with Roivant Sciences Ltd. (“Roivant”), our largest shareholder, to launch Genevant, a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by our LNP and ligand conjugate delivery technologies. We have licensed exclusive rights to our Delivery Platforms to Genevant for RNA-based applications outside of HBV. Genevant plans to develop products in-house and pursue industry partnerships to build a diverse pipeline of therapeutics across multiple modalities, including RNAi, mRNA, and gene editing.

Under the terms of the agreement, Roivant contributed $37.5 million in transaction-related seed capital to Genevant, consisting of an initial $22.5 million investment and a subsequent investment of $15 million at a pre-determined, stepped-up valuation. We retain all rights to our Delivery Platforms for HBV, and are entitled to a tiered low single-digit royalty from Genevant on future sales of products enabled by the delivery platforms licensed to Genevant. We also retained the entirety of our royalty entitlement on the commercialization of Alnylam’s ONPATTRO. As of June 30, 2019, we held an equity interest in Genevant of approximately 40%.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT JUDGEMENTS AND ESTIMATES

This management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses. Our estimates are based on our historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We believe there have been no significant changes in our critical accounting policies and estimates as discussed in "Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations" of our Annual Report on Form 10-K for the year ended December 31, 2018.

RECENT ACCOUNTING PRONOUNCEMENTS

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board or other standard setting bodies that are adopted by us as of the specified effective date. Unless otherwise discussed, we believe that the impact of recently issued standards that are not yet effective will not have a material impact on our financial position or results of operations upon adoption.

Please refer to Note 2 to our condensed consolidated financial statements included in Part I, Item 1, "Financial Statements (Unaudited)" of this Quarterly Report on Form 10-Q for a description of recent accounting pronouncements applicable to our business.

RESULTS OF OPERATIONS

The following summarizes the results of our operations for the periods shown, in thousands (except for per share figures):

	Three months ended June 30,		Six Months Ended June 30,	
	2019	**2018**	**2019**	**2018**
Total revenue	**$ 653**	$ 1,244	**$ 1,332**	2,680
Operating expenses	**21,168**	23,290	**40,918**	43,131
Loss from operations	**(20,515)**	(22,046)	**(39,586)**	(40,451)
Net income (loss)	**$ (23,315)**	$ 3,091	**$ (46,566)**	(14,338)
Net income (loss) attributable to common shares	**(26,077)**	550	**(52,043)**	(19,215)
Basic and diluted income (loss) per common share	**(0.46)**	0.01	**(0.92)**	(0.35)

Revenue

Revenue contracts are addressed in detail in the Overview section of Part I, Item 2, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our 2018 Form 10-K.

Revenue decreased $0.6 million and $1.3 million for the three and six months ended June 30, 2019, respectively, as compared to the same periods in 2018. Revenue for the three and six months ended June 30, 2019 consisted primarily of royalties from sales of Alnylam's ONPATTRO™, as well as royalties from Spectrum Pharmaceuticals, Inc.'s Marqibo® and services provided to Gritstone. During the third quarter of 2018, Alnylam's ONPATTRO™, which utilizes our LNP technology, was approved by the FDA and the EMA and was launched immediately upon approval in the US. In July 2019, a portion of this royalty interest was sold to OMERS, effective as of January 1, 2019, for $20 million in gross proceeds before advisory fees. OMERS will retain this entitlement until it has received $30 million in royalties, at which point 100% of such royalty interest on future global net sales of ONPATTRO will revert to us. Revenue for the three and six months ended June 30, 2018 consisted primarily of revenue earned under our license agreement with Gritstone, including the earned portion of an upfront license fee and services provided to Gritstone.

Expenses / Expenses are summarized in the following table, in thousands:

	Three months ended June 30,			
	2019	**% of Total**	2018	% of Total
Research and development	**$ 12,740**	**60 %**	$ 16,356	70%
General and administrative	**8,189**	**39 %**	3,775	16%
Depreciation and amortization	**505**	**2 %**	578	2%
Site consolidation	**(266)**	**(1)%**	2,581	11%
Total operating expenses	**$ 21,168**		$ 23,290	

	Six months ended June 30,			
	2019	**% of Total**	2018	% of Total
Research and development	**$ 27,452**	**67 %**	$ 30,305	70%
General and administrative	**12,601**	**31 %**	7,444	17%
Depreciation and amortization	**1,014**	**2 %**	1,180	3%
Site consolidation	**(149)**	**— %**	4,202	10%
Total operating expenses	**$ 40,918**		$ 43,131	

Research and development

Research and development expenses consist primarily of clinical and pre-clinical trial expenses, personnel expenses, consulting and third party expenses, consumables and materials, as well as a portion of stock-based compensation and general overhead costs.

Research and development expenses decreased $3.6 million and $2.9 million for the three and six months ended June 30, 2019, respectively, as compared to the same periods in 2018. Research and development expenses for the three and six months ended June 30, 2019 included: (i) enrollment of the 28-day HBV patient portion of our Phase 1a/1b clinical trial for our lead capsid inhibitor (AB-506); (ii) IND/CTA enabling pre-clinical studies for our RNAi agent (AB-729); and (iii) in vitro and in vivo studies to further characterize our HBV RNA destabilizer (AB-452), including the compound itself, its mechanism of action and pharmacokinetic profile. The decrease in research and development expenses in 2019 was due primarily to higher costs in 2018 for AB-452, including drug product manufacturing, and expenses in 2018 associated with the Phase 2 clinical trial for AB-1467, partially offset by increased spending in 2019 for the Phase 1a/1b clinical trial for AB-506 and pre-clinical studies for AB-729. Research and development expenses for the three and six months ended June 30, 2018 included IND/CTA-enabling work and CTA regulatory filings for AB-506, AB-452 and AB-729.

A significant portion of our research, development, collaborations and contracts expenses are not tracked by project as they benefit multiple projects or our technology platform and because our most-advanced programs are not yet in late-stage clinical development.

General and administrative

General and administrative expenses increased $4.4 million and $5.2 million for the three and six months ended June 30, 2019 and 2018, respectively, as compared to the same periods in 2018. The increase was due primarily to our former President and Chief Executive Officer's departure from the company in June 2019. In accordance with the terms of his legacy employment agreement, he received $2.3 million of cash severance (paid in July 2019) and we recognized $2.2 million of non-cash stock-based compensation expense for accelerated vesting of his stock options.

Site consolidation

In February 2018, we announced a site consolidation and organizational restructuring to better align our HBV business in Warminster, PA, by reducing our global workforce and closing our Burnaby, Canada facility. Most of the employee-related site consolidation expenses were expensed ratably over the period that employees provided services, which was substantially completed by June 30, 2018. We expect total site consolidation expenses to be approximately $4.9 million, of which approximately $4.7 million has been incurred as of June 30, 2019.

Other income (loss)

Other income (loss) are summarized in the following table, in thousands:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2019	2018	**2019**	2018
Interest income	**$ 606**	$ 805	**$ 1,206**	$ 1,563
Interest expense	**(2)**	—	**(14)**	(104)
Foreign exchange gain (loss)	**60**	(359)	**68**	(885)
Gain on investment	**—**	24,884	**—**	24,884
Equity investment losses	**(3,334)**	—	**(7,985)**	—
Decrease (increase) in fair value of contingent consideration	**(130)**	(193)	**(255)**	655
Total other income (loss)	**$ (2,800)**	$ 25,137	**$ (6,980)**	$ 26,113

Interest income

The $0.2 million and $0.4 million decrease in interest income for the three and six months ended June 30, 2019, respectively, compared to the same periods in 2018 was due primarily to a lower average cash balance, partially offset by higher interest rates.

Foreign exchange gains (losses)

In connection with our site consolidation to Warminster, PA, our Canadian dollar denominated expenses and cash balances have decreased significantly now that a majority of our business transactions are based in the United States. We continue to incur expenses and hold some cash balances in Canadian dollars, and as such, will remain subject to risks associated with foreign currency fluctuations. In the future, we expect that the proportion of cash balances and expenses incurred in Canadian dollars, relative to U.S. dollars, will continue to decrease as a result of the site consolidation.

Gain on investment and equity investment losses

In the second quarter of 2018, together with Roivant, we launched Genevant, a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by our LNP Delivery Technologies. We recognized a non-cash gain of $24.9 million in the second quarter of 2018 in connection with the equity interest received by Arbutus upon Genevant’s formation. We account for our 40% ownership interest in Genevant using the equity method of accounting. For the three and six months ended June 30, 2019, we recorded $3.3 million and $8.0 million, respectively, of equity investment losses, reflecting our proportionate share of Genevant's net loss on a one-quarter lag basis.

Decrease (increase) in fair value of contingent consideration

Contingent consideration is a liability we assumed from our acquisition of Arbutus, Inc. in March 2015. In general, increases in the fair value of the contingent consideration are related to the progress of our programs as they get closer to triggering contingent payments. The increase in contingent consideration of $0.1 million and $0.3 million for the three and six months ended June 30, 2019, respectively, was due to the passage of time as we get closer to potentially triggering contingent payments, resulting in an increase in the estimated fair value of the liability. Contingent consideration increased $0.2 million and decreased $0.7 million for the three and six months ended June 30, 2018, respectively. The decrease for the six months ended June 30, 2018 was due primarily to a recalibration of the estimated timing of future development milestones being achieved, resulting in a reduction in the estimated fair value of the liability.

LIQUIDITY AND CAPITAL RESOURCES

The following table summarizes our cash flow activities for the periods indicated, in thousands:

	Three months ended June 30,		Six months ended June 30,	
	2019	2018	**2019**	2018
Net income loss for the period	**$ (23,315)**	$ 3,091	**$ (46,566)**	$ (14,338)
Adjustments to reconcile net loss to net cash provided by operating activities	**7,694**	(20,696)	**14,454**	(19,422)
Changes in operating assets and liabilities	**(1,984)**	(17)	**(2,073)**	(3,829)
Net cash used in operating activities	**(17,605)**	(17,622)	**(34,185)**	(37,589)
Net cash provided by (used in) investing activities	**9,972**	14,980	**71,005**	(60,686)
Net cash provided by financing activities	**2,479**	735	**5,015**	55,102
Effect of foreign exchange rate changes on cash & cash equivalents	**57**	(361)	**95**	(926)
Net (decrease) increase in cash, cash equivalents, and restricted cash	**(5,097)**	(2,268)	**41,930**	(44,099)
Cash, cash equivalents, and restricted cash, beginning of period	**83,969**	12,461	**36,942**	54,292
Cash, cash equivalents, and restricted cash, end of period	**$ 78,872**	$ 10,193	**$ 78,872**	10,193

Since our incorporation, we have financed our operations through the sales of equity, debt, revenues from research and development collaborations and licenses with corporate partners, royalty monetization, interest income on funds available for investment, and government contracts, grants and tax credits.

For the six months ended June 30, 2019, operating activities used $34.2 million in cash as compared to $37.6 million of cash used in the six months ended June 30, 2018. The decrease in net cash used in operating activities is due primarily to cash outflows during the six months ended June 30, 2018 related to our site consolidation.

For the six months ended June 30, 2019, investing activities increased cash by $71.0 million as certain short-term investments matured. For the six months ended June 30, 2018, investing activities included investment of the proceeds from the second tranche of the Series A participating convertible preferred shares (the "Preferred Shares") financing in short-term investments.

For the six months ended June 30, 2019, financing activities increased cash by $5.0 million due primarily to net proceeds from the sale of common shares pursuant to our Open Market Sale Agreement (the "Sale Agreement") with Jefferies LLC and proceeds from the exercise of stock options. For the six months ended June 30, 2018, financing activities included $66.3 million of net proceeds from the second tranche of the Preferred Shares financing, offset by repayment of a $12.0 million promissory note with a bank.

Sources of Liquidity

As of June 30, 2019, we had cash and cash equivalents of $78.9 million and short-term investments of $16.4 million, totaling $95.3 million. We had no outstanding debt at June 30, 2019.

In December 2018, we entered into the Sale Agreement, under which we may issue and sell common shares, from time to time, for an aggregate sales price of up to $50.0 million. We did not sell any shares under the Sale Agreement in 2018. For the six months ended June 30, 2019, we issued 1,208,090 common shares pursuant to the Sale Agreement, resulting in gross proceeds of approximately $5.2 million.

In addition to our drug pipeline focused on HBV, we have additional assets that have the potential to provide value to our company. The first is our royalty entitlement on ONPATTRO™ (Patisiran), a drug developed by Alnylam that incorporates our LNP technology and was approved by the FDA and the EMA during the third quarter of 2018 and was launched immediately upon approval in the US. In July 2019, we sold a portion of this royalty interest to OMERS, effective as of January 1, 2019, for $20 million in gross proceeds before advisory fees. OMERS will retain this entitlement until it has

received $30 million in royalties, at which point 100% of such royalty interest on future global net sales of ONPATTRO will revert to us. If this royalty entitlement reverts to us, it has the potential to provide an active royalty stream or to be otherwise monetized again in full or in part. In addition to the royalty from the Alnylam LNP license agreement, we are also entitled to a second, lower royalty interest on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas. The royalty from Acuitas has been retained by us and was not part of the royalty sale to OMERS. The second asset is our approximate 40% equity ownership interest in Genevant, a company to which we have licensed our Delivery Platforms for all applications except HBV. These additional assets have the potential to provide significant non-dilutive capital to fund development of our HBV pipeline.

In October 2017, we closed the sale of 500,000 Preferred Shares to Roivant for gross proceeds of $50.0 million. A second tranche of 664,000 Preferred Shares for gross proceeds of $66.4 million closed in January 2018, following receipt of the approval of our shareholders. We are using these proceeds to develop and advance product candidates through clinical trials, as well as for working capital and general corporate purposes.

Cash requirements

At June 30, 2019, we held an aggregate of $95.3 million in cash, cash equivalents and short-term investments. In July 2019, we sold a portion of our royalty entitlement in ONPATTRO™ to OMERS for $20 million in gross proceeds before advisory fees. We believe that our cash, cash equivalents and short-term investments as of June 30, 2019 together with the proceeds received from OMERS for the sale of a portion of our royalty entitlement in ONPATTRO™ will be sufficient to fund our operations into the second half of 2020. In the future, substantial additional funds will be required to continue with the active development of our pipeline products and technologies. In particular, our funding needs may vary depending on a number of factors including:

- the need for additional capital to fund future business development programs;
- revenue earned from our legacy collaborative partnerships and licensing agreements, including potential royalty payments from Alnylam's ONPATTRO;
- revenue earned from ongoing collaborative partnerships, including milestone and royalty payments;
- the extent to which we continue the development of our product candidates, add new product candidates to our pipeline, or form collaborative relationships to advance our products;
- delays in the development of our products due to pre-clinical and clinical findings;
- our decisions to in-license or acquire additional products or technology for development, in particular for our HBV therapeutics programs;
- our ability to attract and retain corporate partners, and their effectiveness in carrying out the development and ultimate commercialization of our product candidates;
- whether batches of drugs that we manufacture fail to meet specifications resulting in delays and investigational and remanufacturing costs;
- the decisions, and the timing of decisions, made by health regulatory agencies regarding our technology and products;
- competing technological and market developments; and
- costs associated with prosecuting and enforcing our patent claims and other intellectual property rights, including litigation and arbitration arising in the course of our business activities.

We intend to seek funding to maintain and advance our business from a variety of sources including public or private equity or debt financing, potential monetization transactions, collaborative arrangements with pharmaceutical companies and government grants and contracts. There can be no assurance that funding will be available at all or on acceptable terms to permit further development of our products.

If adequate funding is not available, we may be required to delay, reduce or eliminate one or more of our research or development programs or reduce expenses associated with our non-core activities. We may need to obtain funds through arrangements with collaborators or others that may require us to relinquish most or all of our rights to product candidates at an earlier stage of development or on less favorable terms than we would otherwise seek if we were better funded. Insufficient financing may also mean failing to prosecute our patents or relinquishing rights to some of our technologies that we would otherwise develop or commercialize.

OFF-BALANCE SHEET ARRANGEMENTS

We do not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There have been no material changes in our quantitative and qualitative disclosures about market risk from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2018.

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of June 30, 2019. The term “disclosure controls and procedures”, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure, particularly during the period in which this Quarterly Report on Form 10-Q was being prepared. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their desired objectives, and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of June 30, 2019, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rules 13a–15(f) and 15d–15(f) under the Exchange Act) during the three months ended June 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

For information regarding legal matters, please refer to Note 11. Contingencies and Commitments to the condensed consolidated financial statements contained in Part I of this Quarterly Report on Form 10-Q, which is incorporated herein by reference.

ITEM 1A. RISK FACTORS

There have been no material changes in our risk factors from those disclosed in our Annual Report on Form 10-K for the fiscal year-ended December 31, 2018.

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Number	Description
3.1	Notice of Articles and Articles of Arbutus Biopharma Corporation, as amended. (incorporated herein by reference to Exhibit 3.1 to Arbutus Biopharma Corporation's Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 16, 2018).
3.2	Amendment to Articles of Arbutus Biopharma Corporation (incorporated herein by reference to Exhibit 3.1 to the Arbutus Biopharma Corporation's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018, filed with the SEC on November 7, 2018).
4.1	Governance Agreement between the Company and Roivant Sciences Ltd., a Bermuda exempted company, dated January 11, 2015 (incorporated herein by reference to Exhibit 2.1 to the Registrant's Current Report on Form 8-K/A filed with the SEC on January 26, 2015).
10.1	Separation Agreement and Release, dated June 13, 2019 by and between Arbutus Biopharma Corporation and Mark J. Murray (incorporated herein by reference to Exhibit 10.1 to Arbutus Biopharma Corporation's Current Report on Form 8-K, filed with the SEC on June 18, 2019).
10.2	Consulting Agreement dated June 13, 2019, by and between Arbutus Biopharma, Inc. and Mark J. Murray (incorporated herein by reference to Exhibit 10.2 to Arbutus Biopharma Corporation's Current Report on Form 8-K, filed with the SEC on June 18, 2019).
10.3	Employment Agreement, dated June 13, 2019, by and between Arbutus Biopharma Corporation and William H. Collier (incorporated herein by reference to Exhibit 10.3 to Arbutus Biopharma Corporation's Current Report on Form 8-K, filed with the SEC on June 18, 2019).
10.4	Form of Arbutus Biopharma Corporation Indemnity Agreement (incorporated herein by reference to Exhibit 10.4 to Arbutus Biopharma Corporation's Current Report on Form 8-K, filed with the SEC on June 18, 2019).
10.5*	Executive Employment Agreement, dated July 10, 2015, by and between Arbutus Biopharma, Inc. and Michael McElhaugh, as amended by the First Amendment to Executive Employment Agreement, dated April 20, 2016, and the Second Amendment to Executive Employment Agreement dated December 11, 2018.
10.6*†	Purchase and Sale Agreement, dated July 2, 2019, by and between Arbutus Biopharma Corporation and OCM IP Healthcare Portfolio LP
10.7*	Arbutus Biopharma Corporation 2016 Omnibus Share and Incentive Plan, as supplemented
10.8*	Form of Arbutus Biopharma Corporation Option Agreement
10.9*	Option Agreement, dated June 24, by and between Arbutus Biopharma, Inc. and William H. Collier
31.1*	Certification of Principal Executive Officer pursuant to Rule 13a-14(a) or 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 Principal Financial Officer pursuant to Rule 13a-14(a) or 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 Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

32.2**	Certification of Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101	The following materials from Arbutus Biopharma Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets; (ii) Condensed Consolidated Statements of Operations; (iii) Condensed Consolidated Statements of Comprehensive Loss; (iv) Condensed Consolidated Statements of Stockholders' Equity; (v) Condensed Consolidated Statements of Cash Flows; and (vi) Notes to Condensed Consolidated Financial Statements

* Filed herewith.

** Furnished herewith.

† Certain exhibits of this Exhibit have been omitted pursuant to Item 601(a)(5) of Regulation S-K. Arbutus Biopharma Corporation agrees to furnish a copy of this Exhibit to the Securities and Exchange Commission on a confidential basis upon request.

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 on August 5, 2019.

ARBUTUS BIOPHARMA CORPORATION

By: /s/ William H Collier

William H Collier

President and Chief Executive Officer

EXECUTIVE EMPLOYMENT AGREEMENT

This Executive Employment Agreement ("**Agreement**") is made effective as of July 10, 2015 (the "**Effective Date**") by and between OnCore Biopharma, Inc. (the "**Company**"), and Michael J. McElhaugh (the "**Executive**") (together the "**Parties**").

RECITALS

A. As of the Effective Date, the Company and the Executive have agreed to terminate any and all existing employment agreements (including any amendments thereto) between the Executive and the Company and set forth their mutual rights and obligations in this Agreement; and

B. In connection with and as a condition to the execution of this Agreement, Tekmira Pharmaceuticals Corporation, the parent of the Company ("**Tekmira**"), and the Executive have also agreed to the terms of that certain Share Repurchase Agreement, dated as of the date hereof (the "**Share Repurchase Agreement**"), whereby certain common shares of Tekmira owned by the Executive are subject to a repurchase right of Tekmira, pursuant to the terms and conditions thereof.

THEREFORE, the Parties agree as follows:

Section 1. Position and Duties. The Executive will serve as SVP, Business Development & Commercial of the Company, and will have powers and duties consistent with such position as may from time to time be prescribed by the Chief Executive Officer of the Company. As SVP, Business Development & Commercial of the Company, the Executive shall devote his full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may manage his personal investments or engage charitable or other community activities.

Section 2. Compensation and Related Matters.Base Salary. The Executive's base salary will be US$300,000 per year. The Executive's base salary will be reviewed annually by the Chief Executive Officer of the Company and is subject to increase but not decrease except for an across-the-board salary reduction affecting all senior executives of the Company. The base salary in effect at any given time is referred to as "**Base Salary**" and this Agreement need not be modified to reflect a change in Base Salary. The Base Salary is subject to withholding and payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(a) Bonus. The Executive is eligible to be considered for an annual discretionary bonus of up to 35% of Base Salary (such bonus, the "**Target Bonus**"); however, notwithstanding the foregoing, for the purposes of determining the "Target Bonus" for a termination by the Executive for "Good Reason" solely under Section 4(d)(iv), the Target Bonus shall be 35% of Base Salary). The Target Bonus shall be subject to the terms of the bonus plan and the approval of the Company's Board of Directors (the "**Board**"), in its sole discretion, on an annual basis.

(b) Expenses. The Executive is entitled to receive prompt reimbursement for all reasonable expenses incurred by him in performing services under this Agreement, in accordance with the policies and procedures then in effect and established by the Company for its senior executives.

(c) Other Benefits. The Executive is entitled to participate in or receive benefits under the Company's employee benefit plans as they may be adopted and amended from time to time, subject to the terms and conditions of those employee benefit plans.

(d) Equity Compensation. Subject to the discretionary approval of the Company's Board of Directors, and in accordance with the Company's annual performance and compensation review process, the Executive shall be eligible to receive equity awards under the Tekmira Pharmaceuticals Corporation Share Incentive Plan and or any other similar equity incentive plan to the same extent as other executives of the Company.

(e) Vacations. The Executive is entitled to paid holidays and vacation days each year, in an amount determined in accordance with and subject to the Company's applicable policies in effect, and as may be amended from time to time. Unless a different number is established by the Board in its sole discretion, the Executive will be entitled to 20 days of vacation per calendar year, which will be pro-rated for any year in which the Executive is only employed with the Company for a portion of the year or for any period in which the Executive is not a full-time employee. Carry-over of vacation days will be according to Company policy, and any accrued but unused vacation days will be paid out upon termination.

Section 3. Non-Competition and Non-Solicitation

(a) The Executive acknowledges that the Company's industry is highly competitive and employees leaving the employ of the Company have the ability to cause significant damage to the Company's interests if they join a competing business immediately upon leaving the Company.

(b) Definitions:

(i) "Affiliate" means any person or entity directly or indirectly controlling, controlled by or under common control with the Company, where control may be by either management authority or equity interest.

(ii) "Business" or "Business of the Company" means (a) researching, developing, producing and marketing any treatment for hepatitis B virus infection in humans or (b) any other treatment area in which the Company has an active research and development program on the date this Agreement terminates and in connection with which the Executive directly provided service or had direct supervisory responsibilities.

(iii) "Competing Business" means any endeavor, activity or business which is competitive in any material way with the Business of the Company worldwide.

(iv) "Contact" means any person, firm, corporation or other entity that was a client, customer, supplier, principal, shareholder, investor, collaborator, strategic partner, licensee, contact

or prospect of the Company (or of its partners, funders or Affiliates) with whom the Executive dealt or otherwise became aware of during the term of his employment in any capacity with the Company.

(v) "Restricted Period" means: (a) with respect to Section 3(d) the eighteen (18) month period commencing immediately after the Executive's employment terminates and (b) with respect to Section 3(f), the twelve (12) month period commencing immediately after the Executive's employment terminates.

(c) Reasonableness. The Executive hereby acknowledges and agrees that:

(i) both before and since the Effective Date the Company has operated and competed and will operate and compete worldwide, with respect to the Business of the Company;

(ii) competitors of the Company and the Business are located worldwide;

(iii) in order to protect the Company adequately, any enjoinder of competition would have to apply to any country in which the Company, during the term of the Executive's employment, had material business relationships;

(iv) during the course of the Executive's employment with the Company, on behalf of the Company, the Executive will acquire knowledge of, and will come into contact with, initiate and establish relationships with, both existing and new clients, customers, suppliers, principals, contacts and prospects of the Company, and that in some circumstances the Executive may become the senior or sole representative of the Company dealing with such persons; and

(v) in light of the foregoing, the provisions of this Section 3 are reasonable and necessary for the proper protection of the Business of the Company.

(d) Restrictive Covenant. During the term of the Executive's employment and for the Restricted Period after the termination thereof, the Executive shall not, without the advance written consent of the Board, such consent to be granted or withheld in the Board's sole discretion, within the geographic scope of any country in which the Company, during the term of the Executive's employment, had material business relationships, carry on or be employed by or engaged in or have any financial or other interest in or be otherwise commercially involved in a Competing Business, directly or indirectly, either individually or in partnership or jointly or in conjunction with any person, firm, corporation or other entity, as principal, agent, consultant, advisor, employee, shareholder or in any manner whatsoever.

(e) Exception. The Executive shall not be in default of Section 3(d) by virtue of the Executive:

(i) following the termination of employment, holding, strictly for portfolio purposes and as a passive investor, no more than five percent (5%) of the issued and outstanding shares of, or any other interest in, any corporation or other entity that is a Competing Business; or

(ii) during the term of his employment, holding, strictly for portfolio purposes and as a passive investor, issued and outstanding shares of, or any other interest in, any

corporation or other entity, the business of which corporation or other entity is in the same Business as the Company provided such corporation is not a Competing Business, and provided further that the Executive first obtains the Company's written consent, which consent will not be unreasonably withheld.

If the Executive holds issued and outstanding shares or any other interest in a corporation or other entity pursuant to Section 3(e)(ii) above, and following the acquisition of such shares or other interest the business of the corporation or other entity becomes a Competing Business, the Executive will promptly dispose of the Executive's shares or other interest in such corporation or other entity.

(f) Non-Solicitation. The Executive shall not, during the term of his employment and for the Restricted Period after the termination thereof for any reason, whether legal or illegal, either individually or in partnership or jointly or in conjunction with any person, firm, corporation or other entity, as principal, agent, consultant, advisor, employee, shareholder or in any manner whatsoever, without the prior written and informed consent of the Company, directly or indirectly:

(i) solicit, induce or encourage any Contact to curtail or cease its relationship with the Company, for any purpose which is competitive with the Business; or

(ii) accept (or procure or assist the acceptance of) any business from any Contact if such business is competitive with the Business; or

(iii) be employed by or supply (or procure or assist the supply of) any goods or services to any Contact for any purpose which the Executive knows or has reason to know is competitive with the Business; or

(iv) employ, engage, offer employment or engagement to or solicit the employment or engagement of or otherwise entice away from or solicit, induce or encourage to leave the employment or engagement of the Company, any individual who is employed or engaged by the Company at the time of any such offer, solicitation or enticement whether or not such individual would commit any breach of his contract or terms of employment or engagement by leaving the employ or the engagement of the Company, provided that the Executive shall be permitted, solely in a personal capacity, to provide letters of reference for individuals who are employed by the Company.

(g) Validity. The Executive expressly recognizes and acknowledges that it is the intent of the parties that the Executive's activities following the termination of the Executive's employment with the Company be restricted in the manner described in this Section 3, and acknowledges that good, valuable, and sufficient consideration has been provided in exchange for such restrictions. The Executive acknowledges and agrees that, simultaneous with and as a condition to this Agreement, Tekmira and the Executive have agreed to enter into the Share Repurchase Agreement, in order to accelerate the termination of certain of Tekmira's rights to repurchase common shares of Tekmira owned by the Executive, and that such Agreement shall be considered as a portion of the consideration received by the Executive on account of the Executive's obligations under this Section 3. The Executive agrees that should any of the restrictions contained in this Section 3 be found to be unreasonable to any extent by a court of competent jurisdiction adjudicating upon the validity of the restriction, whether as to the scope of the restriction, the area of the restriction or the duration of the restriction, then such restriction shall be reduced to that which is in fact declared reasonable by such court, or a subsequent court of competent

jurisdiction, requested to make such a declaration, in order to ensure that the intention of the parties is given the greatest possible effect.

Section 4. Termination. The Executive's employment by the Company may be terminated without any breach of this Agreement under the following circumstances:

(a) Death. The Executive's employment hereunder terminates upon his death.

(b) Disability. The Company may terminate the Executive's employment if he is disabled (as determined by the Chief Executive Officer) in a manner that renders the Executive unable to perform the essential functions of his then existing position or positions under this Agreement with or without reasonable accommodation for a period of six months or more. Nothing in this Section 4(b) is to be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 et seq., and the Americans with Disabilities Act, 42 U.S.C. §12101 et seq.

(c) Termination by Company for Cause. For purposes of this Agreement, "For Cause" shall mean: (i) Employee is charged with a felony (excluding a DUI) or any violation of state or federal securities laws; (ii) Employee willfully engages in conduct that is in bad faith and materially injurious to the Company, including but not limited to, misappropriation of trade secrets, fraud or embezzlement; (iii) Employee commits a material breach of this Agreement; (iv) Employee willfully refuses to implement or follow a lawful policy or directive of the Company; or (v) Employee engages in misfeasance or malfeasance demonstrated by a pattern of failure to perform job duties diligently and professionally. The Company may terminate Employee's employment For Cause at any time, without any advance notice. The Company shall pay Employee all compensation to which Employee is entitled up through the date of termination, subject to any other rights or remedies of the Company under law; and thereafter all obligations of the Company under this Agreement shall cease.

(d) Termination by the Company Without Cause or by the Executive for Good Reason. The Company may terminate the Executive's employment under this Agreement at any time without Cause and the Executive may terminate his employment with Good Reason. For purposes of this Agreement, "Good Reason" means the occurrence of any of the following events without the Executive's prior written consent: (i) the failure of the Executive to be appointed to the position set forth in Section 1, if not promptly cured after written notice; (ii) a reduction by the Company of the Executive's Base Salary or Target Bonus percentage, except for an across-the-board salary reduction affecting all senior executives of the Company; (iii) a relocation of Employee's principal place of employment by more than fifty (50) miles; (iv) a termination of the Executive's employment by the Company or the Executive with OnCore for any reason during the period from April 1, 2016 until April 30, 2016 and (v) a substantial and adverse change to the Executive's duties and responsibilities. For purposes of this Agreement, termination for Good Reason requires Executive to comply with the "Good Reason Process," which means that (i) the Executive reasonably determines in good faith that a Good Reason condition has occurred; (ii) the Executive notifies the Company in writing of the first occurrence of the Good Reason condition within 30 days of the first occurrence of such condition; (iii) the Executive cooperates in good faith with the Company's efforts, for a period of not less than 30 days following that notice (the "**Cure Period**") to remedy the condition; (iv) notwithstanding the Company's efforts, the Good Reason condition continues to exist; and (v) the Executive terminates his employment within 30 days after the end of the Cure Period.

If the Company cures the Good Reason condition during the Cure Period, Good Reason is deemed not to have occurred.

Any termination by the Company of the Executive's employment under this Agreement that does not constitute a termination for Cause under Section 4(c) and does not result from the death or disability of the Executive under Section 4(a) or (b) is a termination without Cause.

(e) Termination by the Executive. Executive may terminate employment with the Company without Good Reason at any time for any reason or no reason at all, upon thirty (30) days' advance written notice. The Company shall have the option, in its sole discretion, to make Executive's termination effective or to direct the Executive to perform no work and/or remain off premises at any time prior to the end of such notice period as long as the Company pays Executive all compensation to which Executive is entitled up through the last day of the 30 day notice period.

(f) Notice of Termination. Except for termination as specified in Section 4(a), any termination of the Executive's employment by the Company or any termination of his employment by the Executive must be communicated by written Notice of Termination to the other party. For purposes of this Agreement, a "**Notice of Termination**" means a notice that indicates the specific termination provision in this Agreement that the termination is based upon.

(g) Date of Termination. "**Date of Termination**" means: (i) if the Executive's employment is terminated by his death, the date of his death; (ii) if the Executive's employment is terminated on account of disability under Section 4(b) or by the Company for Cause under Section 4(c), or by the Company without Cause under Section 4(d) on the date the Notice of Termination is given; (iii) if the Executive terminates his employment under Section 4(e) without Good Reason, on the date specified by the Executive in the notice (which shall be at least thirty (30) days after the date of the Notice of Termination) and, if no such date is specified, 30 days after the date of the Notice of Termination; and (iv) if the Executive terminates his employment under Section 4(e) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period. Notwithstanding the foregoing, if the Executive gives a Notice of Termination to the Company that takes effect at a future date, the Company may unilaterally accelerate the Date of Termination and that acceleration will not be deemed a termination by the Company for purposes of this Agreement.

Section 5. Compensation Upon Termination.

(a) Termination Generally. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to his authorized representative or estate), (i) unpaid expense reimbursements; (ii) accrued but unused vacation to the extent payment is required by law or Company policy; (iii) any vested benefits the Executive may have under any employee benefit plan of the Company; (iv) any earned but unpaid base salary and (v) any earned but unpaid annual bonus for the prior fiscal year (collectively the "**Accrued Benefit**") on or before the time required by law, but in no event more than 30 days after the Executive's Date of Termination. The Executive shall not be entitled to any other salary, compensation, bonus (or pro rata share thereof) or benefits from the Company thereafter, except as otherwise specifically provided hereunder, under the Company's employee benefit plans or as expressly required by applicable law.

(b) Termination by the Company Without Cause or by the Executive for Good Reason. If the Executive's employment is terminated by the Company without Cause or by the Executive for Good Reason, then the Company shall pay the Executive his Accrued Benefit as of the Date of Termination. In addition, subject to the Executive providing the Company with a fully effective general release of claims in a form and manner satisfactory to the Company that includes but is not limited to the terms set forth in the attached Exhibit A (the "**Release**") within the 60-day period following the Date of Termination, the Company shall pay the Executive (i) severance pay in a lump sum in cash in an amount equal to (y) in the event of a termination during the period of April 1, 2016 until April 30, 2016, the Executive's Base Salary multiplied by 2.3, less withholding or (z) in the event of a termination at any other time other than as set forth in clause (y) above, one and one-half times the Executive's Base Salary, less withholding (as applicable, "**Severance Amount**"), payable within 60 days after the Date of Termination, but if that 60-day period extends over two calendar years, the Company shall make the payment in the second calendar year, (ii) a bonus payment equal to (y) if the termination occurs on or before March 31, 2018, the Target Bonus pro-rated for the portion of the year the Executive was employed by the Company prior to the termination or (z) if the termination occurs on or after April 1, 2018, the average of the bonus payments, if any, made to the Executive with respect to the previous three (3) calendar years preceding the date of termination of employment, pro-rated for the portion of the year that Executive is employed, and (iii) provided that the Executive timely elects COBRA coverage, reimburse the Executive for the COBRA premiums paid by the Executive, if any, for the continuation of coverage under the Executive's then-existing group company health plan that the Executive and his dependents are eligible to receive for the earlier of (x) a period of up to 24 months from the date of the Executive's termination of employment, or (y) until the Executive becomes eligible to receive health insurance benefits under any other employer's group health plan.

Section 6. Change in Control Provisions. The provisions of this Section 6 set forth the Executive's rights and obligations upon the occurrence of a Change in Control of the Company. These provisions are intended to assure and encourage in advance the Executive's continued attention and dedication to his assigned duties and his objectivity during the pendency and after the occurrence of any Change in Control. The provisions of this Section 6 apply in addition to, and/or modify, the provisions of Section 5(b) regarding severance pay and benefits upon a termination of employment, if applicable, if the termination of employment occurs within 12 months after the occurrence of a Change in Control. These provisions are subject to the Executive providing (and not revoking) the Company with a fully effective Release. These provisions terminate and are of no further force or effect beginning 12 months after the occurrence of such a Change in Control.

(a) Severance. If within 12 months following a Change of Control (i) the Company terminates the Executive's employment with the Company other than for Cause, or (ii) the Executive resigns from his employment with the Company for Good Reason, within the 60-day period following the Date of Termination, then, in lieu of paying the Executive the Severance Amount and in addition to paying the Accrued Benefit, Company shall: (i) pay the Executive severance pay in a lump sum in cash (less applicable withholdings) in an amount equal to the Executive's Base Salary multiplied by 2.0 ("**Change in Control Severance Amount**"), payable within 60 days after the Date of Termination, but if that 60-day period extends over two calendar years, the Company shall make the payment in the second calendar year; (ii) pay the Executive a bonus payment equal to the Target Bonus pro-rated for that portion of the year that Executive is employed, (iii) provided that the Executive timely elects COBRA coverage,

reimburse the Executive for the COBRA premiums paid by the Executive, if any, for the continuation of coverage under the Executive's then-existing group company health plan that the Executive and his dependents are eligible to receive for the earlier of (x) a period of up to 24 months from the date of the Executive's termination of employment, or (y) until the Executive becomes eligible to receive health insurance benefits under any other employer's group health plan; and (iv) cause all stock options and other stock-based awards granted after the Effective Date and held by the Executive to immediately accelerate, vest, and become fully exercisable or nonforfeitable.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, if the amount of any compensation, payment, acceleration, benefit, or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Internal Revenue Code of 1986, as amended (the "**Code**") and the applicable regulations thereunder (the "**Severance Payments**"), would be subject to the excise tax imposed by Section 4999 of the Code, then the Severance Payments will be reduced (but not below zero) to the extent necessary so that the sum of all Severance Payments does not exceed the Threshold Amount (defined below), but if the after-tax amount the Executive would receive if there were no reduction pursuant to this section (including any federal, state, and local taxes) exceeds the after-tax amount the Executive would receive if the Severance Payments were reduced below the Threshold Amount, the Severance Payments will no longer be so reduced. If Severance Payments are required to be reduced, the Severance Payments will be reduced in the following order: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits.

(ii) For the purposes of this Section 6(c), "**Threshold Amount**" means three times the Executive's "base amount" within the meaning of Section 280G(b)(3) of the Code and the regulations promulgated thereunder less one dollar ($1.00).

(iii) The determinations under this Section 6(c) will be made by a nationally recognized accounting firm selected by the Company (the "**Accounting Firm**"), which must provide detailed supporting calculations both to the Company and the Executive within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive.

(c) Change in Control Definition. For purposes of this Section 6, "**Change in Control**" means the consummation of any of the following:

(i) the sale of all or substantially all of the assets of the Company or the Parent to an unrelated person or entity;

(ii) a merger, reorganization, or consolidation involving the Company or the Parent in which the shares of voting stock outstanding immediately prior to the transaction represent or are converted into or exchanged for securities of the surviving or resulting entity that, immediately upon completion of the transaction, represent less than 50% of the outstanding voting power of the surviving or resulting entity;

(iii) the acquisition of all or a majority of the outstanding voting stock of the Company or the Parent in a single transaction or a series of related transactions by a person or group of persons; or

(iv) any other acquisition of the business of the Company or the Parent, as determined by the Board;

but the Company's initial public offering, any subsequent public offering, or another capital raising event, or a merger effected solely to change the Company's domicile does not constitute a Change in Control.

Section 7. Section 409A Compliance. The following rules shall apply, to the extent necessary, with respect to distribution of the payments and benefits, if any, to be provided to the Executive under this Agreement. Subject to the provisions in this Section, the severance payments pursuant to this Agreement shall begin only upon the date of the Executive's "separation from service" (determined as set forth below) which occurs on or after the date of the Executive's termination of employment.

(a) This Agreement is intended to comply with Code Section 409A (to the extent applicable) and the parties hereto agree to interpret, apply and administer this Agreement in the least restrictive manner necessary to comply therewith and without resulting in any increase in the amounts owed hereunder by the Company.

(b) It is intended that each installment of the severance payments and benefits provided under this Agreement shall be treated as a separate "payment" for purposes of Section 409 A of the Internal Revenue Code of 1986, as amended, and the guidance issued thereunder ("Section 409A"). Neither the Executive nor the Company shall have the right to accelerate or defer the delivery of any such payments or benefits except to the extent specifically permitted or required by Section 409A.

(c) If, as of the date of the Executive's "separation from service" from the Company, the Executive is not a "specified employee" (within the meaning of Section 409 A), then each installment of the severance payments and benefits shall be made on the dates and terms set forth in this Agreement.

(d) If, as of the date of the Executive's "separation from service" from the Company, the Executive is a "specified employee" (within the meaning of Section 409A), then:

(i) Each installment of the severance payments and benefits due under this Agreement that, in accordance with the dates and terms set forth herein, will in all circumstances, regardless of when the separation from service occurs, be paid within the short-term deferral period (as defined in Section 409A) shall be treated as a short-term deferral within the meaning of Treasury Regulation Section 1.409A-l(b)(4) to the maximum extent permissible under Section 409A; and

(ii) Each installment of the severance payments and benefits due under this Agreement that is not described in Section 7(d)(i) above and that would, absent this subsection, be paid within the six-month period following the Executive's "separation from service" from the Company shall not be paid until the date that is six months and one day after such separation from service (or, if earlier, the Executive's death), with any such installments that are required to be delayed being accumulated

during the six-month period and paid in a lump sum on the date that is six months and one day following the Executive's separation from service and any subsequent installments, if any, being paid in accordance with the dates and terms set forth herein; provided, however, that the preceding provisions of this sentence shall not apply to any installment of severance payments and benefits if and to the maximum extent that such installment is deemed to be paid under a separation pay plan that does not provide for a deferral of compensation by reason of the application of Treasury Regulation 1.409A-1 (b)(9)(iii) (relating to separation pay upon an involuntary separation from service). Any installments that qualify for the exception under Treasury Regulation Section 1.409A-l(b)(9)(iii) must be paid no later than the last day of the second taxable year following the taxable year in which the separation from service occurs.

(e) The determination of whether and when the Executive's separation from service from the Company has occurred shall be made in a manner consistent with, and based on the presumptions set forth in, Treasury Regulation Section 1.409A-l(h). Solely for purposes of this Section, "Company" shall include all persons with whom the Company would be considered a single employer as determined under Treasury Regulation Section 1.409A-l(h)(3).

(f) All reimbursements and in-kind benefits provided under this Agreement shall be made or provided in accordance with the requirements of Section 409A to the extent that such reimbursements or in-kind benefits are subject to Section 409A, including, where applicable, the requirements that (i) any reimbursement is for expenses incurred during the Executive's lifetime (or during a shorter period of time specified in this Agreement), (ii) the amount of expenses eligible for reimbursement during a calendar year may not affect the expenses eligible for reimbursement in any other calendar year, (iii) the reimbursement of an eligible expense will be made on or before the last day of the calendar year following the year in which the expense is incurred and (iv) the right to reimbursement is not subject to set off or liquidation or exchange for any other benefit.

(g) Notwithstanding anything herein to the contrary, the Company shall have no liability to the Executive or to any other person if the payments and benefits provided in this Agreement that are intended to be exempt from or compliant with Section 409A are not so exempt or compliant.

Section 8. Confidential Information. Employee agrees to enter into the Company's standard Employee Confidentiality and Proprietary Rights Agreement (the "Confidential Information Agreement"). Employee's receipt of any benefits in connection with or following Employee's termination will be subject to Employee continuing to comply with the terms of Confidential Information Agreement.

Section 9. Cooperation; Other Documents; Non-Disclosure.

(a) Litigation and Regulatory Cooperation. During and after the Executive's employment, the Executive shall reasonably cooperate with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that took place while the Executive was employed by the Company. The Executive's reasonable cooperation in connection with such claims or actions includes, but is not limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall reasonably cooperate with the Company in connection with any investigation or review of any federal, state, or local regulatory authority as any such investigation or

review relates to events or occurrences that took place while the Executive was employed by the Company. The Company shall compensate Executive for his time spent, and reimburse the Executive for any reasonable out-of-pocket expenses incurred, in connection with the Executive's performance of obligations pursuant to this Section 9(a).Non-Disclosure. The Executive shall use his reasonable efforts to maintain the confidentiality of the terms of this Agreement to the extent permitted by law, but the Executive may disclose the terms to his immediate family members and to his legal, tax, and other advisors.

Section 9. Arbitration of Disputes.

(b) Scope of Arbitration Requirement. The Executive hereby waives his right to a trial before a judge or jury and agrees to arbitrate before a neutral arbitrator skilled in hearing similar disputes any and all claims or disputes arising out of this Agreement and any and all claims arising from or relating to his employment, including but not limited to claims against any current or former employee, director, or agent of the Company, claims of wrongful termination, retaliation, discrimination, harassment, breach of contract (including but not limited to disputes pertaining to the formation, validity, interpretation or effect of this Agreement), breach of the covenant of good faith and fair dealing, defamation, invasion of privacy, fraud, misrepresentation, constructive discharge or failure to provide a leave of absence, or claims regarding commissions, stock options or bonuses, infliction of emotional distress, or unfair business practices (each an "**Arbitrable Dispute**"). Arbitration is the exclusive remedy for any Arbitrable Dispute, instead of any court or administrative action, unless the waiver of a certain court or administrative action is prohibited by law.

(c) Procedure. Any arbitration will be administered by the American Arbitration Association ("**AAA**") and the neutral arbitrator will be selected in a manner consistent with AAA's National Rules For The Resolution of Employment Disputes ("**Applicable Arbitration Rules**"). Any arbitration under this Agreement must be conducted in the Commonwealth of Pennsylvania, and the arbitrator must administer and conduct the arbitration in accordance with the Applicable Arbitration Rules, except that (i) the arbitrator must allow for the discovery authorized by the Pennsylvania Rules of Civil Procedure or the discovery that the arbitrator decides is necessary for the Parties to vindicate their respective claims or defenses, and (ii) presentation of evidence will be governed by the Pennsylvania Rules of Evidence. Within a reasonable time after the conclusion the arbitration proceedings, the arbitrator shall issue a written decision and must include the findings of fact and law that support that decision. The arbitrator has the power to award any remedies available under applicable law, and the arbitrator's decision is final and binding on both Parties, except to the extent applicable law allows for judicial review of arbitration awards.

(d) Costs. The Company shall bear all the costs of arbitration, except that the Executive shall pay the first $125.00 of any filing fees associated with any arbitration the Executive initiates. Both Parties are responsible for their own attorneys' fees, and the arbitrator may not award attorneys' fees unless a statute or contract at issue specifically authorizes such an award.

(e) Applicability. This Section 10, does not apply to (i) workers' compensation or unemployment insurance claims or (ii) claims concerning ownership, validity, infringement, misappropriation, disclosure, misuse, or enforceability of any confidential information, patent right,

copyright, mask work, trademark, or any other trade secret or intellectual property held or sought by either the Executive or the Company.

(f) Remedy. Should any party institute any legal action or administrative proceeding against the other with respect to any claim waived by this Agreement or pursue any Arbitrable Dispute by any method other than as set forth above, except to enforce the arbitration provisions and as expressly provided for in this Section 9, the responding party is entitled to recover from the initiating party all damages, costs, expenses, and attorneys' fees incurred as a result of that action.

Section 10. Consent to Jurisdiction. To the extent that any court action is initiated to enforce Section 10 of this Agreement, the Parties hereby consent to the jurisdiction of any state court in the Commonwealth of Pennsylvania and any U.S. District Court sitting in the Commonwealth of Pennsylvania. Accordingly, with respect to any such court action, the Executive (a) submits to the personal jurisdiction of such courts; (b) consents to service of process; and (c) waives any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

Section 11. Integration. This Agreement, together with the Share Repurchase Agreement and the Confidential Information Agreement executed concurrently herewith, constitute the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior agreements between the Parties concerning such subject matter, but any indemnification agreement between the Parties, and all plans and agreements related to stock options and other stock-based awards held by the Executive remain in full force and effect except to the extent specifically modified by this Agreement. Without limiting the foregoing, the parties agree that any employment agreement, other than this Agreement, existing between the Parties as of the date hereof is hereby terminated and shall be of no force of effect.

Section 12. Withholding. All payments made by the Company to the Executive under this Agreement will be net of any tax or other amounts required to be withheld by the Company under applicable law. Nothing in this Agreement is to be construed to obligate the Company to design or implement any compensation arrangement in a way that minimizes tax consequences for the Executive.

Section 13. Successor to the Executive. This Agreement inures to the benefit of and is enforceable by the Executive's personal representatives, executors, administrators, heirs, distributees, devisees, and legatees. If the Executive dies after his termination of employment but prior to the completion by the Company of all payments due him under this Agreement, the Company shall continue the payments to the Executive's beneficiary designated in writing to the Company prior to his death (or to his estate, if the Executive fails to make such a designation).

Section 14. Enforceability. If any portion or provision of this Agreement is declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of that portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, will not be affected by that declaration, and each portion and provision of this Agreement will continue to be valid and enforceable to the fullest extent permitted by law.

Section 15. Survival. The provisions of this Agreement survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the intent of the Parties as expressed in this Agreement.

Section 16. Waiver. No waiver of any provision of this Agreement is effective unless made in writing and signed by the waiving party, and, in the case of the Company only after the waiver has been specifically approved by the Board. The failure of either party to require the performance of any term or obligation of this Agreement, or the waiver by either party of any breach of this Agreement, will not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

Section 17. Notices. Any notices, requests, demands, and other communications provided for by this Agreement are sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention to the Corporate Secretary.

Section 18. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

Section 19. Governing Law. This is a Pennsylvania contract and is to be construed under and be governed in all respects by the laws of the Commonwealth of Pennsylvania without giving effect to the conflict of laws principles of that state.

Section 20. Counterparts. This Agreement may be executed in any number of counterparts, and by each party on separate counterparts, each of which counterparts, when so executed and delivered is to be taken to be an original; but those counterparts together constitute one and the same document. PDF, facsimile, scanned, and electronic signatures have the same legal effect as original ink signatures.

Section 21. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation, or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession is a material breach of this Agreement.

Section 22. Voluntary Nature of Agreement. The Executive acknowledges and agrees that he is executing this Agreement voluntarily and without any duress or undue influence by the Company or anyone else. The Executive further acknowledges and agrees that he has carefully read this Agreement and that he has asked any questions needed for him to fully understand the terms, consequences, and binding effect of this Agreement. The Executive agrees that he has been provided an opportunity to seek the advice of an attorney of his choice before signing this Agreement.

[Signature Page Follows]

The Parties are executing this Executive Agreement as of the date set forth in the introductory paragraph.

ONCORE BIOPHARMA, INC.

By: /s/ Mark Murray

Printed Name: Mark Murray

Title: Chief Executive Officer

EXECUTIVE

/s/ Michael J. McElhaugh

Printed Name: Michael J. McElhaugh

EXHIBIT A

GENERAL RELEASE LANGUAGE

The Executive agrees, for himself, his spouse, heirs, executor or administrator, assigns, insurers, attorneys, and other persons or entities acting or purporting to act on his behalf (the "**Executive's Parties**"), to irrevocably and unconditionally release, acquit, and forever discharge the Company, its affiliates, subsidiaries, directors, officers, employees, shareholders, partners, agents, representatives, predecessors, successors, assigns, insurers, attorneys, benefit plans sponsored by the Company, and said plans' fiduciaries, agents and trustees (the "**Company's Parties**"), from any and all actions, causes of action, suits, claims, obligations, liabilities, debts, demands, contentions, damages, judgments, levies, and executions of any kind, whether in law or in equity, known or unknown, which the Executive's Parties have, have had, or may in the future claim to have against the Company's Parties by reason of, arising out of, related to, or resulting from the Executive's employment with the Company or the termination of that employment. This release specifically includes without limitation any claims arising in tort or contract, any claim based on wrongful discharge, any claim based on breach of contract, any claim arising under federal, state or local law prohibiting race, sex, age, religion, national origin, handicap, disability, or other forms of discrimination, any claim arising under federal, state, or local law concerning employment practices, and any claim relating to compensation or benefits. This specifically includes, without limitation, any claim that the Executive has or has had under Title VII of the Civil Rights Act of 1964, as amended, the Age Discrimination in Employment Act, as amended, the Americans with Disabilities Act, as amended, and the Employee Retirement Income Security Act of 1974, as amended. It is understood and agreed that the waiver of benefits and claims contained in this section does not include a waiver of the right to payment of any vested, nonforfeitable benefits to which the Executive or a beneficiary of the Executive may be entitled under the terms and provisions of any employee benefit plan of the company which have accrued as of the Date of Termination, and does not include a waiver of the right to benefits and payment of consideration to which the Executive may be entitled under this Agreement or any of the agreements contemplated by this Agreement (including the indemnification agreement and the stock option agreement). The Executive acknowledges that he is entitled to only the severance benefits and compensation set forth in this Agreement, and that all other claims for any other benefits or compensation are hereby waived, except those expressly stated in the preceding sentence.

The Executive hereby acknowledges his understanding that under this Agreement he is releasing any known or unknown claims he may have.

The Executive expressly waives and relinquishes all rights and benefits under that section and any law of any jurisdiction of similar effect with respect to his release of claims.

FIRST AMENDMENT TO EXECUTIVE EMPLOYMENT AGREEMENT

This First Amendment to Executive Employment Agreement (this "***Amendment***") is made effective as of April 20, 2016 (the "***Effective Date***") by and between Arbutus Biopharma, Inc. (the "***Company***"), and Michael McElhaugh (the "***Executive***") (together the "***Parties***").

RECITALS

A. The Company and the Executive have entered into an Executive Employment Agreement effective as of July 10, 2015 (together, as amended, restated, supplemented, or otherwise modified prior to the date hereof, the "***Employment Agreement***"); and

B. The Parties have agreed to make certain amendments to the Employment Agreement as set forth herein.

THEREFORE, in consideration of the mutual promises herein set forth and for other good and valuable consideration, the Parties agree as follows:

Section 1. Capitalized Terms . Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to them in the Employment Agreement, unless the context shall otherwise require.

Section 2. Amendments.

(a) The reference to "OnCore Biopharma, Inc." in the introductory paragraph of the Employment Agreement is hereby replaced with "Arbutus Biopharma, Inc."

(b) The reference to "Tekmira Pharmaceuticals Corporation" in Recital B of the Employment Agreement is hereby replaced with "Arbutus Biopharma Corporation".

(c) The defined term "Tekmira", as defined in Recital B of the Employment Agreement, and each corresponding use of such term in the Employment Agreement, is hereby replaced with the term "Arbutus".

(d) The second sentence of Section 4(d) of the Employment Agreement is hereby amended and restated in its entirety as set forth below:

"For purposes of this Agreement, "Good Reason" means the occurrence of any of the following events without the Executive's prior written consent: (i) the failure of the Executive to be appointed to the position set forth in Section 1, if not promptly cured after written notice; (ii) a reduction by the Company of the Executive's Base Salary or Target Bonus percentage, except for an acrossthe-board salary reduction affecting all senior executives of the Company; (iii) a relocation of Employee's principal place of employment by more than fifty (50) miles; (iv) a termination of the Executive's employment by the Company or the Executive with the Company for any reason during the period from April 1, 2016 until December 31, 2016 and (v) a substantial and adverse change to the Executive's duties and responsibilities."

(e) The second sentence of Section 5(b) of the Employment Agreement is hereby amended and restated in its entirety as set forth below:

"In addition, subject to the Executive providing the Company with a fully effective general release of claims in a form and manner satisfactory to the Company that includes but is not limited to the terms set forth in the attached Exhibit A (the "**Release**") within the 60-day period following the Date of Termination, the Company shall pay the Executive (i) severance pay in a lump sum in cash in an amount equal to (y) in the event of a termination during the period of April 1, 2016 until December 31, 2016, the Executive's Base Salary multiplied by 2.3, less withholding or (z) in the event of a termination at any other time other than as set forth in clause (y) above, one and one-half times the Executive's Base Salary, less withholding (as applicable, "**Severance Amount**"), payable within 60 days after the Date of Termination, but if that 60-day period extends over two calendar years, the Company shall make the payment in the second calendar year, (ii) a bonus payment equal to (y) if the termination occurs on or before March 31, 2018, the Target Bonus pro-rated for the portion of the year the Executive was employed by the Company prior to the termination or (z) if the termination occurs on or after April 1, 2018, the average of the bonus payments, if any, made to the Executive with respect to the previous three (3) calendar years preceding the date of termination of employment, pro-rated for the portion of the year that Executive is employed, and (iii) provided that the Executive timely elects COBRA coverage, reimburse the Executive for the COBRA premiums paid by the Executive, if any, for the continuation of coverage under the Executive's then-existing group company health plan that the Executive and his dependents are eligible to receive for the earlier of (x) a period of up to 24 months from the date of the Executive's termination of employment, or (y) until the Executive becomes eligible to receive health insurance benefits under any other employer's group health plan."

Section 3. Integration; Amendment; Governing Law. The Employment Agreement, as amended by this Amendment, constitutes the entire agreement between the Parties with respect to the subject matter hereof. This Amendment may be amended or modified

only by a written instrument signed by the Executive and by a duly authorized representative of the Company. This is a Pennsylvania contract and is to be construed under and be governed in all respects by the laws of the Commonwealth of Pennsylvania without giving effect to the conflict of laws principles of that state.

Section 4. Counterparts. This Agreement may be executed in any number of counterparts, and by each party on separate counterparts, each of which counterparts, when so executed and delivered is to be taken to be an original; but those counterparts together constitute one and the same document. PDF, facsimile, scanned, and electronic signatures have the same legal effect as original ink signatures.

Section 5. Voluntary Nature of Agreement. The Executive acknowledges and agrees that he is executing this Amendment voluntarily and without any duress or undue influence by the Company or anyone else. The Executive further acknowledges and agrees that he has carefully read this Amendment and that he has asked any questions needed for him to fully understand the terms, consequences, and binding effect of this Amendment. The Executive agrees that he has been provided an opportunity to seek the advice of an attorney of his choice before signing this Amendment.

[Signature Page Follows]

The Parties are executing this Amendment as of the date set forth in the introductory paragraph.

ARBUTUS BIOPHARMA, INC.

By: /s/ Mark Murray

Printed Name: Mark Murray
Title: President & CEO

EXECUTIVE

/s/ Michael J. McElhaugh

Printed Name: Michael J. McElhaugh

SECOND AMENDMENT TO EXECUTIVE EMPLOYMENT AGREEMENT

This Second Amendment to Executive Employment Agreement (this "Amendment") is made effective as of December 11, 2018 (the "Effective Date") by and between Arbutus Biopharma, Inc. (the "Company"), and Michael McElhaugh (the "Executive") (together the "Parties").

RECITALS

A. The Company and the Executive have entered into an Executive Employment Agreement effective as of July 10, 2015 (together, as amended, restated, supplemented, or otherwise modified prior to the date hereof, the "Employment Agreement"); and

B. The Parties have agreed to make certain amendments to the Employment Agreement as set forth herein.

THEREFORE, in consideration of the mutual promises herein set forth and for other good and valuable consideration, the Parties agree as follows:

Section 1. Capitalized Terms. Capitalized terms used herein and not otherwise defined herein shall have the meanings assigned to them in the Employment Agreement, unless the context shall otherwise require.

Section 2. Amendments.

(a) Section 1 of the Employment Agreement is hereby amended and restated in its entirety as set forth below:

Position and Duties. The Executive will serve as Chief Business Officer of the Company, and will have powers and duties consistent with such position as may from time to time be prescribed by the Chief Executive Officer of the Company. As Chief Business Officer of the Company, the Executive shall devote his full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may manage his personal investments or engage charitable or other community activities.

(b) Section 2(a) of the Employment Agreement is hereby amended and restated in its entirety as set forth below:

(a) Base Salary. The Executive's base salary will be US$360,000 per year. The Executive's base salary will be reviewed annually by the Chief Executive Officer of the Company and is subject to increase but not decrease except for an across-the-board salary reduction affecting all senior executives of the Company. The base salary in effect at any given time is referred to as "Base Salary" and this Agreement need not be modified to reflect a change in Base Salary. The Base Salary is subject to withholding and payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(c) Section 2(b) of the Employment Agreement is hereby amended and restated in its entirety as set forth below:

(b) Bonus. The Executive is eligible to be considered for an annual discretionary bonus of up to 40% of Base Salary (such bonus, the "Target Bonus"). The Target Bonus shall be subject to the terms of the bonus plan and the approval of the Company's Board of Directors (the "Board"), in its sole discretion, on an annual basis.

Section 3. Integration; Amendment; Governing Law. The Employment Agreement, as amended to date, constitutes the entire agreement between the Parties with respect to the subject matter hereof. This Amendment may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company. This is a Pennsylvania contract and is to be construed under and be governed in all respects by the laws of the Commonwealth of Pennsylvania without giving effect to the conflict of laws principles of that state.

Section 4. Counterparts. This Agreement may be executed in any number of counterparts, and by each party on separate counterparts, each of which counterparts, when so executed and delivered is to be taken to be an original; but those counterparts together constitute one and the same document. PDF, facsimile, scanned, and electronic signatures have the same legal effect as original ink signatures.

Section 5. Voluntary Nature of Agreement. The Executive acknowledges and agrees that he is executing this Amendment voluntarily and without any duress or undue influence by the Company or anyone else. The Executive further acknowledges and agrees that he has carefully read this Amendment and that he has asked any questions needed for him to fully understand the terms, consequences, and binding effect of this Amendment. The Executive agrees that he has been provided an opportunity to seek the advice of an attorney of his choice before signing this Amendment.

The Parties are executing this Amendment as of the date set forth in the introductory paragraph.

ARBUTUS BIOPHARMA, INC.

By: /s/ Mark Murray

_____

Printed Name: Mark Murray
Title: President & CEO

EXECUTIVE

/s/ Michael J. McElhaugh

Printed Name: Michael J. McElhaugh

Exhibit 10.6

Certain identified information has been excluded from this exhibit because it both (i) is not material and (ii) would be competitively harmful if publicly disclosed. Omissions are designated as [**].

EXECUTION COPY

PURCHASE AND SALE AGREEMENT

dated as of July 2, 2019

between

ARBUTUS BIOPHARMA CORPORATION

and

OCM IP HEALTHCARE PORTFOLIO LP

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PURCHASE AND SALE AGREEMENT

This PURCHASE AND SALE AGREEMENT (this "Purchase and Sale Agreement") dated as of July 2, 2019 is between Arbutus Biopharma Corporation, a company organized under the laws of the Province of British Columbia (the "Seller"), and OCM IP Healthcare Portfolio LP, a limited partnership formed under the laws of the Province of Ontario (the "Purchaser").

W I T N E S S E T H :

WHEREAS, the Seller has the right to receive royalties based on Net Sales of the Products in the Territory under the Counterparty Agreements; and

WHEREAS, the Seller desires to sell, assign, transfer, and convey to the Purchaser, and the Purchaser desires to purchase, acquire and accept from the Seller, the Purchased Assets described herein, upon and subject to the terms and conditions set forth in this Purchase and Sale Agreement;

NOW, THEREFORE, in consideration of the premises and the mutual agreements, representations and warranties set forth herein and of other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto covenant and agree as follows:

Article I
DEFINED TERMS AND RULES OF CONSTRUCTION

Section 1.1 Defined Terms.

The following terms, as used herein, shall have the following respective meanings:

"Acuitas" means Acuitas Therapeutics, Inc. (formerly AlCana Technologies, Inc.), a British Columbia corporation.

"Additional Purchase Price" has the meaning set forth in Section 2.2(b).

"Additional Royalties" has the meaning set forth in Section 2.1(a)(ii).

"Affiliate" means, (a) with respect to any Person (including the Purchaser), any other Person that, directly or indirectly, controls, is controlled by or is under common control with such Person, and (b) with respect to the Purchaser, any Person in respect of which OMERS Administration Corporation, as administrator of the OMERS primary pension plan and trustee of the pension funds thereunder, holds, directly or indirectly, more than 50% of the equity interests (economic) of such Person. For purposes of this definition, "control" of a Person means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such Person, whether through the ownership of Voting Securities, by contract or otherwise, and the terms "controlled" and "controlling" have meanings correlative to the foregoing.

"Alnylam" means Alnylam Pharmaceuticals, Inc., a Delaware corporation.

"Alnylam Consent" means the Consent Agreement dated as of August 29, 2018 between Alnylam and the Seller.

"Alnylam Cross-License Agreement" means the Cross-License Agreement dated as of November 12, 2012, by and among the Seller, Alnylam, and, solely with respect to Section 10.12, Protiva.

"Alnylam/Acuitas Settlement Agreement" means the Settlement Agreement and General Release, dated as of November 12, 2012, by and among the Seller, Alnylam, Acuitas, and Protiva.

"Applicable Law" means, with respect to any Person, all laws, rules, regulations and orders of Governmental Authorities applicable to such Person or any of its properties or assets.

"Basket" has the meaning set forth in Section 7.3(b).

"Bill of Sale" means the bill of sale dated as of the Closing Date and, if applicable, the Second Closing Date, in each case executed by the Seller and the Purchaser substantially in the form of Exhibit A.

"Business Day" means any day that is not a Saturday, Sunday or other day on which commercial banks in Toronto, Ontario are authorized or required by Applicable Law to remain closed.

"Capital Securities" means, with respect to any Person, all shares, interests, participations or other equivalents (however designated, whether voting or non-voting) of such Person's capital, whether now outstanding or issued after the Closing Date, including common shares, ordinary shares, preferred shares, membership interests or share capital in a limited liability company or other Person, limited or general partnership interests in a partnership, beneficial interests in trusts or any other equivalent of such ownership interest or any options, warrants and other rights to acquire such shares or interests, including rights to allocations and distributions, dividends, redemption payments and liquidation payments.

"Category 1 Patents" has the meaning set forth in the Alnylam Cross-License Agreement.

"Closing" has the meaning set forth in Section 6.1.

"Closing Date" has the meaning set forth in Section 6.1.

"Closing Purchase Price" has the meaning set forth in Section 2.2(a).

"Code" means the U.S. Internal Revenue Code of 1986, as amended.

"Confidential Information" means, (A) as it relates to the Seller and its Affiliates, the Products and the Intellectual Property Rights, all information (whether written or oral, or in electronic or other form) involving or relating in any way, directly or indirectly, to the Products, the Counterparty Agreements, the Purchased Assets, or the Royalties, in each case that is provided to the Purchaser or the Purchaser's Affiliates by or on behalf of the Seller or any of its Affiliates, including (a) any license, sublicense, assignment, product development, royalty, sale, supply, escrow or other agreements (including the Counterparty Agreements) involving or relating in any way, directly or indirectly, to the Purchased Assets, the Royalties or the intellectual property, compounds or products giving rise to the Purchased Assets, and including all terms and conditions thereof and the identities of the parties thereto, (b) any reports, data, materials or other documents of any kind concerning or relating in any way, directly or indirectly, to the Seller, the Products, the Counterparty Agreements, the Purchased Assets, the Royalties or the intellectual property, compounds or products giving rise to the Purchased Assets, and including reports, data, materials or other documents of any kind delivered pursuant to or under any of the agreements referred to in clause (a) above or based on or derived from any such reports, data, materials or other documents of any kind, and (c) any inventions, devices, improvements, formulations, discoveries, compositions, ingredients, patents, patent applications, know-how, processes, trial results, research, developments or any other intellectual property, trade secrets or information involving or relating in any way, directly or indirectly, to the Purchased Assets or the compounds or products giving rise to the Purchased Assets; provided, however, that Confidential Information shall not include information that is (i) already in the public domain at the time the information is disclosed other than as a result of disclosure in violation of the confidentiality undertakings in this Purchase and Sale Agreement, or (ii) lawfully

obtained from other sources, and (B) as it relates to the Seller and the Purchaser, the existence and nature of the Transaction Documents, including the terms, conditions, and provisions of this Purchase and Sale Agreement and any other Transaction Document.

"Counterparties" means Alnylam and Acuitas.

"Counterparty Agreements" means, collectively, (a) the Counterparty License Agreement, (b) the Alnylam/Acuitas Settlement Agreement, and (c) the Alnylam Consent.

"Counterparty Instructions" means the irrevocable direction to Alnylam in the form set forth in Exhibit B.

"Counterparty License Agreement" means the Alnylam Cross-License Agreement.

"Defaulting Party" has the meaning set forth in Section 5.5(d).

"Disputes" has the meaning set forth in Section 3.12(e).

"Dollar" or the sign "$" means United States dollars.

"ERISA" means the U.S. Employee Retirement Income Security Act of 1974, as amended, and the regulations thereunder.

"Exercise Notice" has the meaning set forth in Section 2.5.

"FDA" means the U.S. Food and Drug Administration and any successor agency thereto.

"Fundamental Representations and Warranties" means the representations and warranties in Sections 3.1, 3.2, 3.3, 3.4, 3.9, 3.12(a), 3.14(a), 3.14(b), 3.14(c) and 3.14(d).

"GAAP" means generally accepted accounting principles in effect in the United States from time to time (or the applicable accounting standards in any relevant jurisdiction outside of the United States).

"Genevant Cross License Agreement" means the Cross License Agreement dated as of April 11, 2018, as amended June 27, 2018, by and between the Seller and Genevant Sciences Ltd., a Bermuda exempted limited company.

"Governmental Authority" means the government of the United States or Canada, any other nation or any political subdivision thereof, whether state, provincial or local, and any agency, authority (including supranational authority), commission, instrumentality, regulatory body, court, central bank or other Person exercising executive, legislative, judicial, taxing, regulatory or administrative powers or functions of or pertaining to government, including each Patent Office, the FDA and any other government authority in any jurisdiction.

"Intellectual Property Rights" means, in each case, solely to the extent necessary to Research, Develop, Commercialize or Manufacture the Products: the Tekmira Combined

Licensed Technology and Category I Patents (in each case as defined in the Alnylam Cross-License Agreement).

"Involuntary Seller Bankruptcy" means, without the consent or acquiescence of the Seller, the entering of an order for relief or approving a petition for relief or reorganization or any other petition seeking any reorganization, arrangement, composition, readjustment, liquidation, dissolution or other similar relief under any present or future bankruptcy, insolvency or similar Applicable Law, or the filing of any such petition against the Seller or, without the consent or acquiescence of the Seller, the entering of an order appointing a trustee, custodian, receiver or liquidator of the Seller or of all or any substantial part of the property of the Seller, in each case where such petition or order shall remain unstayed or shall not have been stayed or dismissed within 90 days from entry thereof.

"Judgment Currency" has the meaning set forth in Section 8.14.

"Lien" means any security interest, mortgage, pledge, hypothecation, assignment, deposit arrangement, encumbrance, lien (statutory or otherwise), charge against or interest in property or other priority or preferential arrangement of any kind or nature whatsoever, in each case to secure payment of a debt or performance of an obligation, including any conditional sale or any sale with recourse.

"Loss" means any loss, assessment, award, cause of action, claim, charge, cost, expense, fine, judgment, liability, obligation, penalty or Set-off.

"Material Adverse Change" means any event, circumstance or change that would reasonably be expected to result, individually or in the aggregate, in a material adverse effect, in any respect, on (a) the legality, validity or enforceability of any of the Transaction Documents, the Counterparty Agreements or the back-up security interest granted pursuant to Section 2.1(d), (b) the right or ability of the Seller (or any permitted assignee) or the Purchaser to perform any of its obligations under any of the Transaction Documents or the Counterparty Agreements, in each case to which it is a party, or to consummate the transactions contemplated hereunder or thereunder, or (c) the rights or remedies of the Purchaser under any of the Transaction Documents or the Counterparty Agreements, (d) the timing, amount or duration of the Purchaser's right to receive payments of the Purchased Royalties, or (e) the Purchased Assets; provided that none of the following shall be deemed to constitute, and none of the following shall be taken into account in determining whether there has been or will be a Material Adverse Change: (A) any change relating to the economy, financial and securities markets or business conditions in general, so long as any impact on the Purchased Assets is not disproportionate; (B) national or international political or social conditions, (C) changes in laws, rules, regulations, orders, or other binding directives issued by any Governmental Authority, so long as any impact on the Purchased Assets is not disproportionate; (D) the taking of any action contemplated by this Agreement and the other Transaction Documents; (E) changes or effects resulting solely from the announcement or pendency of this Agreement or related transactions and not from the breach of any representations or covenants of the Seller contained in this Agreement; or (F) the introduction of any product that is competitive with the Products, other than by the Seller or any of its Affiliates.

"Net Sales" means Net Sales as defined in Section 1.45 of the Alnylam Cross-License Agreement.

"Patent" means any U.S. or foreign pending patent application or issued patent or continuation, continuation-in-part, division, extension, supplementation protection certificate, reexamination, or reissue thereof, existing now or in the future.

"Patent Office" means the applicable patent office, including the United States Patent and Trademark Office and any comparable foreign patent office, for any Intellectual Property Rights that are Patents.

"Person" means any natural person, firm, corporation, limited liability company, partnership, joint venture, association, joint-stock company, trust, unincorporated organization, Governmental Authority or any other legal entity, including public bodies, whether acting in an individual, fiduciary or other capacity.

"Plan" means an employee benefit plan subject to Title I of ERISA, an individual retirement account or annuity subject to Section 4975 of the Code or any other employee benefit plan (within the meaning of Section 3(3) of ERISA), whether or not subject to ERISA.

"PPSA" means the *Personal Property Security Act* as in effect from time to time in the Province of British Columbia; provided, that, if, with respect to any financing statement or by reason of any provisions of Applicable Law, the perfection or the effect of perfection or non-perfection of the back-up security interest or any portion thereof granted pursuant to Section 2.1(d) is governed by *Personal Property Security Act* as in effect in a jurisdiction of Canada other than the Province of British Columbia, then "PPSA" means the *Personal Property Security Act* (or similar legislation) as in effect from time to time in such other jurisdiction for purposes of the provisions of this Purchase and Sale Agreement and any financing statement relating to such perfection or effect of perfection or non-perfection.

"Products" means Alnylam Patisiran Product (TTR-02) and any equivalent product (irrespective of trade name).

"Protiva" means Protiva Biotherapeutics Inc., a British Columbia corporation.

"Purchase and Sale Agreement" has the meaning set forth in the preamble.

"Purchased Assets" means, collectively, the Seller's right, title and interest in, to and under the Counterparty Agreements to (a) receive the Purchased Royalties due or to become due by Alnylam pursuant to the Alnylam Cross-License Agreement, and (b) until the applicable Royalty Threshold Amount has been received by the Seller, (i) receive the royalty reports produced by Alnylam pursuant to the Alnylam Cross-License Agreement in respect of sales of Products in the Territory, and (ii) audit the records of Alnylam in respect of such sales pursuant to the Alnylam Cross-License Agreement and receive an audit report summarizing the results of any such audit. For greater certainty, (x) until the Second Closing, if applicable, the Purchased Assets shall not include the Additional Royalties, (y) following the Second Closing, if it occurs,

the Purchased Assets shall include the Additional Royalties, and (z) whether or not the Second Closing occurs, in no event will the Purchased Assets include all or any portion of the Retained Interest.

"Purchase Price" means, collectively, the Closing Purchase Price and the Additional Purchase Price.

"Purchased Royalties" means (a) from and after the Closing, Royalties in an aggregate amount of $30,000,000 attributable to Net Sales of Products in the Territory from and after the Royalties Commencement Date, and (b) if the Additional Royalties are purchased by the Purchaser in accordance with Section 2.1(a)(ii), additional Royalties in an aggregate amount of $9,000,000 attributable to Net Sales of Products in the Territory from and after the Royalties Commencement Date, in which case the aggregate amount of Purchased Royalties will be $39,000,000. For greater certainty, if the Additional Royalties are not purchased by the Purchaser in accordance with Section 2.1(a)(ii), the Purchased Royalties will be an aggregate amount of $30,000,000 attributable to Net Sales of Products in the Territory from and after the Royalties Commencement Date and the Additional Royalties will not be included in the Purchased Royalties or the Purchased Assets. Notwithstanding anything to the contrary in this Purchase and Sale Agreement, (i) for purposes of determining the aggregate amount of Purchased Royalties received by the Purchaser under this Purchase and Sale Agreement for any purpose hereof, amounts received by the Purchaser Indemnified Parties from the Seller pursuant to Section 7.1(I)(i) shall be included in such calculation, and any interest paid by or on behalf of the Counterparties in respect of late payments of Purchased Royalties shall not be included in such calculation, and (ii) the parties hereto expressly acknowledge and agree that no rights, title or interest in the Retained Interest is being sold, assigned, transferred or otherwise conveyed hereunder or pursuant to any other Transaction Document.

"Purchaser" has the meaning set forth in the preamble.

"Purchaser Account" has the meaning set forth in Section 5.4(b).

"Purchaser Indemnified Party" has the meaning set forth in Section 7.1.

"Regulatory Agency" means a Governmental Authority with responsibility for the approval of the marketing and sale of pharmaceuticals or other regulation of pharmaceuticals in any jurisdiction.

"Regulatory Approvals" means, collectively, all regulatory approvals, registrations, certificates, authorizations, permits and supplements thereto, as well as associated materials (including the product dossier) pursuant to which the Products may be marketed, sold and distributed in a jurisdiction, issued by the appropriate Regulatory Agency.

"Remaining Purchased Assets" has the meaning set forth in Section 2.5.

"Repurchase Option" has the meaning set forth in Section 2.5.

"Repurchase Sale" has the meaning set forth in Section 2.5.

"Retained Interest" means, after giving effect to the sale, assignment, transfer and conveyance by the Seller to the Purchaser of the Purchased Assets (including, if the Second Closing occurs, the Additional Royalties), all of the Seller's remaining right, title and interest in, to and under the Counterparty Agreements, including the right to receive any remaining Royalties (after receipt by the Purchaser of the entire applicable Royalty Threshold Amount) due or to become due by Alnylam pursuant to the Alnylam Cross-License Agreement.

"Retained Liabilities" has the meaning set forth in Section 2.3.

"Royalties" means (a) all accounts, general intangibles, money, payment intangibles, contract rights, royalties and other amounts or fees due or to become due to the Seller or any of its Affiliates by any Counterparty arising out of, related to or resulting from the sale by Alnylam of the Products (including not only from the sale of currently approved indications for each Product in the Territory, but also from any additionally approved indications and from any off-label usage for such Product in the Territory), including (i) all amounts due or to be paid to the Seller or any of its Affiliates under Section 4.9 of the Alnylam Cross-License Agreement and Section 7(b) of the Alnylam/Acuitas Settlement Agreement and (ii) all amounts due or to be paid to the Seller or any of its Affiliates in lieu thereof, including under Section 5.4(d) of the Alnylam Cross-License Agreement; (b) all indemnity payments, recoveries, damages or award or settlement amounts paid to the Seller or any of its Affiliates by any third party, including a Counterparty, and arising out of a breach by any Person (other than the Seller) of any of the Counterparty Agreements with respect thereto and attributable to the period commencing on the Royalties Commencement Date, including pursuant to Section 5.5(d), and (c) all accounts (as defined under the UCC or the PPSA, as applicable) evidencing the rights to the payments and amounts described herein, and all interest on late payments.

"Royalties Commencement Date" means January 1, 2019.

"Royalty Quarter" has the meaning set forth in the Alnylam Cross-License Agreement.

"Royalty Threshold Amount" means the Purchaser's right pursuant to this Agreement to receive (i) in the event the Second Closing does not occur, $30,000,000 in aggregate amount of Royalties, and (ii) in the event the Second Closing occurs, $39,000,000 in aggregate amount of Royalties.

"SEC" means the U.S. Securities and Exchange Commission.

"Second Closing" has the meaning set forth in Section 6.4(a).

"Second Closing Date" has the meaning set forth in Section 2.1(a)(ii).

"Seller" has the meaning set forth in the preamble.

"Seller Account" has the meaning set forth in Section 5.4(d).

"Seller Indemnified Party" has the meaning set forth in Section 7.2.

"Seller's Knowledge" or "Knowledge of the Seller" means the actual knowledge of Mark Murray or Elizabeth Howard (or, in each case, any successor thereto who has substantially similar responsibilities at the applicable time), in each case, after reasonable inquiry by each such individual of the officers or direct reports reporting to such individual who are responsible for the applicable matter.

"Set-off" means any set-off, off-set, rescission, counterclaim, reduction, deduction or defense.

"Sublicensee" means any sublicensee of any Counterparty under the Counterparty Agreements.

"Subsidiary" means, with respect to any Person, any other Person of which more than 50% of the outstanding Voting Securities of such other Person (irrespective of whether at the time Capital Securities of any other class or classes of such other Person shall or might have voting power upon the occurrence of any contingency) is at the time directly or indirectly owned or controlled by such Person, by such Person and one or more other Subsidiaries of such Person or by one or more other Subsidiaries of such Person.

"Territory" means worldwide.

"Transaction Documents" means this Purchase and Sale Agreement, the Bill of Sale, the Counterparty Instructions and, if applicable, each of the documents delivered pursuant to Section 6.4.

"Transfer Taxes" means sales, retail sales, use, goods and services, value added, transfer, excise and other like taxes payable or asserted to be payable in any jurisdiction in connection with the sale of the Purchased Assets hereunder.

"UCC" means the Uniform Commercial Code as in effect from time to time in the State of Pennsylvania; provided, that, if, with respect to any financing statement or by reason of any provisions of Applicable Law, the perfection or the effect of perfection or non-perfection of the back-up security interest or any portion thereof granted pursuant to Section 2.1(d) is governed by the Uniform Commercial Code as in effect in a jurisdiction of the United States other than the State of Pennsylvania, then "UCC" means the Uniform Commercial Code as in effect from time to time in such other jurisdiction for purposes of the provisions of this Purchase and Sale Agreement and any financing statement relating to such perfection or effect of perfection or non-perfection.

"U.S." or "United States" means the United States of America, its 50 states, each territory thereof and the District of Columbia.

"Voluntary Seller Bankruptcy" means (a) an admission in writing by the Seller of its inability to pay its debts generally or a general assignment by the Seller for the benefit of

creditors, (b) the filing of any petition or answer by the Seller seeking to adjudicate itself as bankrupt or insolvent, or seeking for itself any liquidation, winding-up, reorganization, arrangement, adjustment, protection, relief or composition of the Seller or its debts under any Applicable Law relating to bankruptcy, insolvency, receivership, winding-up, liquidation, reorganization, examination, relief of debtors or other similar Applicable Law now or hereafter in effect, or seeking, consenting to or acquiescing in the entry of an order for relief in any case under any such Applicable Law, or the appointment of or taking possession by a receiver, trustee, custodian, liquidator, examiner, assignee, sequestrator or other similar official for the Seller or for any substantial part of its property, or (c) corporate or other action taken by the Seller to authorize any of the actions set forth above.

"Voting Securities" means, with respect to any Person, Capital Securities of any class or kind ordinarily having the power to vote for the election of directors, managers or other voting members of the governing body of such Person.

"Withholding Agent" has the meaning set forth in Section 5.8(a).

Section 1.2 Rules of Construction.

Unless the context otherwise requires, in this Purchase and Sale Agreement:

(a) A term has the meaning assigned to it and an accounting term not otherwise defined has the meaning assigned to it in accordance with GAAP.

(b) Unless otherwise defined, all terms that are defined in the UCC or the PPSA shall have the meanings stated in the UCC or the PPSA, as applicable.

(c) Words of the masculine, feminine or neuter gender shall mean and include the correlative words of other genders.

(d) The definitions of terms shall apply equally to the singular and plural forms of the terms defined.

(e) The terms "include", "including" and similar terms shall be construed as if followed by the phrase "without limitation".

(f) The word "or" is not exclusive.

(g) Unless otherwise specified, references to an agreement or other document include references to such agreement or document as from time to time amended, restated, reformed, supplemented or otherwise modified in accordance with the terms thereof (subject to any restrictions on such amendments, restatements, reformations, supplements or modifications set forth herein) and include any annexes, exhibits and schedules attached thereto.

(h) References to any Applicable Law shall include such Applicable Law as from time to time in effect, including any amendment, modification, codification, replacement or reenactment thereof or any substitution therefor.

(i) References to any Person shall be construed to include such Person's successors and permitted assigns (subject to any restrictions on assignment, transfer or delegation set forth herein or in any of the other Transaction Documents), and any reference to a Person in a particular capacity excludes such Person in other capacities.

(j) The word "will" shall be construed to have the same meaning and effect as the word "shall".

(k) The words "hereof", "herein", "hereunder" and similar terms when used in this Purchase and Sale Agreement shall refer to this Purchase and Sale Agreement as a whole and not to any particular provision hereof, and Article, Section and Exhibit references herein are references to Articles and Sections of, and Exhibits to, this Purchase and Sale Agreement unless otherwise specified.

(l) In the computation of a period of time from a specified date to a later specified date, the word "from" means "from and including" and each of the words "to" and "until" means "to but excluding".

(m) Where any payment is to be made, any funds are to be applied or any calculation is to be made under this Purchase and Sale Agreement on a day that is not a Business Day, unless this Purchase and Sale Agreement otherwise provides, such payment shall be made, such funds shall be applied and such calculation shall be made on the succeeding Business Day, and payments shall be adjusted accordingly.

(n) Any reference herein to a term that is defined by reference to its meaning in a Counterparty Agreement shall refer to such term's meaning in such Counterparty Agreement as in existence on the date hereof (and not to any new, substituted or amended version thereof), unless otherwise agreed, in writing, by the parties hereto.

ARTICLE II
PURCHASE AND SALE OF THE PURCHASED ASSETS

Section 2.1 Purchase and Sale.

(a) (i) Subject to the terms and conditions of this Purchase and Sale Agreement, on the Closing Date, the Seller hereby sells, assigns, transfers, and conveys, whether now owned or hereafter acquired, to the Purchaser, and the Purchaser hereby purchases, acquires and accepts from the Seller, without recourse, representation or warranty except as expressly provided herein, all of the Seller's rights, title and interest in and to the Purchased Assets, free and clear of any and all Liens, other than those Liens created in favor of the Purchaser by the Transaction Documents or the Counterparty Agreements.

(ii) Subject to the terms and conditions of this Purchase and Sale Agreement, if Net Sales of the Product in the Territory in the 2020 calendar year are equal to or greater than $408,000,000, the Seller may, by delivery of a written notice to the Purchaser by no later than February 28, 2021, require the Purchaser to purchase additional Royalties in an aggregate amount of US$9,000,000 (the "Additional Royalties"), and the Purchaser shall purchase the Additional Royalties by no later than March 31, 2021, on a date to be mutually agreed to by the Purchaser and the Seller (the "Second Closing Date"), unless otherwise agreed to, in writing, by the Purchaser and the Seller.

(b) The Seller and the Purchaser intend and agree that the sale, assignment, transfer, and conveyance of the Purchased Assets under this Purchase and Sale Agreement shall be, and are, a true, complete, absolute and irrevocable assignment and sale by the Seller to the Purchaser of the Purchased Assets and that such assignment and sale shall provide the Purchaser with the full benefits of ownership of the Purchased Assets. Neither the Seller nor the Purchaser intends the transactions contemplated hereby to be, or for any purpose characterized as, a loan from the Purchaser to the Seller or a pledge or assignment or a security agreement. The Seller waives any right to contest or otherwise assert that this Purchase and Sale Agreement does not constitute a true, complete, absolute and irrevocable sale and assignment by the Seller to the Purchaser of the Purchased Assets under Applicable Law, which waiver shall be enforceable against the Seller in any Voluntary Seller Bankruptcy or Involuntary Seller Bankruptcy. The sale, assignment, transfer, and conveyance of the Purchased Assets shall be reflected on the Seller's financial statements and other records as a sale of assets to the Purchaser (except to the extent GAAP or the rules of the SEC require otherwise with respect to the Seller's consolidated financial statements).

(c) The Seller hereby authorizes the Purchaser or its designee to record and file, and consents to the Purchaser or its designee recording and filing, at the Purchaser's sole cost and expense, financing statements in the appropriate filing offices under the UCC and the PPSA (and continuation statements with respect to such financing statements when applicable), and amendments thereto or assignments thereof, in such manner and in such jurisdictions as are necessary or appropriate to evidence or perfect the sale, assignment, transfer, and conveyance by the Seller to the Purchaser, and the purchase, acquisition and acceptance by the Purchaser from the Seller, of the Purchased Assets and to perfect the security interest in the Purchased Assets granted by the Seller to the Purchaser pursuant to Section 2.1(d).

(d) Notwithstanding that the Seller and the Purchaser expressly intend for the sale, assignment, transfer, and conveyance of the Purchased Assets to be a true, complete, absolute and irrevocable sale and assignment, the Seller hereby assigns,

and conveys, to the Purchaser, as security for its obligations created hereunder and to secure payment to the Purchaser of amounts equal to the Purchased Royalties as they become due and payable under the Counterparty Agreements in the event that the transfer contemplated by this Purchase and Sale Agreement is held not to be a sale, a first priority security interest in and to all of the Seller's right, title and interest in, to and under the Purchased Assets and any "proceeds" thereof (as such term is defined in the UCC and the PPSA). In such event, this Purchase and Sale Agreement shall constitute a security agreement. The Seller does hereby authorize the Purchaser to file such financing statements (and continuation statements with respect to such financing statements when applicable) as may be necessary to perfect such security interests.

Section 2.2 Purchase Price.

(a) In full consideration for the sale, assignment, transfer, and conveyance of the Purchased Assets (other than the Additional Royalties), and subject to the terms and conditions set forth herein, the Purchaser shall pay (or cause to be paid) to the Seller, or the Seller's designee, on the Closing Date, the sum of U.S.$20,000,000 (inclusive of all Transfer Taxes), in immediately available funds by wire transfer to the Seller Account (the "Closing Purchase Price").

(b) In full consideration for the sale, assignment, transfer and conveyance of the Additional Royalties, and subject to the terms and conditions set forth herein, the Purchaser shall pay (or cause to be paid) to the Seller, or the Seller's designee, on the Second Closing Date, the sum of U.S.$6,000,000 (inclusive of all Transfer Taxes), in immediately available funds by wire transfer to the Seller Account (the "Additional Purchase Price").

(c) In the event that, prior to the Closing, the Seller receives any of the Purchased Royalties, on the Closing Date the Seller shall remit such Purchased Royalties to the Purchaser in cash.

Section 2.3 No Assumed Obligations

Notwithstanding any provision in this Purchase and Sale Agreement or any other writing to the contrary, the Purchaser is purchasing, acquiring and accepting only the Purchased Assets and is not assuming any liability or obligation of the Seller or any of the Seller's Affiliates of whatever nature, whether presently in existence or arising or asserted hereafter (including any liability or obligation of the Seller under the Counterparty Agreements), including any liability for any amounts that may be Set-off against the Purchased Royalties (i) as a result of any facts, circumstances or matters arising or otherwise attributable to the period prior to the Royalty Commencement Date, or (ii) to the extent such Set-off is not contemplated in the Counterparty Agreements; provided, however, if the Seller conducts an audit pursuant to its rights under the Alnylam Cross-License Agreement, the Purchaser shall assume any and all obligations of the Seller to keep confidential the confidential information of Alnylam that is obtained by the Seller in the course of such audit. All such liabilities and obligations shall be retained by and remain liabilities and obligations of the Seller or the Seller's Affiliates, as the case may be (the "Retained Liabilities").

Section 2.4 Excluded Assets.

The Purchaser does not, by purchase, acquisition or acceptance of the rights, title or interest granted hereunder or otherwise pursuant to any of the Transaction Documents, purchase, acquire or accept any assets of the Seller under the Counterparty Agreements, other than the Purchased Assets.

Section 2.5 Repurchase Option; Effect of Termination.

(a) At any time from and after the Closing, the Seller may, at its option, purchase from the Purchaser all (but not less than all) of the Purchaser's rights, title and interest in and to the Purchased Assets that remain following the date on which the Seller exercises such option (or such later date as the Seller and the Purchaser may mutually agree to) (the "Remaining Purchased Assets"), free and clear of any and all Liens, other than Liens of the nature contemplated in this Purchase and Sale Agreement (the "Repurchase Option"). The Seller may exercise the Repurchase Option by providing written notice (the "Exercise Notice") thereof to the Purchaser. Within 30 days following the Exercise Notice, the Purchaser shall sell, assign, transfer, and convey all of its rights, title and interest in and to the Remaining Purchased Assets in accordance with this Section 2.5 upon receipt from the Seller of the full amount of the purchase price therefor equal to (i) minus (ii), where:

(i) is an amount equal to the product of 1.5 multiplied by the Purchase Price actually paid to the Seller by the Purchaser, and

(ii) is the aggregate amount of the Purchased Royalties received by the Purchaser during the period commencing on the Closing Date and ending on the date of the Exercise Notice, (the "Repurchase Sale").

(b) The Repurchase Sale shall be made on an "as is, where is" basis, except that the Purchaser shall represent and warrant to the Seller that the Purchaser holds title to the Remaining Purchased Assets free and clear of all Liens, other than Liens of the nature contemplated in this Purchase and Sale Agreement. All representations, warranties and covenants of the Purchaser shall survive the closing of the Repurchase Sale. Each party hereto will use its commercially reasonable efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary under Applicable Laws to consummate the Repurchase Sale, all of which shall be at the cost and expense of the Seller.

(c) From the date hereof until the earlier of (x) the consummation of a Repurchase Sale or (y) the termination of this Agreement, the Purchaser shall not (A) incur any Liabilities, Liens or other obligations (contractual or otherwise); (B) fail to remain in existence as a limited partnership or consent to or enter into any agreement or contract with respect to reorganization, merger, recapitalization or consolidation of the Purchaser with or into any other Person; (C) agree to dissolve or otherwise windup its affairs; or (D) grant any right to any Person or enter into any agreement with any Person, in each case, if doing so would be reasonably likely to prevent the Purchaser (or any successor-in-interest to whom the Purchased Assets are assigned in compliance with Section 8.3 of this Agreement) from conveying the Purchased Assets to the Seller pursuant to the Repurchase Sale, free and clear of all Liens and in accordance with the other requirements of this Section 2.5

(d) For greater certainty, to the extent that the Purchaser assigns any of the Purchased Assets in accordance with Section 8.3, the assignee shall acquire such Purchased Assets subject to the rights of the Seller and the obligations of the Purchaser under this Section 2.5.

Section 2.6 Minimum Purchased Royalties Per Royalty Quarter.

(a) Notwithstanding anything to the contrary in this Agreement, the Seller and the Purchaser agree that, for the period beginning on the Royalty Commencement Date and ending as of the end of the twelfth Royalty Quarter, the Purchaser shall be entitled to receive a minimum payment on account of the Royalties attributable to Net Sales of Products in the Territory during any Royalty Quarter in the amount of $10,000 (the "Minimum Purchased Royalty Entitlement").

(b) For greater certainty, if the Royalties that are paid to the Purchaser by the Counterparty in respect of a Royalty Quarter are equal to or greater than the Minimum Purchased Royalty Entitlement, then the Seller shall not be required to pay any additional amount to the Purchaser in respect of such Royalty Quarter. If the Royalties that are paid to the Purchaser by the Counterparty in respect of a Royalty Quarter are less than the Minimum Purchased Royalty Entitlement, then the Seller shall pay to the Purchaser the difference between (x) the Minimum Purchased Royalty Entitlement, minus (y) the amount of the Royalties actually paid by the Counterparty in respect of the applicable Royalty Quarter (the difference, the "Minimum Purchased Royalty Payment").

(c) The Seller shall pay the Minimum Purchased Royalty Payment to the Purchaser within 45 days following the end of the applicable Royalty Quarter. The Minimum Purchased Royalty Payment will be deemed to constitute Purchased Royalties for all purposes of this Agreement.

ARTICLE III
REPRESENTATIONS AND WARRANTIES OF THE SELLER

The Seller hereby represents and warrants to the Purchaser as of the date hereof, except as set forth on the Disclosure Schedule attached hereto (the "Disclosure Schedule"), as follows:

Section 3.1 Organization.

The Seller is a corporation duly organized, validly existing and in good standing under the laws of British Columbia and has all powers and authority, and all licenses, permits, franchises, authorizations, consents and approvals of all Governmental Authorities, required to own its property and conduct its business as now conducted and to exercise its rights and to perform its obligations under the Counterparty Agreements to which it is party. The Seller is duly qualified to transact business and is in good standing in every jurisdiction in which such qualification or good standing is required by Applicable Law (except where the failure to be so qualified or in good standing would not be a Material Adverse Change). Neither the Purchaser nor any of its partners, members or controlling Persons is an Affiliate of the Seller or any Subsidiary of the Seller.

Section 3.2 No Conflicts.

(a) Except as set forth on Section 3.2 of the Disclosure Schedule, none of the execution and delivery by the Seller of any of the Transaction Documents to which the Seller is party, the performance by the Seller of the obligations contemplated hereby or thereby or the consummation of the transactions contemplated hereby or thereby will, except as would not result in a Material Adverse Change: (i) contravene, conflict with, result in a breach, violation, cancellation or termination of, constitute a default (with or without notice or lapse of time, or both) under, require prepayment under, give any Person the right to exercise any remedy or obtain any additional rights under, or accelerate the maturity or performance of or payment under, in any respect, (A) any Applicable Law or any judgment, order, writ, decree, permit or license of any Governmental Authority, to which the Seller or any of its Subsidiaries or any of their respective assets or properties may be subject or bound, (B) any term or provision of any contract, agreement, indenture, lease, license, deed, commitment, obligation or instrument to which the Seller or any of its Subsidiaries is a party or by which the Seller or any of its Subsidiaries or any of their respective assets or properties is bound or committed (including the Counterparty Agreements) or (C) any term or provision of any of the organizational documents of the Seller or any of its Subsidiaries; (ii) give rise to any additional right of termination, cancellation or acceleration of any right or obligation of the Seller or any of its Subsidiaries; or (iii) except as provided in any of the Transaction Documents to which it is party, result in or require the creation or imposition of any Lien on the Purchased Assets.

(b) The Seller has not granted, nor does there exist, any Lien on any of the Purchased Assets.

Section 3.3 Authorization.

The Seller has all powers and authority to execute and deliver, and perform its obligations under, the Transaction Documents to which it is party and to consummate the transactions contemplated hereby and thereby. The execution and delivery of each of the Transaction Documents to which the Seller is party and the performance by the Seller of its obligations hereunder and thereunder have been duly authorized by the Seller. Each of the Transaction Documents to which the Seller is party has been duly executed and delivered by the Seller. Each of the Transaction Documents to which the Seller is party constitutes the legal, valid and binding obligation of the Seller, enforceable against the Seller in accordance with its respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or similar Applicable Laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 3.4 Ownership.

The Seller is the exclusive owner of the entire right, title (legal and equitable) and interest in, to and under the Purchased Assets and has good and valid title thereto, free and clear of all Liens. The Seller has duly and legally filed or applied for registration for its ownership interest in the Patents included in the Intellectual Property Rights in the appropriate agencies and in the jurisdictions set forth on Exhibit C, and the Seller is the exclusive "owner of record" of such Patents in each such jurisdiction. The Purchased Assets sold, assigned, transferred, and conveyed to the Purchaser on the Closing Date have not been pledged, sold, assigned, transferred, or conveyed by the Seller to any other Person. The Seller has full right to sell, assign, transfer, and convey the Purchased Assets to the Purchaser. Upon the sale, contribution, assignment, transfer, and conveyance by the Seller of the Purchased Assets to the Purchaser, the Purchaser shall acquire good and marketable title to the Purchased Assets free and clear of all Liens, other than Liens in favor of the Purchaser, and shall be the exclusive owner of the Purchased Assets. Except as set forth on Section 3.4 of the Disclosure Schedule, there are no contracts, agreements or understandings (whether written or oral) to which the Seller is a party pursuant to which any third party has been granted any rights, entitlements or privileges to or in respect of any of the Purchased Assets, in whole or in part, that would reasonably be expected to result in a Material Adverse Change.

Section 3.5 Governmental and Third Party Authorizations.

Except as set forth in Section 3.5 of the Disclosure Schedule, or as would not result in a Material Adverse Change, the execution and delivery by the Seller of the Transaction Documents to which the Seller is party, the performance by the Seller of its obligations hereunder and thereunder and the consummation of any of the transactions contemplated hereunder and thereunder (including the sale, assignment, transfer, and conveyance of the Purchased Assets to the Purchaser) do not require any consent, approval, license, order, authorization or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except for the filing of UCC and PPSA financing statements, the notice to Counterparties contained in the Counterparty Instructions and those previously obtained.

Section 3.6 No Litigation.

Except as set forth in Section 3.6 of the Disclosure Schedule, there is no (a) action, suit, arbitration, proceeding, claim, demand, citation, summons, subpoena, or other proceeding (whether civil, criminal, administrative, regulatory, or informal) pending or, to the Knowledge of the Seller, threatened in respect of the Products or the Purchased Assets (including the Counterparty Agreements), at law or in equity, or (b) to the Seller's Knowledge, any inquiry or investigation (whether civil, criminal, administrative, regulatory, investigative or informal) by or before a Governmental Authority pending or, to the Knowledge of the Seller, threatened against the Seller or any of its Subsidiaries in respect of the Products or the Purchased Assets (including the Counterparty Agreements), that, in each case, (i) would reasonably be expected to result in a Material Adverse Change or (ii) challenges or seeks to prevent or delay the consummation of any of the transactions contemplated by any of the Transaction Documents to which the Seller is party.

Section 3.7 Solvency.

The Seller has determined that, and by virtue of its entering into the transactions contemplated by the Transaction Documents to which the Seller is party and its authorization, execution and delivery of the Transaction Documents to which the Seller is party, the Seller's incurrence of any liability hereunder or thereunder or contemplated hereby or thereby is in its own best interests. Upon consummation of the transactions contemplated by the Transaction Documents and the application of the proceeds therefrom, (a) the fair saleable value of the Seller's assets will be greater than the sum of its debts, liabilities and other obligations, including contingent liabilities, (b) the present fair saleable value of the Seller's assets will be greater than the amount that would be required to pay its probable liabilities on its existing debts, liabilities and other obligations, including contingent liabilities, as they become absolute and matured, (c) the Seller will be able to realize upon its assets and pay its debts, liabilities and other obligations, including contingent obligations, as they mature, (d) the Seller will not be rendered insolvent, will not have unreasonably small capital with which to engage in its business and will not be unable to pay its debts as they mature, (e) the Seller has not incurred, will not incur and does not have any present plans or intentions to incur debts or other obligations or liabilities beyond its ability to pay such debts or other obligations or liabilities as they become absolute and matured, (f) the Seller will not have become subject to any Voluntary Seller Bankruptcy or Involuntary Seller Bankruptcy and (g) the Seller will not have been

rendered insolvent within the meaning of Section 101(32) of Title 11 of the United States Code or any similar provincial or federal legislation in Canada. No step has been taken or is intended by the Seller or, to the Seller's Knowledge, any other Person to make the Seller subject to a Voluntary Seller Bankruptcy or Involuntary Seller Bankruptcy.

Section 3.8 Tax Matters.

The Seller has filed (or caused to be filed) all material tax returns and reports required by Applicable Law to have been filed by it and has paid all material taxes required to be paid by it, in each case, relating to the sale of the Product in the Territory, except any such taxes that are being diligently contested in good faith by appropriate proceedings and for which adequate reserves in accordance with GAAP have been set aside on its books.

Section 3.9 No Brokers' Fees.

The Seller has not taken any action that would entitle any person or entity other than Morgan Stanley & Co. LLC to any commission or broker's fee in connection with the transactions contemplated by this Purchase and Sale Agreement.

Section 3.10 Employee Benefit Matters.

With respect to each Plan:

(a) Each Plan maintained by the Seller has been operated and administered substantially in compliance with all Applicable Laws, except for any noncompliance that does not and would not result, individually or in the aggregate, in a Material Adverse Change.

(b) Except as would not result in a Material Adverse Change, (i) all material employer and employee obligations including contributions and payments required to be made under any Plan or related agreement have been made in a timely fashion or has been reflected on the most recent balance sheet filed prior to the date hereof or accrued in the accounting records of the Seller; (ii) there are no unfunded obligations of the Seller under any Plan; and (iii) the Seller has not received any order or written notice under Applicable Laws that require the Seller to take (or refrain from taking) any action in respect of a Plan.

(c) The Seller does not maintain, sponsor, contribute to, have any liability and has never maintained, sponsored or contributed or had any liability with respect to, any defined benefit pension plan.

Section 3.11 Compliance with Laws.

None of the Seller or any of its Subsidiaries (a) has violated or is in violation of, or, to the Knowledge of the Seller, is under investigation with respect to or has been threatened to be charged with or been given notice of any violation of, any Applicable Law or any judgment, order, writ, decree, injunction, stipulation, consent order, permit or license granted, issued or entered by any Governmental Authority or (b) is subject to any judgment, order, writ, decree, injunction, stipulation, consent order, permit or license granted, issued or entered by any Governmental Authority, in each case or in the aggregate, that would be a Material Adverse Change. Each of the Seller and any Subsidiary of the Seller is in compliance with the requirements of all Applicable Laws, a breach of any of which individually or in the aggregate would be a Material Adverse Change.

Section 3.12 Intellectual Property Matters.

(a) Exhibit C sets forth an accurate and complete list of all Intellectual Property Rights that are Patents as June 20. 2019, and, as of the Closing Date, such list remains accurate and complete except where the failure to be accurate and complete would not be a Material Adverse Change. For each of such Patents listed on Exhibit C, the Seller has indicated (i) the jurisdictions in which such Patent is pending, allowed, granted or issued, (ii) the patent number or patent or patent application serial number, (iii) the scheduled expiration date of such issued patent, (iv) the scheduled expiration date of each patent issuing from such pending patent application once issued and (v) the owner of such Patent. The Products are covered by a Valid Claim of a Tekmira Royalty-Bearing Patent (as both terms are defined in the Alnylam Cross-License Agreement) in each jurisdiction listed on Section 3.12(a) of the Disclosure Schedule.

(b) To the Knowledge of the Seller, as of the date hereof, each claim that has been issued or granted by the appropriate Patent Office included in the relevant Intellectual Property Rights that are patents and that covers any of the Products is valid and enforceable.

(c) There are no unpaid maintenance or renewal fees payable by the Seller or Genevant Sciences Ltd. to any third party that currently are overdue for any of the Intellectual Property Rights that are Patents. No Intellectual Property Rights that are Patents have lapsed or been abandoned, cancelled or expired. As of the date hereof, no Tekmira Royalty Bearing Patents have been assigned to Alnylam pursuant to Section 4h of Exhibit A of the Alnylam Cross-License Agreement.

(d) Except as set forth in Section 3.12(d) of the Disclosure Schedule: (i) subsequent to the issuance of the Intellectual Property Rights that are Patents, neither the Seller, Genevant Sciences Ltd., nor, to the knowledge of the Seller, the Counterparties has filed any disclaimer or made or permitted any other voluntary reduction in the scope of the Intellectual Property Rights that are Patents; and (ii) no allowable or allowed subject matter of the Intellectual Property Rights that are Patents is subject to any competing conception or derivation claims of allowable or allowed subject matter of any Patents of any third party and have not been the subject of any interference, re-examination, *inter partes* review, opposition or other post-grant *inter partes* proceedings.

(e) Except as set forth in Section 3.12(e) of the Disclosure Schedule: (i) there is no pending or, to the knowledge of the Seller, threatened opposition, interference, reexamination, *inter partes* review, injunction, claim, suit, action, citation, summons, subpoena, hearing, inquiry, investigation (by the International Trade Commission or otherwise), complaint, arbitration, mediation, demand, decree or other dispute, disagreement, proceeding or claim (collectively, "Disputes") challenging the legality, validity, enforceability or ownership of any of the Intellectual Property Rights; (ii) there are no Disputes by or with any third party against the Seller or Genevant Sciences Ltd., or to the Knowledge of the Seller, any Counterparty, involving any of the Products; and (iii) the Intellectual Property Rights are not subject to any outstanding injunction, judgment, order, decree, ruling, change, settlement or other disposition of a Dispute.

(f) To the Knowledge of the Seller, (A) (i) there is no pending or threatened, action, suit or proceeding, or any investigation or claim, and (ii) neither the Seller or any Counterparty has received any written notice of the foregoing, that claims that the manufacture, use, marketing, sale, offer for sale, importation or distribution of any of the Products infringes on any patent or other intellectual property rights of any other Person or constitute misappropriation of any other Person's trade secrets or other intellectual property rights, and (B) no event has occurred or circumstance exists that would reasonably be expected to serve as a basis for any valid claim pursuant to such an action, suit, proceeding, investigation or claim. To the Knowledge of the Seller, there are no pending patent applications owned by any third party that, if issued, would limit or prohibit, in any material respect, the manufacture, use or sale of any of the Products by the Seller, the Counterparties or any of their respective sublicensees in the Territory.

(g) Except as set forth in Section 3.12(g) of the Disclosure Schedule, and except for the product clearance opinion dated the Closing Date of Pillsbury Winthrop Shaw Pittman LLP and the validity opinion dated the Closing Date of Pillsbury Winthrop Shaw Pittman LLP, the Seller has not received and is not otherwise in possession of any written legal opinion concerning or with respect to any Tekmira Royalty Bearing Patent as defined in the Alnylam Cross-License Agreement or any third party intellectual property rights relating to the Products, including any freedom-to-operate, product clearance, patentability or right-to-use opinion.

Section 3.13 [Intentionally Omitted]

Section 3.14 Counterparty and Genevant Cross License Agreements.

(a) Except as set forth in Section 3.14 of the Disclosure Schedule, other than the Transaction Documents and the Counterparty Agreements, there is no contract, agreement or other arrangement (whether written or oral), including the Genevant Cross License Agreement, to which the Seller or any of its Subsidiaries is a party or by which any of their respective assets or properties is bound or committed (i) that creates a Lien on, affects or otherwise relates to the Purchased Assets or the Counterparty Agreements or (ii) for which breach, nonperformance, cancellation or failure to renew would be a Material Adverse Change. Pursuant to the Alnylam Cross-License Agreement, the Seller has granted to Alnylam all rights and interests to enforce or defend all Category 1 Patents as set forth therein, and the Seller is not a party to any contract, agreement or other understanding or arrangement (whether written or oral) that supersedes, reduces or modifies any rights granted to Alnylam to enforce or defend any of the Category 1 Patents.

(b) Attached hereto as Exhibit D are true, correct and complete copies of the Counterparty Agreements and the Genevant Cross License Agreement and any confidentiality agreement relating thereto.

(c) Each of the Counterparty Agreements and the Genevant Cross License Agreement is in full force and effect and is the legal, valid and binding obligation of the Seller and, to the Knowledge of the Seller, the Counterparties, Genevant Sciences Ltd., and any other party thereto, enforceable against the Seller and, to the Knowledge of the Seller, the Counterparties, Genevant Sciences Ltd., and any other party thereto in accordance with its respective terms, subject, as to enforcement of remedies, to bankruptcy, insolvency, reorganization, moratorium or similar Applicable Laws affecting creditors' rights generally, general equitable principles and principles of public policy. The execution and delivery of, and performance of obligations under, each of the Counterparty Agreements were and are within the powers of the Seller and, to the Knowledge of the Seller, the Counterparties. Each of the Counterparty Agreements was duly authorized by all necessary action on the part of, and validly executed and delivered by, the Seller and, to the Knowledge of the Seller, the Counterparties and any other party thereto. The Seller is not in breach or violation of or in default under any of the Counterparty Agreements or the Genevant Cross License Agreement. There is no event or circumstance that, upon notice or the passage of time, or both, could constitute or give rise to any breach or default in the performance of any of the Counterparty Agreements or the Genevant Cross License Agreement by the Seller or, to the Knowledge of the Seller, the Counterparties or any other party thereto.

(d) The Seller has not waived any rights or defaults under the Counterparty Agreements or released the Counterparties or any other party thereto, in whole or in part, from any of its obligations under any of the Counterparty Agreements. Except as set forth in Section 3.14(d) of the Disclosure Schedule, neither the Seller nor the Counterparties has agreed to amend or waive any provision of the Counterparty Agreements, and there is no current proposal to do so.

(e) No event has occurred that would give the Counterparties or any other party thereto, or to the Knowledge of the Seller, the Seller the right to terminate any of the Counterparty Agreements (in whole or in part, or in respect of any country in the Territory) or cease paying Royalties thereunder. The Seller has not received any written notice of an intention by the Counterparties or any other Person to terminate or breach any of the Counterparty Agreements, in whole or in part or in respect of any country in the Territory, or challenging the validity or enforceability of any of the Counterparty Agreements or the obligation to pay the Royalties under the Counterparty Agreements, or claiming that the Seller or the Counterparties or any other party thereto is in default of its obligations under any of the Counterparty Agreements. There is not any default, violation or breach by the Seller or, to the knowledge of the Seller, by the Counterparties under or of any of the Counterparty Agreements.

(f) Except as provided in the Counterparty Agreements, the Seller is not a party to any agreement entitling any other Person to any payments, including by way of Set-off, in respect of the Royalties payable under the Counterparty Agreements to the Seller.

(g) The Seller has not consented to an assignment by the Counterparties or any other party thereto of any of the Counterparties' or such other party's rights or obligations under any of the Counterparty Agreements other than assignment to the Seller, and the Seller does not have knowledge of any such assignment by the Counterparties or any other such party. Except as contemplated by Section 2.1, the Seller has not assigned, in whole or in part, and has not granted, incurred or suffered to exist any Liens (other than Liens created or existing under any of the Counterparty Agreements) on, the Counterparty Agreements or the Purchased Assets.

(h) None of the Seller, the Counterparties or any other party thereto has made any claim of indemnification under any of the Counterparty Agreements.

(i) The Seller has not exercised its rights to conduct an audit under any of the Counterparty Agreements.

(j) To the Knowledge of the Seller, the Seller has received all amounts owed to it under the Counterparty Agreements as described in the reports attached hereto as Exhibit E, all of which are true, correct and complete copies of the reports delivered to the Seller by the Counterparty pursuant to the Counterparty Agreements in respect of sales of Products.

(k) Attached hereto as Exhibit F are true, correct and complete copies of all material written notices delivered to the Counterparty by the Seller, or by the Counterparty to the Seller, to the extent relating to payments of Royalties, or that would reasonably be expected to result in a Material Adverse Change, or that are otherwise material to the enforceability of the Counterparty Agreements.

Section 3.15 UCC and PPSA Matters.

Except as set forth in Section 3.15 of the Disclosure Schedule, the Seller's exact legal name is, and for the preceding 10 years has been, "Arbutus Biopharma Corporation". The Seller's principal place of business is 100-8900 Glenlyon Pky, Burnaby, BC V5J 5J8. The Seller's jurisdiction of organization is, and for the preceding 10 years has been, British Columbia, Canada. Except as set forth in Section 3.15 of the Disclosure Schedule, for the preceding 10 years, the Seller has not been the subject of any merger or other corporate or other reorganization in which its identity or status was materially changed, except in each case when it was the surviving or resulting Person.

Section 3.16 Set-off and Other Sources of Royalty Reduction.

Except as provided in the Counterparty Agreements or as set forth in Section 3.16 of the Disclosure Schedule: (a) the Counterparties have no contractual right of Set-off under any contract or other agreement against the Purchased Royalties or any other amounts payable to the Seller under the Counterparty Agreements, and to the Knowledge of the Seller, none of the Purchased Royalties will be subject to any Set-off as a result of any facts, circumstances or matters arising or otherwise attributable to the period prior to the Royalty Commencement Date; (b) the Counterparties have not exercised, and, to the Knowledge of the Seller, the Counterparties have not had the right to exercise any Set-off against the Royalties or any other amounts payable to the Seller under the Counterparty Agreements; (c) to the Knowledge of the Seller, there are no third party patents that would provide a basis for a reduction in the Royalties due to the Seller pursuant to the Counterparty Agreements; and (d) there are no compulsory licenses granted or, to the Knowledge of the Seller, threatened to be granted with respect to the Intellectual Property Rights.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES OF THE PURCHASER

The Purchaser hereby represents and warrants to the Seller as of the date hereof as follows:

Section 4.1 Organization.

The Purchaser is a limited partnership duly organized, validly existing and in good standing under the laws of the Province of Ontario and has all powers and authority, and all licenses, permits, franchises, authorizations, consents and approvals of all Governmental Authorities, required to own its property and conduct its business as now conducted. OCM IP Healthcare Portfolio G.P. Inc., the general partner of the Purchaser, is a corporation duly organized, validly existing and in good standing under the laws of the Province of Ontario and has all powers and authority, and all licenses, permits, franchises, authorizations, consents and approvals of all Governmental Authorities, required to own its property and conduct its business as now conducted.

Section 4.2 No Conflicts.

None of the execution and delivery by the Purchaser of any of the Transaction Documents to which the Purchaser is party, the performance by the Purchaser of the obligations contemplated hereby or thereby or the consummation of the transactions contemplated hereby or thereby will contravene, conflict with, result in a breach, violation, cancellation or termination of,

constitute a default (with or without notice or lapse of time, or both) under, require prepayment under, give any Person the right to exercise any remedy or obtain any additional rights under, or accelerate the maturity or performance of or payment under, in any respect, (i) any Applicable Law or any judgment, order, writ, decree, permit or license of any Governmental Authority to which the Purchaser or any of its assets or properties may be subject or bound, (ii) any term or provision of any contract, agreement, indenture, lease, license, deed, commitment, obligation or instrument to which the Purchaser is a party or by which the Purchaser or any of its assets or properties is bound or committed or (iii) any term or provision of any of the organizational documents of the Purchaser.

Section 4.3 Authorization.

The Purchaser has all powers and authority to execute and deliver, and perform its obligations under, the Transaction Documents to which it is party and to consummate the transactions contemplated hereby and thereby. The execution and delivery of each of the Transaction Documents to which the Purchaser is party and the performance by the Purchaser of its obligations hereunder and thereunder have been duly authorized by the Purchaser. Each of the Transaction Documents to which the Purchaser is party has been duly executed and delivered by the Purchaser. Each of the Transaction Documents to which the Purchaser is party constitutes the legal, valid and binding obligation of the Purchaser, enforceable against the Purchaser in accordance with its respective terms, subject to applicable bankruptcy, insolvency, reorganization, moratorium or similar Applicable Laws affecting creditors' rights generally, general equitable principles and principles of public policy.

Section 4.4 Governmental and Third Party Authorizations.

The execution and delivery by the Purchaser of the Transaction Documents to which the Purchaser is party, the performance by the Purchaser of its obligations hereunder and thereunder and the consummation of any of the transactions contemplated hereunder and thereunder do not require any consent, approval, license, order, authorization or declaration from, notice to, action or registration by or filing with any Governmental Authority or any other Person, except as described in Section 3.5.

Section 4.5 No Litigation.

There is no (a) action, suit, arbitration proceeding, claim, demand, citation, summons, subpoena, or other proceeding (whether civil, criminal, administrative, regulatory, investigative or informal) pending or, to the knowledge of the Purchaser, threatened by or against the Purchaser, at law or in equity, or (b) inquiry or investigation (whether civil, criminal, administrative, regulatory, investigative or informal) by or before a Governmental Authority pending or, to the knowledge of the Purchaser, threatened against the Purchaser, that, in each case, challenges or seeks to prevent or delay the consummation of any of the transactions contemplated by any of the Transaction Documents to which the Purchaser is party.

Section 4.6 Access to Information.

The Purchaser acknowledges that it has (a) reviewed the Counterparty Agreements and such other documents and information relating to the Intellectual Property Rights and the Products and (b) had the opportunity to ask such questions of, and to receive answers from, representatives of the Seller concerning the Counterparty Agreements, the Intellectual Property Rights and the Products, in each case, as it deemed necessary to make an informed decision to purchase, acquire and accept the Purchased Assets in accordance with the terms of this Purchase and Sale Agreement. The Purchaser has such knowledge, sophistication and experience in financial and business matters that it is capable of evaluating the risks and merits of purchasing, acquiring and accepting the Purchased Assets in accordance with the terms of this Purchase and Sale Agreement. The Purchaser hereby acknowledges and agrees that, other than the representations and warranties made in Article III of this Purchase and Sale Agreement, (i) the Purchaser has not relied on any factual representations or opinions of the Seller, its Affiliates or their respective representatives, and (ii) none of the Seller or its Affiliates, or any of their respective officers, directors, employees or representatives make or have made any representation or warranty, express or implied, at law or in equity, with respect to the Purchased Assets, the Counterparty Agreements, the Intellectual Property Rights, or any related matters.

ARTICLE V
COVENANTS

The parties hereto covenant and agree as follows:

Section 5.1 Books and Records; Notices.

(a) Promptly (but in no event more than five Business Days) after receipt by the Seller of written notice of any action, suit, claim, demand, dispute, investigation, arbitration or other proceeding (commenced or threatened) against the Seller or any of the Intellectual Property Rights relating to the transactions contemplated by any Transaction Document, the Purchased Assets or any Counterparty Agreement or any default or termination, or any threatened default or termination, by any Person under any of the Counterparty Agreements, or any other fact or circumstance that would reasonably be expected to result in a Material Adverse Change, the Seller shall (i) inform the Purchaser of the receipt of such notice and the substance thereof and (ii) furnish the Purchaser with a complete copy of such notice and any related materials with respect thereto.

(b) The Seller shall keep and maintain, or cause to be kept and maintained, at all times full and accurate books and records adequate to reflect accurately all financial information it has received, and all amounts paid or received under the Counterparty Agreements, with respect to the Royalties.

(c) Promptly (but in no event more than five Business Days) following receipt by the Seller of any written notice, certificate, offer, proposal, correspondence, report or other communication relating to the Counterparty Agreements, the Royalties, the Purchased Assets, or the Products, or any other fact or circumstance that would reasonably be expected to result in a Material Adverse Change, the Seller shall (i) inform the Purchaser of such receipt and (ii) furnish the Purchaser with a complete copy of such notice, certificate, offer, proposal, correspondence, report or other communication.

(d) The Seller shall notify the Purchaser in writing not less than 30 days prior to any change in, or amendment or alteration of, the Seller's (i) legal name, (ii) form or type of organizational structure or (iii) jurisdiction of organization.

Section 5.2 Confidentiality; Public Announcement.

(a) Except as otherwise required by Applicable Law, by the rules and regulations of any securities exchange or trading system or by the FDA or any other Governmental Authority with similar regulatory authority and except as otherwise set forth in this Section 5.2, (i) all Confidential Information furnished by the Seller to the Purchaser shall be kept confidential by the Purchaser and shall be used by the Purchaser only in connection with this Purchase and Sale Agreement and any other Transaction Document and the transactions contemplated hereby and thereby, and (ii) the existence and nature of this Purchase and Sale Agreement and the terms, conditions and provisions of this Purchase and Sale Agreement and any other Transaction Document shall be kept confidential by the Purchaser and the Seller and shall be used by the Purchaser and the Seller only in connection with this Purchase and Sale Agreement and any other Transaction Document and the transactions contemplated hereby and thereby (without limiting the Purchaser's rights under Sections 2.1(c) and 2.1(d)). Notwithstanding the foregoing, the Purchaser and the Seller may disclose such information to their actual and potential: partners, directors, employees, managers, officers, agents, investors (including any holder of debt securities of the Purchaser or the Seller, as applicable, and such holder's advisors, agents and representatives), co-investors, insurers and insurance brokers, underwriters, financing parties, equity holders, brokers, advisors, lawyers, bankers, trustees and representatives with a need to know the same in connection with the Transaction Documents; provided, that such Persons shall be informed of the confidential nature of such information and shall be obligated to keep such information confidential pursuant to obligations of confidentiality no less onerous than those set out herein; provided, further, that the Purchaser or the Seller, as applicable, shall be fully responsible for any breach of this Section 5.2(a) by it, its Affiliates, or any such Person that receives such information from the Purchaser or the Seller, as applicable, pursuant to this Section 5.2(a). Each party shall promptly notify the other party in writing upon becoming aware of any dissemination or use of Confidential Information, as well as terms, conditions and provisions of this Purchase and Sale Agreement or any other Transaction Document, in violation of this Purchase and Sale Agreement.

(b) In the event the Purchaser or its Affiliates is required to disclose Confidential Information (i) in any document to be filed with any Governmental Authority or (ii) by court or administrative order or under Applicable Laws with respect to the Seller or the Purchaser or their respective Affiliates (including Applicable Laws relating to securities matters), as the case may be, or pursuant to the rules and regulations of any stock exchange or stock market on which securities of the Seller or the Purchaser or their respective Affiliates may be listed for trading, the Purchaser shall promptly notify the Seller in writing of such requirement so that the Seller may seek an appropriate protective order or other appropriate remedy (and if the Seller seeks such an order or other remedy, the Purchaser and its Affiliates will provide such cooperation, at the Seller's expense, as the Seller shall reasonably request). If no such protective order or other remedy is obtained and the Purchaser or its Affiliates are, in the opinion of the Purchaser's or its Affiliates' counsel, legally compelled to disclose Confidential Information, the Purchaser and its Affiliates shall only disclose that portion of the Confidential Information that their respective counsel advises that the Purchaser or its Affiliates are compelled to disclose and the Purchaser and its Affiliates shall exercise commercially reasonable efforts to obtain reliable assurance that confidential treatment will accorded to that portion of Confidential Information.

(c) The Seller and the Purchaser acknowledge that each party hereto may, after execution of this Purchase and Sale Agreement, make a public announcement of the transactions contemplated by the Transaction Documents in the form attached hereto as Exhibit G. The Seller and the Purchaser agree that, after the Closing Date, public announcements may be issued in the form of one or more press releases, and in disclosures contained in documents to be filed with or furnished to the SEC, in each case in the form agreed by the parties prior to the execution of this Purchase and Sale Agreement, and either party hereto may thereafter disclose any information contained in such press release or SEC documents at any time without the consent of the other party hereto.

Section 5.3 Commercially Reasonable Efforts; Further Assurances.

(a) Subject to the terms and conditions of this Purchase and Sale Agreement, each party hereto will use its commercially reasonable efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary under Applicable Laws to consummate the transactions contemplated by the Transaction Documents to which the Seller or the Purchaser, as applicable, is party, including to (i) perfect the sale, assignment, transfer, and conveyance of the Purchased Assets to the Purchaser pursuant to this Purchase and Sale Agreement, (ii) execute and deliver such other documents, certificates, instruments, agreements and other writings and to take such other actions as may be necessary or desirable, or reasonably requested by the other

party hereto, in order to consummate or implement expeditiously the transactions contemplated by any Transaction Document to which the Seller or the Purchaser, as applicable, is party, (iii) perfect, protect, more fully evidence, vest and maintain in the Purchaser good, valid and marketable rights and interests in and to the Purchased Assets free and clear of all Liens (other than those permitted by the Transaction Documents), (iv) create, evidence and perfect the Purchaser's back-up security interest granted pursuant to Section 2.1(d) and (v) enable the Purchaser to exercise or enforce any of the Purchaser's rights under any Transaction Document to which the Seller or the Purchaser, as applicable, is party, including following the Closing Date.

(b) The Seller and the Purchaser shall cooperate and provide assistance as reasonably requested by the other party hereto, at the expense of such other party hereto (except as otherwise set forth herein), in connection with any litigation, arbitration, investigation or other proceeding (whether threatened, existing, initiated or contemplated prior to, on or after the date hereof) to which the other party hereto, any of its Affiliates or controlling persons or any of their respective officers, directors, equityholders, controlling persons, managers, agents or employees is or may become a party or is or may become otherwise directly or indirectly affected or as to which any such Persons have a direct or indirect interest, in each case relating to any Transaction Document, the Purchased Assets, or the transactions described herein or therein but in all cases excluding any litigation brought by the Seller (for itself or on behalf of any Seller Indemnified Party) against the Purchaser or its Affiliates or brought by the Purchaser (for itself or on behalf of any Purchaser Indemnified Party) against the Seller or its Affiliates.

(c) The Seller shall comply with all Applicable Laws with respect to the Transaction Documents to which it is party, the Counterparty Agreements to which it is party, the Purchased Assets, and all ancillary agreements related thereto, the violation of which would, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change.

(d) The Seller shall not enter into any contract, agreement or other legally binding arrangement (whether written or oral), or grant any right to any other Person, in any case that would reasonably be expected to conflict with the Transaction Documents or be a Material Adverse Change.

Section 5.4 Payments on Account of the Purchased Assets.

(a) Notwithstanding the terms of the Counterparty Instructions, if the Counterparties, any Sublicensee or any other Person makes any future payment in respect of the Royalties to the Seller (or any of its Subsidiaries) directly on account of the Purchased Royalties or other Purchased Assets, then (i) the portion of such payment that represents Purchased Royalties or other Purchased Assets shall be held by the Seller (or such Subsidiary) in trust for the benefit of the Purchaser in a segregated account, (ii) the Seller (or such Subsidiary) shall have no right, title or interest whatsoever in such portion of such payment and shall not create or suffer to exist any Lien thereon and (iii) the Seller (or such Subsidiary) shall promptly, and in any event no later than two Business Days following the receipt by the Seller (or such Subsidiary) of such portion of such payment, remit such portion of such payment, without Set-off, to the Purchaser Account pursuant to Section 5.4(b) in the exact form received with all necessary endorsements.

(b) The Seller shall make all payments required to be made by it to the Purchaser pursuant to this Purchase and Sale Agreement by wire transfer of immediately available funds, without Set-off to the following account (or to such other account as the Purchaser shall notify the Seller in writing from time to time) (the "Purchaser Account"):

Bank Name: [**]
ABA Number: [**]
Account Number: [**]
Account Name: [**]
Reference: [**]

(c) If the Counterparties, any Sublicensee or any other Person makes any payment to the Purchaser of Royalties (i) relating to periods prior to the Royalties Commencement Date, (ii) relating to periods after the closing of the Repurchase Option, (iii) relating to period after the termination of this Agreement or (iv) that does not constitute a portion of the Purchased Assets, then (i) such payment shall be held by the Purchaser in trust for the benefit of the Seller in a segregated account, (ii) the Purchaser shall have no right, title or interest whatsoever in such payment and shall not create or suffer to exist any Lien thereon and (iii) the Purchaser shall promptly, and in any event no later than two Business Days following the receipt by the Purchaser of such payment, remit such payment, without Set-off, to the Seller Account pursuant to Section 5.4(d) in the exact form received with all necessary endorsements.

(d) The Purchaser shall make all payments required to be made by it to the Seller pursuant to this Purchase and Sale Agreement by wire transfer of immediately available funds, without Set-off, to the following account (or to such other account as the Seller shall notify the Purchaser in writing from time to time) (the "Seller Account"):

Bank Name: [**]
ABA Number: [**]
Account Number: [**]
Account Name: [**]

Section 5.5 Counterparty Agreements.

(a) The Seller (i) shall perform and comply with its duties and obligations under the Counterparty Agreements and the Genevant Cross License Agreement to which it is party, except to the extent any failure to perform or comply with such agreements would not reasonably be expected to result in a Material Adverse Change, (ii) shall not forgive, release or compromise any amount owed to or becoming owing to it under the Counterparty Agreements to which it is party, (iii) shall not assign, amend, modify, supplement, restate, waive, cancel or terminate (or consent to any cancellation or termination of), in whole or in part or in respect of any country in the Territory, any rights constituting or involving, affecting or relating to the Purchased Assets, the Royalties or any of the Counterparty Agreements to which it is party or any provision thereof or right thereunder or the right to receive the Royalties, (iv) shall not breach any of the provisions of any of the Counterparty Agreements to which it is party, except as would not reasonably be expected to result in a Material Adverse Change, and in the event of any such breach that does result in a Material Adverse Change, the Seller, at its own cost and expense, shall use its commercially reasonable efforts to remedy such breach following consultation with the Purchaser, (v) except pursuant to Section 5.6, shall not enter into any new agreement or legally binding arrangement in respect of the Purchased Assets, the Royalties, or the Products, (vi) shall not waive any obligation of, or grant any consent to, the Counterparties under or in respect of the Products, any Counterparty Agreement or the other Royalties to the extent that doing so would reasonably be expected to result in a Material Adverse Change and (vii) except pursuant to Section 5.6, shall not agree to do any of the foregoing.

(b) The Seller shall not, without the prior written consent of the Purchaser, withhold any consent, exercise or waive any right or option, fail to exercise any right or option or exercise or fail to exercise any action in respect of, affecting or relating to the Purchased Assets, the Products or the Counterparty Agreements in any manner that would, in each case, (i) be a Material Adverse Change or (ii) conflict with or cause a default under, or breach or termination of, this Purchase and Sale Agreement, any other Transaction Document or any of the Counterparty Agreements. The Seller shall not, without the prior written consent of the Purchaser, consent to an assignment by the Counterparties of any of the Counterparties' rights or obligations under any of the Counterparty Agreements.

(c) Promptly after (i) receiving notice from the Counterparties or any other Person (A) terminating any of the Counterparty Agreements (in whole or in part or in respect of any country in the Territory), (B) alleging any breach of or default under any of the Counterparty Agreements by the Seller or (C) asserting the existence of any facts, circumstances or events that, alone or together with other facts, circumstances or events, could reasonably be expected (with or without the giving of notice or passage of time, or both) to give rise to a breach of or default under any of the Counterparty Agreements by the Seller or the right to terminate any of the Counterparty Agreements (in whole or in part or in respect of any country in the Territory) by the Counterparties or any other Person or (ii) the Seller otherwise has knowledge of any fact, circumstance or event that, alone or together with other facts, circumstances or events, constitute a material breach of or default under any of the Counterparty Agreements by the Seller or give the right to terminate any of the Counterparty Agreements (in whole or in part or in respect of any country in the Territory) by the Counterparties or any other Person, in each case, the Seller shall (A) promptly (and in any event within five Business Days) give a written notice to the Purchaser describing in reasonable detail the relevant breach, default or termination event, including a complete copy of any written notice received from the Counterparties or the other relevant Person, and, in the case of any breach or default or alleged breach or default by the Seller, describing in reasonable detail any corrective action the Seller proposes to take, and (B) in the case of any breach or default or alleged breach or default by the Seller, use its best efforts at the Seller's cost to promptly cure such breach or default and shall give written notice to the Purchaser upon curing such breach or default; provided, however, that, if the Seller fails to promptly cure any such breach or default, the Purchaser shall, to the extent permitted by the Counterparty Agreements, be entitled to take any and all actions that are reasonably necessary to promptly cure such breach or default, and the Seller shall cooperate with the Purchaser for such purpose and, notwithstanding anything to the contrary herein, reimburse the Purchaser promptly (but in no event later than two Business Days) following demand for all costs and expenses incurred in connection therewith.

(d) Promptly after the Seller obtains knowledge of a breach of or default under, or an alleged breach of or default under, any of the Counterparty Agreements by the Counterparties or any other Person (each, a "Defaulting Party"), or of the existence of any facts, circumstances or events that, alone or together with other facts, circumstances or events, constitute or with the passage of time would constitute a material breach of or default under any of the Counterparty Agreements by a Defaulting Party or would reasonably be expected to result in a Material Adverse Change, or the right to terminate any of the Counterparty Agreements (in whole or in part or in respect of any country in the Territory) by the Seller, in each case, the Seller shall (i) promptly (but in any event within five Business Days) give a written notice to the Purchaser describing in reasonable detail the relevant breach, default or termination event and (ii) proceed in consultation with the Purchaser and take such permissible actions (including commencing legal action against the Defaulting Party and the selection of legal counsel reasonably satisfactory to the Purchaser) and at the Seller's cost to enforce compliance by the Defaulting Party with the relevant provisions of the Counterparty Agreements and to exercise any or all of the Purchaser's or the Seller's rights and remedies, whether under the Counterparty Agreements or by operation of law, with respect thereto.

(e) Subject in each case to the rights and obligations of the Seller pursuant to the Genevant Cross License Agreement, the Seller shall, subject to the provisions of the Alnylam Cross-License Agreement (including Sections 5.1, 5.2, 5.4, 5.5 and Exhibit A-IP Management Terms) and any rights of the Counterparties thereunder, (i) take any and all actions, and prepare, execute, deliver and file any and all agreements, documents and instruments, that are reasonably necessary or desirable to diligently preserve and maintain the Intellectual Property Rights, including payment of maintenance fees or annuities, at the sole expense of

the Seller (which expenses may be reimbursable to the Seller by the Counterparties under the Counterparty Agreements), (ii) diligently defend (and enforce) the Intellectual Property Rights against infringement or interference by any other Person, and against any claims of invalidity or unenforceability, in any jurisdiction (including by bringing any legal action for infringement or defending any counterclaim of invalidity or action of a third party for declaratory judgment of non-infringement or non-interference), with counsel reasonably satisfactory to the Purchaser and whose reasonable fees and expenses shall be borne by the Seller, and (iii) when available in respect of the Products, obtain patents and any corrections, substitutions, reissues and reexaminations thereof, obtain patent term extensions and any applicable supplemental protection certificates and any other forms of patent term restoration in any jurisdiction of the Territory and obtain and maintain patent listing in the FDA Electronic Orange Book. The Seller shall not disclaim or abandon, or fail to take any action necessary or desirable to prevent the disclaimer or abandonment of, any Intellectual Property Rights, including assigning such Intellectual Property Right to Alnylam pursuant to Section 4h of Exhibit A of the Alnylam Cross-License Agreement. In the case that the Seller does not have the first right to prosecute, maintain, enforce or defend any Intellectual Property Right, including where Genevant has the right under the Genevant Cross License Agreement or Alnylam has the right under the Counterparty Agreement, that, in the event that Genevant or Alnylam choose not to prosecute, maintain, enforce or defend any Intellectual Property Right, the Seller will exercise any step in right under the Genevant Cross License Agreement or the Counterparty Agreement, as the case may be, to prosecute, maintain, enforce or defend such Intellectual Property Rights such that there is no Material Adverse Change.

(f) Except in connection with an assignment by the Seller to any other Person with which the Seller may merge or consolidate or to which the Seller may sell all or substantially all of its assets or all of its assets related to the Products in accordance with the provisions of Section 8.3, the Seller shall not dispose of or encumber the Intellectual Property Rights (in whole or in part).

(g) The Seller shall not take any position that is inconsistent with the Seller having granted to Alnylam all rights and interests to enforce or defend all Category 1 Patents as set forth in the Alnylam Cross-License Agreement, with Alnylam, any other third party, or in any judicial, administrative or other proceeding. In the event of any dispute regarding Alnylam's rights or interests to enforce or defend any of the Category 1 Patents, or in the event that any Person other than Alnylam asserts a right to enforce or defend any of the Category 1 Patents, the Seller shall use its best efforts to protect, enforce and defend the rights granted to Alnylam in respect thereof pursuant to the Alnylam Cross-License Agreement.

Section 5.6 Mergers, Consolidations and Asset Sales Involving the Counterparties.

If there occurs a merger or consolidation of the Seller, on the one hand, and the Counterparties or any of its Affiliates, on the other hand, a sale of all or substantially all of the Seller's assets to the Counterparties or a sale or assignment of any of the Counterparty Agreements or the Intellectual Property Rights by the Seller to the Counterparties, and in any such case one or more Counterparty Agreements are terminated in connection therewith, the Seller (or its successor) shall pay to the Purchaser royalties on Net Sales of the applicable Products for the term of such Counterparty Agreements on the same basis as if such Counterparty Agreements had continued and the Purchaser's rights with respect to the Purchased Assets and the covenants of the Seller under this Purchase and Sale Agreement shall continue to apply on the same basis as if such Counterparty Agreements were in place between the Seller and the Counterparties, and the Seller shall cooperate with the Purchaser to take such actions as may be necessary or advisable to reflect such arrangements in the circumstances.

Section 5.7 Audits.

The Seller shall provide all commercially reasonable assistance requested by the Purchaser in order to exercise Purchaser's right to audit Alnylam's books and records in accordance with Section 4.15 of the Alnylam Cross-License Agreement.

Section 5.8 Tax Matters.

(a) All payments to the Purchaser under this Purchase and Sale Agreement shall be made without any deduction or withholding for or on account of any tax unless otherwise required by Applicable Law. Notwithstanding the foregoing, the parties agree that no such deduction or withholding is intended and the Seller shall inform the Purchaser at least ten (10) Business Days in advance of any such withholding and shall cooperate with the Purchaser to take commercially reasonable steps to reduce or eliminate such withholding.

(b) If the Seller, Alnylam or any other applicable United States withholding agent (each such person, a "Withholding Agent") shall be required to deduct or withhold any tax from or in respect of any payment under this Agreement as a result of a change in applicable Law after the date hereof, then the Withholding Agent shall (i) make such deduction or withholding, (ii) timely pay the full amount deducted or withheld to the relevant Governmental Authority in accordance with applicable Law, and (iii) promptly deliver to Purchaser documentary evidence acceptable to Purchaser of such payment. At least 30 days before a Withholding Agent deducts or withholds any such tax, the Withholding Agent shall give the Purchaser written notice describing the required withholding and, during such 30-day period, such Withholding Agent shall reasonably cooperate with the Purchaser to implement any reasonable measures that would reduce or eliminate the amount to be deducted or withheld. If any certification previously made by the Purchaser on any Form W-8 provided to the Seller or any Counterparty becomes inaccurate in any material respect, the Purchaser will promptly notify the Seller and the Counterparty in writing.

(c) If there is an inquiry by any Governmental Authority of the Seller or the Purchaser with respect to taxes related to this Agreement, the parties hereto shall cooperate with each other in responding to such inquiry in a reasonable manner.

(d) The transactions contemplated by this Agreement are intended to be treated as a financing for United States federal, state and local tax purposes. The Seller and the Purchaser shall file tax returns consistent with such intent and shall not take a position that is inconsistent with such intent in any tax audit or other proceeding.

(e) The Purchaser hereby represents and warrants that it is exempt from United States federal withholding tax on all payments with respect to the Purchased Assets. The Purchaser hereby represents and warrants that it is acting as a principal, and not as an agent for any other Person, in connection with the execution, delivery and performance by the Purchaser of this Agreement and the consummation of the transactions contemplated thereby.

Section 5.9 Existence.

The Seller shall (a) preserve and maintain its existence (provided, however, that nothing in this Section 5.9(a) shall prohibit the Seller from entering into any merger, consolidation or amalgamation with, or selling or otherwise transferring all or substantially all of its assets to, any other Person if the Seller is the continuing or surviving entity or if the surviving or continuing or acquiring entity assumes (either expressly or by operation of law) all of the obligations of the Seller) and such transaction would not reasonably be expected to result in a Material Adverse Change, (b) preserve and maintain its rights, franchises and privileges unless failure to do any of the foregoing would not be a Material Adverse Change, (c) qualify and remain qualified in good standing in each jurisdiction where the failure to preserve and maintain such qualifications would be a Material Adverse Change, including appointing and employing such agents or attorneys in each jurisdiction where it shall be necessary to take action under this Purchase and Sale Agreement, and (d) comply in all material respects with its organizational documents.

ARTICLE VI
THE CLOSING

Section 6.1 Closing.

The closing of the transactions contemplated hereby (the "Closing") shall take place on the date hereof (the "Closing Date") by the exchange of documents electronically or by email.

Section 6.2 Closing Deliverables of the Seller.

At the Closing, the Seller shall deliver or cause to be delivered to the Purchaser the following:

(a) the Bill of Sale executed by the Seller;

(b) the Counterparty Instructions executed by the Seller;

(c) a certificate of an executive officer of the Seller (the statements made in which shall be true and correct on and as of the Closing Date): (i) attaching copies, certified by such officer as true and complete, of (x) the organizational documents of the Seller and (y) resolutions of the governing body of the Seller authorizing and approving the execution, delivery and performance by the Seller of the Transaction Documents and the transactions contemplated herein and therein; (ii) setting forth the incumbency of the officer or officers of the Seller who have executed and delivered the Transaction Documents, including therein a signature specimen of each such officer or officers; and (iii) attaching a copy, certified by such officer as true and complete, of a good standing certificate of the appropriate Governmental Authority of the Seller's jurisdiction of organization, stating that the Seller is in good standing under the Applicable Laws of such jurisdiction; and

(d) such other certificates, documents and financing statements as the Purchaser may reasonably request, including a financing statement reasonably satisfactory to the Purchaser to create, evidence and perfect the sale, assignment, transfer, and conveyance of the Purchased Assets pursuant to Section 2.1 and the back-up security interest granted pursuant to Section 2.1(d).

Section 6.3 Closing Deliverables of the Purchaser.

At the Closing, the Purchaser shall deliver or cause to be delivered to the Seller the following:

(a) the Bill of Sale executed by the Purchaser; and

(b) payment of the Purchase Price in accordance with Section 2.2.

Section 6.4 Second Closing.

(a) The closing of the purchase and sale of the Additional Royalties (the "Second Closing") shall take place on the Second Closing Date by the exchange of documents electronically or by email, subject to the satisfaction of the following conditions in favour of the Purchaser, each of which may be waived by the Purchaser in its sole discretion:

(i) no Material Adverse Change shall have occurred and be continuing as of the Second Closing Date;

(ii) each of the Fundamental Representations and Warranties of the Seller in this Purchase and Sale Agreement will be true and correct as of the Second Closing, and all other representations and warranties of the Seller contained in this Purchase and Sale Agreement shall have been true and correct as of the Closing and, subject to the transactions that occurred at the Closing, will be true and correct as of the Second Closing except to the extent that all inaccuracies or incompleteness therein would not, in the aggregate, reasonably be expected to result in a Material Adverse Change (it being understood that for the purposes of such determination, all such representations and warranties that are qualified as to "material", "material respects", "Material Adverse Change" or words of similar import or effect will be deemed to have been made without such qualification), and a certificate of a senior officer of the Seller, dated the Second Closing Date, to that effect shall have been delivered to the Purchaser. On the delivery of this certificate, the representations and warranties of the Seller in this Purchase and Sale Agreement will be deemed to have been made at and as of the Second Closing Date with the same force and effect as if made at and as of that time, in each case subject to the transactions that occurred at the Closing;

(iii) the Seller shall have delivered a Bill of Sale in respect of the Additional Royalties, dated the Second Closing Date, duly executed by the Seller, which Bill of Sale shall automatically become effective upon receipt by the Seller of the Additional Purchase Price from the Purchaser; and

(iv) the Seller shall deliver such other certificates, documents and financing statements as the Purchaser may reasonably request, including a financing statement reasonably satisfactory to the Purchaser to create, evidence and perfect the sale, assignment, transfer, and conveyance of the Additional Royalties pursuant to Section 2.1 and the back-up security interest granted pursuant to Section 2.1(d).

ARTICLE VII
INDEMNIFICATION

Section 7.1 Indemnification by the Seller.

The Seller agrees to indemnify and hold each of the Purchaser and its Affiliates and any and all of their respective partners, directors, managers, members, officers, employees, agents and controlling persons (each, a "Purchaser Indemnified Party") harmless from and against, and to pay to each Purchaser Indemnified Party the amount of, any and all Losses awarded against or actually incurred or suffered by such Purchaser Indemnified Party, whether or not involving a third party claim, demand, action or proceeding, (I) arising out of (i) any breach of any representation, warranty or certification made by the Seller in any of the Transaction Documents to which the Seller is party or certificates given by the Seller to the Purchaser in writing pursuant to this Purchase and Sale Agreement or any other Transaction Document, (ii) any breach of or default under any covenant or agreement by the Seller to the Purchaser pursuant to any Transaction Document to which the Seller is party or any of the Counterparty Agreements to which the Seller or any of its Affiliates is party, (iii) any of the liabilities or obligations of the Seller (unless such liabilities or obligations are due to the Purchaser not complying with any confidentiality provisions set forth in the Counterparty Agreements), including the Retained Liabilities, and (iv) any fees, expenses, costs, liabilities or other amounts incurred or owed by the Seller to any brokers, financial advisors or comparable other Persons retained or employed by it in connection with the transactions contemplated by this Purchase and Sale Agreement; or (II) relating to the rights of Alnylam to enforce or defend any of the Category 1 Patents in any suit or action relating to patent infringement or invalidity against or brought by a competitor or post-grant proceeding, including *Inter Partes* Review proceedings arising from the Seller or its Affiliates being party to any other contract, agreement or other understanding or arrangement (whether written or oral) relating to the rights to enforce or defend any of the Category 1 Patents; provided, however, that the foregoing clauses (I) and (II) shall exclude any indemnification to any Purchaser Indemnified Party (A) that has the effect of imposing on the Seller any recourse liability for Royalties because of the insolvency or other creditworthiness problems of the Counterparties or the insufficiency of the Royalties, whether as a result of the amount of cash flow arising from sales or licensing of the Products or otherwise, unless resulting from the failure of the Seller to perform its obligations under this Purchase and Sale Agreement, (B) that results from the bad faith, gross negligence or willful misconduct of such Purchaser Indemnified Party, (C) to the extent resulting from the failure of any Person other than the Seller to perform any of its obligations under any of the Transaction Documents or (D) to the extent resulting from acts or omissions of the Seller based upon the written instructions from any Purchaser Indemnified Party. Any amounts due to any Purchaser Indemnified Party hereunder shall be payable by the Seller to such Purchaser Indemnified Party upon demand.

Section 7.2 Indemnification by the Purchaser.

The Purchaser agrees to indemnify and hold each of the Seller and its Affiliates and any and all of their respective partners, directors, managers, members, officers, employees, agents and controlling Persons (each, a "Seller Indemnified Party") harmless from and against, and will pay to each Seller Indemnified Party the amount of, any and all Losses (including attorneys' fees) awarded against or actually incurred or suffered by such Seller Indemnified Party, whether or not involving a third party claim, demand, action or proceeding, arising out of (i) any breach of any representation, warranty or certification made by the Purchaser in any of the Transaction Documents or certificates given by the Purchaser in writing pursuant hereto or thereto, (ii) any breach of or default under any covenant or agreement by the Purchaser pursuant to any Transaction Document to which the Purchaser is party and (iii) any fees, expenses, costs, liabilities or other amounts incurred or owed by the Purchaser to any brokers, financial advisors or comparable other Persons retained or employed by it in connection with the transactions contemplated by this Purchase and Sale Agreement; provided, however, that the foregoing shall exclude any indemnification to any Seller Indemnified Party (A) that results from the bad faith, gross negligence or willful misconduct of such Seller Indemnified Party, (B) to the extent resulting from the failure of any Person other than the Purchaser to perform any of its obligations under any of the Transaction Documents or (C) to the extent resulting from acts or omissions of the Purchaser based upon the written instructions from any Seller Indemnified Party. Any amounts due to any Seller Indemnified Party hereunder shall be payable by the Purchaser to such Seller Indemnified Party upon demand.

Section 7.3 Limitations.

(a) All Fundamental Representations and Warranties and covenants made herein and in any other Transaction Document or any certificate delivered pursuant to this Purchase and Sale Agreement shall survive the execution and delivery of this Purchase and Sale Agreement and the Closing and shall continue in full force and effect until this Purchase and Sale Agreement is terminated. All representations and warranties made herein and in any other Transaction Document or any certificate delivered pursuant to this Purchase and Sale Agreement, other than then Fundamental Representations and Warranties, shall survive the execution and delivery of this Purchase and Sale Agreement and the Closing and shall continue in full force and effect until the later to occur of (i) April 1, 2021 and (ii) if the Second Closing occurs, the date that is three months following the Second Closing Date. Neither the Seller nor the Purchaser shall have any liability with respect to claims first asserted in connection with any representation, warranty or covenant after the survival period specified therefor in this Section 7.3(a).

(b) Neither the Seller nor the Purchaser shall be liable for any claim for indemnification made pursuant to Section 7.1(I)(i) or Section 7.2(i), as the case may be, unless the aggregate amount of any Losses incurred that are the subject

matter of indemnification equals or exceeds 1% of the Purchase Price (the "Basket"), in which case the Seller or the Purchaser, as the case may be, shall be liable only for the aggregate amount of Losses that exceed the amount of the Basket.

(c) In no event shall the total liabilities of the Seller or the Purchaser under this Purchase and Sale Agreement for all Losses pursuant to Section 7.1(I)(i) (other than in the case of Fundamental Representations and Warranties) or Section 7.2(i) exceed ten percent (10%) of the Purchase Price actually paid to the Seller. In no event shall the total liabilities of the Seller under this Purchase and Sale Agreement for all Losses pursuant to Section 7.1(I)(i) in the case of Fundamental Representations and Warranties exceed an amount equal to difference between (A) the Purchase Price actually paid to the Seller minus (B) the aggregate amount of Purchased Royalties actually received by the Purchaser.

Section 7.4 Procedures.

If any claim, demand, action or proceeding (including any investigation by any Governmental Authority) shall be brought or alleged against an indemnified party in respect of which indemnity is to be sought against an indemnifying party pursuant to Section 7.1 or Section 7.2, the indemnified party shall, promptly after receipt of notice of the commencement of any such claim, demand, action or proceeding, notify the indemnifying party in writing of the commencement of such claim, demand, action or proceeding, enclosing a copy of all papers served, if any; provided, that the omission to so notify such indemnifying party will not relieve the indemnifying party from any liability that it may have to any indemnified party under Section 7.1 or Section 7.2 unless, and only to the extent that, the indemnifying party is actually prejudiced by such omission. In the event that any such action is brought against an indemnified party and it notifies the indemnifying party of the commencement thereof in accordance with this Section 7.4, the indemnifying party will be entitled, at the indemnifying party's sole cost and expense, to participate therein and, to the extent that it may wish, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party will not be liable to such indemnified party under this Article VII for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation. In any such proceeding, an indemnified party shall have the right to retain its own counsel, but the reasonable fees and expenses of such counsel shall be at the expense of such indemnified party unless (a) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (b) the indemnifying party has assumed the defense of such proceeding and has failed within a reasonable time to retain counsel reasonably satisfactory to such indemnified party or (c) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to a conflict of interests between them based on the advice of counsel to the indemnifying party. It is agreed that the indemnifying party shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees and expenses of more than one separate law firm (in addition to local counsel where necessary) for all such indemnified parties. The indemnifying party shall not be liable for any settlement of any proceeding effected without its written consent, but, if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees, subject to the limitations set forth herein, to indemnify the indemnified party from and against any Loss by reason of such settlement or judgment.

Section 7.5 Exclusive Remedy.

Except in the case of fraud, following the Closing, the indemnification afforded by this Article VII shall be the sole and exclusive remedy for any and all Losses awarded against or incurred or suffered by a party hereto in connection with the transactions contemplated by the Transaction Documents, including with respect to any breach of any representation, warranty or certification made by a party hereto in any of the Transaction Documents or certificates given by a party hereto in writing pursuant hereto or thereto or any breach of or default under any covenant or agreement by a party hereto pursuant to any Transaction Document. Notwithstanding anything in this Purchase and Sale Agreement to the contrary, in the event of any breach or failure in performance of any covenant or agreement contained in any Transaction Document, the non-breaching party shall be entitled to specific performance, injunctive or other equitable relief pursuant to Section 8.1.

ARTICLE VIII
MISCELLANEOUS

Section 8.1 Specific Performance.

Each of the parties hereto acknowledges that the other party hereto will have no adequate remedy at law if it fails to perform, or threatens not to perform, any of its obligations under any of the Transaction Documents. In such event, each of the parties hereto agrees that the other party hereto shall have the right, in addition to any other rights it may have (whether at law or in equity), to specific performance of this Purchase and Sale Agreement and temporary or permanent injunctive relief or other equitable relief as a remedy for any actual or threatened breach of this Purchase and Sale Agreement.

Section 8.2 Notices.

All notices, consents, waivers and other communications hereunder shall be in writing and shall be effective (a) upon receipt when sent through the mails, registered or certified mail, return receipt requested, postage prepaid, with such receipt to be

effective the date of delivery indicated on the return receipt, (b) upon receipt when sent by an overnight courier, (c) on the date personally delivered to an authorized officer of the party to which sent or (d) on the date transmitted by email or other electronic transmission with a confirmation of receipt, in all cases, with a copy emailed to the recipient at the applicable address, addressed to the recipient as follows:

if to the Seller, to:

c/o Arbutus Biopharma Corporation
701 Veterans Circle,
Warminster, PA 18974
Attention: Elizabeth Howard
Email: ehoward@arbutusbio.com

with a copy to (which shall not constitute notice):

Morrison & Foerster, LLP
250 West 55th Street
New York, New York 10019
Attention: Peter Rooney
Email: prooney@mofo.com

if to the Purchaser, to:

OCM IP Healthcare Portfolio LP
c/o OMERS Capital Markets
100 Adelaide Street West, Suite 900
Toronto, Ontario, Canada M5H 0E2
Attention: Rob Missere, Managing Director, Intellectual Property Strategies
Email: rmissere@omers.com

with a copy to (which shall not constitute notice):

OCM IP Healthcare Portfolio LP
c/o OMERS Capital Markets
100 Adelaide Street West, Suite 900
Toronto, Ontario, Canada M5H 0E2
Attention: Danial Lam, Managing Director, Legal & Business Development
Email: dlam@omers.com and ocmlegal@omers.com

Each party hereto may, by notice given in accordance herewith to the other party hereto, designate any further or different address to which subsequent notices, consents, waivers and other communications shall be sent.

Section 8.3 Successors and Assigns.

The provisions of this Purchase and Sale Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and permitted assigns. The Seller shall not be entitled to assign any of its obligations and rights under this Purchase and Sale Agreement without the prior written consent of the Purchaser; provided, however, that the Seller may, without the consent of the Purchaser, assign any of its obligations or rights under this Purchase and Sale Agreement to any other Person with which it may merge or consolidate or to which it may sell all or substantially all of its assets or all of its assets related to the Products, provided that the assignee under such assignment agrees to be bound by the terms of the Transaction Documents and furnishes a written agreement to the Purchaser in form and substance reasonably satisfactory to the Purchaser to that effect. The Purchaser shall not be entitled to assign any of its obligations and rights under this Purchase and Sale Agreement to any Person other than Affiliates of the Purchaser without the prior written consent of the Seller, which consent will not be unreasonably withheld, conditioned or delayed. No assignment or purported assignment hereunder by the Purchaser shall be effective: (a) if the assignee is a Competitor; or (b) the assignment violates or conflicts with the terms and conditions of the Alnylam Consent. Any assignee of the Purchaser must agree to be bound by the terms of the Transaction Documents and furnish a written agreement to the Seller, in form and substance reasonably satisfactory to the Seller, to that effect. No assignment by the Purchaser shall relieve the Purchaser of its obligations under this Agreement. The Purchaser shall give 10 Business Days' prior written notice to the Seller before completing any assignment of any of its obligations and rights under this Purchase and Sale Agreement. Neither party shall be under any obligation to reaffirm any representations, warranties or covenants made in this Purchase and Sale Agreement or any of the other Transaction Documents or take any other action in connection with any such assignment by the other party. As used in this Section 8.3, "Competitor" means any Person who is primarily engaged in the business of discovering, developing or commercializing biopharmaceutical products.

Section 8.4 Independent Nature of Relationship.

The relationship between the Seller and the Purchaser is solely that of seller and purchaser, and neither the Seller nor the Purchaser has any fiduciary or other special relationship with the other party hereto or any of its Affiliates. Nothing contained herein or in any other Transaction Document shall be deemed to constitute the Seller and the Purchaser as a partnership, an association, a joint venture or any other kind of entity or legal form.

Section 8.5 Entire Agreement.

This Purchase and Sale Agreement, together with the Exhibits hereto (which are incorporated herein by reference) and the other Transaction Documents, and the Confidentiality Agreement dated as of August 31, 2018 between the Seller and OMERS Capital Markets, a

division of OMERS Administration Corporation, constitute the entire agreement between the parties hereto with respect to the subject matter hereof and supersede all prior agreements, understandings and negotiations, both written and oral, between the parties hereto with respect to the subject matter of this Purchase and Sale Agreement. No representation, inducement, promise, understanding, condition or warranty not set forth herein (or in the Exhibits hereto or the other Transaction Documents) has been made or relied upon by either party hereto. Neither this Purchase and Sale Agreement nor any provision hereof is intended to confer upon any Person other than the parties hereto and the other Persons referenced in Article VII any rights or remedies hereunder.

Section 8.6 Governing Law.

(a) This Purchase and Sale Agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the federal laws of Canada applicable therein.

(b) Each of the parties hereto hereby irrevocably and unconditionally submits, for itself and its property, to the non-exclusive jurisdiction of the courts of the Province of Ontario, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Purchase and Sale Agreement, or for recognition or enforcement of any judgment, and each of the parties hereto hereby irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such courts.

(c) Each of the parties hereto hereby irrevocably and unconditionally waives, to the fullest extent it may legally and effectively do so, any objection that it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Purchase and Sale Agreement in any court referred to in Section 8.6(b). Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by Applicable Law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(d) Each of the parties hereto irrevocably consents to service of process in the manner provided for notices in Section 8.2. Nothing in this Purchase and Sale Agreement will affect the right of any party hereto to serve process in any other manner permitted by Applicable Law. Each of the parties hereto waives personal service of any summons, complaint or other process, which may be made by any other means permitted by Ontario law.

Section 8.7 Waiver of Jury Trial.

EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS PURCHASE AND SALE AGREEMENT, OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH PARTY HERETO (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF THE OTHER PARTY HERETO HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT THE OTHER PARTY HERETO WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO

ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT IT AND THE OTHER PARTY HERETO HAVE BEEN INDUCED TO ENTER INTO THIS PURCHASE AND SALE AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION 8.7.

Section 8.8 Severability.

If one or more provisions of this Purchase and Sale Agreement are held to be invalid, illegal or unenforceable by a court of competent jurisdiction, such invalidity, illegality or unenforceability shall not affect any other provision of this Purchase and Sale Agreement, which shall remain in full force and effect, and the parties hereto shall replace such invalid, illegal or unenforceable provision with a new provision permitted by Applicable Law and having an economic effect as close as possible to the invalid, illegal or unenforceable provision. Any provision of this Purchase and Sale Agreement held invalid, illegal or unenforceable only in part or degree by a court of competent jurisdiction shall remain in full force and effect to the extent not held invalid, illegal or unenforceable.

Section 8.9 Counterparts.

This Purchase and Sale Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Purchase and Sale Agreement shall become effective when each party hereto shall have received a counterpart hereof signed by the other party hereto. Any counterpart may be executed by facsimile or other electronic transmission, and such facsimile or other electronic transmission shall be deemed an original.

Section 8.10 Amendments; No Waivers.

Neither this Purchase and Sale Agreement nor any term or provision hereof may be amended, supplemented, restated, waived, changed or modified except with the written consent of the parties hereto. No failure or delay by either party hereto in exercising any right, power or privilege hereunder shall operate as a waiver thereof nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any other right, power or privilege. No notice to or demand on either party hereto in any case shall entitle it to any notice or demand in similar or other circumstances. No waiver or approval hereunder shall, except as may otherwise be stated in such waiver or approval, be applicable to subsequent transactions. No waiver or approval hereunder shall require any similar or dissimilar waiver or approval thereafter to be granted hereunder. Except as expressly provided herein, the rights and remedies herein provided shall be cumulative and not exclusive of any rights or remedies provided by Applicable Law.

Section 8.11 Cumulative Remedies.

The remedies herein provided are cumulative and not exclusive of any other remedies provided in this Agreement. Notwithstanding anything to the contrary herein, the Seller hereby authorizes the Purchaser, at any time and from time to time, to the fullest extent permitted by

Applicable Law, to offset any amounts payable by the Purchaser to, or for the account of, the Seller against any obligations of the Seller to the Purchaser arising in connection with the Transaction Documents (including amounts payable pursuant to Article VII) that are then due and payable.

Section 8.12 Table of Contents and Headings.

The Table of Contents and headings of the Articles and Sections of this Purchase and Sale Agreement have been inserted for convenience of reference only, are not to be considered a part hereof and shall in no way modify or restrict any of the terms or provisions hereof.

Section 8.13 Currency Exchange.

If, for the purpose of obtaining a judgment or order in any court, it is necessary to convert a sum due hereunder from Dollars into another currency, the Seller has agreed, to the fullest extent that it may effectively do so, that the rate of exchange used shall be that at which, in accordance with normal banking procedures, the Purchaser could purchase Dollars with such other currency in the Borough of Manhattan, The City of New York on the Business Day preceding the day on which final judgment is given.

Section 8.14 Judgment Currency.

The obligation of the Seller in respect of any sum payable by it to the Purchaser hereunder shall, notwithstanding any judgment or order in a currency other than Dollars (the "Judgment Currency"), be discharged only to the extent that, on the Business Day following receipt by the Purchaser of any sum adjudged to be so due in the Judgment Currency, the Purchaser may in accordance with normal banking procedures purchase Dollars with the Judgment Currency. If the amount of Dollars so purchased is less than the sum originally due to the Purchaser in the Judgment Currency, the Seller agrees, as a separate obligation and notwithstanding any such judgment, to indemnify the Purchaser against such loss, and, if the amount of the Dollars so purchased exceeds the sum originally due to the Purchaser, the Purchaser shall remit to the Seller such excess, provided that the Purchaser shall have no obligation to remit any such excess as long as the Seller shall have failed to pay the Purchaser any obligations due and payable to the Purchaser hereunder, in which case such excess may be applied to such obligations of the Seller in accordance with the terms hereof. The foregoing indemnity shall constitute a separate and independent obligation of the Seller and shall continue in full force and effect notwithstanding any such judgment or order as aforesaid.

Section 8.15 Disclosure Schedule.

(a) Matters reflected in the Disclosure Schedule are not necessarily limited to matters required by this Purchase and Sale Agreement to be reflected in the Disclosure Schedule. Such additional matters are set forth for information purposes.

(b) Unless the context of the provisions in this Purchase and Sale Agreement having reference to a particular Schedule otherwise requires, it is understood and agreed that the inclusion of any specific item in the Disclosure Schedule is not intended to imply that such items so included or other items are or are not material.

(c) No disclosure in the Disclosure Schedule relating to any possible breach or violation of any agreement, law or regulation shall be construed as an admission or indication that any such breach or violation exists or has actually occurred.

(d) The Disclosure Schedule is intended only to qualify and limit the representations and warranties of the Seller contained in this Purchase and Sale Agreement and shall not be deemed to expand in any way the scope or effect of any of such representations and warranties

(e) For purposes of the Disclosure Schedule, any information, item, or other disclosure set forth in any section of the Disclosure Schedule shall be deemed to have been set forth in another section of the Disclosure Schedule if it is reasonably apparent on the face of such disclosure that such disclosure is applicable to such other section of the Disclosure Schedule.

Section 8.16 Termination.

This Purchase and Sale Agreement shall terminate upon:

(a) the mutual written agreement of the Purchaser and the Seller; or

(b) the consummation of a Repurchase Sale; or

(c) the receipt by the Purchaser of the applicable Royalty Threshold Amount.

provided however, the following provisions shall survive any termination and remain in effect in accordance with, and subject to, their terms: Section 5.2, Section 5.3, Section 5.4, Section 5.8(c), Article VII, and Article VIII.

{SIGNATURE PAGE FOLLOWS}

IN WITNESS WHEREOF, the parties hereto have executed this Purchase and Sale Agreement as of the day and year first written above.

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Michael McElhaugh
Name: Michael McElhaugh
Title: Chief Business Officer

OCM IP HEALTHCARE PORTFOLIO LP, by its general partner, OCM IP HEALTHCARE PORTFOLIO G.P. INC.

By: /s/ Rob Missere
Name: Rob Missere
Title: President

By: /s/ Bern Wu
Name: Bern Wu
Title: Vice President

ARBUTUS BIOPHARMA CORPORATION
2016 OMNIBUS SHARE AND INCENTIVE PLAN
(as adopted by the board of directors on April 6, 2016 and approved by the shareholders on May 19, 2016; and as supplemented by the Committee on May 9, 2019)

Section 1. Purpose

The purpose of the Plan is to promote the interests of the Company by aiding the Company in attracting and retaining employees, officers, consultants, advisors and non-employee Directors to promote the business and financial success of the Company, to offer such persons incentives to put forth maximum efforts for the success of the Company's business and to compensate such persons through various share and cash based arrangements and provide them with opportunities for share ownership in the Company, thereby aligning the interests of such persons with the Company's shareholders.

Section 2.Definitions

As used in the Plan, the following terms shall have the meanings set forth below:

(a) "**Affiliate**" shall mean any entity that, directly or indirectly through one or more intermediaries, is controlled by the Company.

(b) "**Award**" shall mean any Option, Stock Appreciation Right, Restricted Stock, Restricted Stock Unit, Performance Award, Dividend Equivalent or Other Stock-Based Award granted under the Plan.

(c) "**Award Agreement**" shall mean any written agreement, contract or other instrument or document evidencing an Award granted under the Plan (including a document in an electronic medium) executed in accordance with the requirements of Section 9(c).

(d) "**Board**" shall mean the Board of Directors of the Company.

(e) "**Cause**" in respect of a Participant means:

(i) if "Cause" is defined in an employment agreement between such Participant and the Company, the meaning of "Cause" as provided for in such employment agreement; and

(ii) if Cause is not so defined, a circumstance that would entitle the Company to terminate the employment or services of such Participant at law without notice or compensation as a result of such termination;

(f) "**Change in Control**" means, unless specified otherwise in an existing agreement with a Participant:

(i) the sale of all or substantially all of the assets of the Company to a non-Affiliate;

(ii) a merger, reorganization, or consolidation involving the Company in which the voting securities outstanding immediately prior to the transaction represent or are converted into or exchanged for securities of the surviving or resulting entity that, immediately upon completion of the transaction, represent less than 50% of the outstanding voting power of the surviving or resulting entity;

(iii) the acquisition of all or a majority of the outstanding voting securities of the Company in a single transaction or a series of related transactions by a person or group of persons;

provided however, that a Change in Control shall not be deemed to have occurred if such Change in Control results solely from the issuance, in connection with a bona fide financing or series of financings by the Company or an Affiliate of the Company, of voting securities of the Company or an Affiliate of the Company or any rights to acquire voting securities of the Company or an Affiliate of the Company which are convertible into voting securities, or if the Company effects a transaction solely to change the Company's domicile.

(g) "**Committee**" shall mean the Compensation Committee of the Board or such other committee designated by the Board to administer the Plan. The Committee shall be comprised of not less than such number of Directors as shall be required to permit Awards granted under the Plan to qualify under Rule 16b-3, and each member of the Committee shall be a "non-employee director" within the meaning of Rule 16b-3 and an "outside director" within the meaning of Section 162(m).

(h) "**Company**" shall mean Arbutus Biopharma Corporation and any successor corporation.

(i) "**Director**" shall mean a member of the Board.

(j) "**Dividend Equivalent**" shall mean any right granted under Section 6(e) of the Plan.

(k) **"Effective Date**" shall have the meaning ascribed thereto in Section 11 of the Plan;

(l) "**Eligible Person**" shall mean any employee, officer, non-employee Director, consultant, independent contractor or advisor providing services to the Company or any Affiliate, or any such person to whom an offer of employment or engagement with the Company or any Affiliate is extended.

(m) "**Fair Market Value**" with respect to a Share as of any date shall mean (a) if the Share is listed on any established stock exchange, the price of one Share at the close of the regular trading session of such market or exchange on such date, as reported by The Wall Street Journal or a comparable reporting service, or, if no sale of Shares shall have occurred on such date, on the next preceding date on which there was a sale of Shares; (b) if the Shares are not so listed on any established stock exchange,

the average of the closing "bid" and "asked" prices quoted by the OTC Bulletin Board, the National Quotation Bureau, or any comparable reporting service on such date or, if there are no quoted "bid" and "asked" prices on such date, on the next preceding date for which there are such quotes for a Share; or (c) if the Shares are not publicly traded as of such date, the per share value of a Share, as determined by the Board, or any duly authorized Committee of the Board, in its sole discretion, by applying principles of valuation with respect thereto.

(n) "**Full Value Award**" shall mean any Award other than an Option, Stock Appreciation Right or similar Award, the value of which is based solely on an increase in the value of the Shares after the date of grant of such Award.

(o) "**Good Reason**" in respect of a Participant means:

(i) if "Good Reason" is defined in an employment agreement between such Participant and the Company, the meaning of "Good Reason" as provided for in such employment agreement; and

(ii) if Good Reason is not so defined, a circumstance that would allow a Participant to claim "constructive dismissal" at law, including a material diminution in the Participant's title, responsibilities, reporting relationship or compensation.

(p) "**Non-Qualified Stock Option**" shall mean an option granted under Section 6(a) of the Plan that is not intended to be a U.S. Incentive Stock Option.

(q) "**Option**" shall mean a U.S. Incentive Stock Option or a Non-Qualified Stock Option to purchase shares of the Company.

(r) "**Other Stock-Based Award**" shall mean any right granted under Section 6(f) of the Plan.

(s) "**Participant**" shall mean an Eligible Person designated to be granted an Award under the Plan.

(t) "**Performance Award**" shall mean any right granted under Section 6(d) of the Plan.

(u) "**Performance Goal**" with respect to a Performance Award shall mean one or more of the following performance goals, either individually, alternatively or in any combination, applied on a corporate, subsidiary, division, business unit or line of business basis:

- economic value added (EVA);
- sales or revenue;

- income (including without limitation operating income, pre tax income and income attributable to the Company);
- cash flow (including without limitation free cash flow and cash flow from operating, investing or financing activities or any combination thereof);
- earnings (including without limitation earnings before or after taxes, earnings before interest and taxes (EBIT), earnings before interest, taxes, depreciation and amortization (EBITDA) and earnings (whether before or after taxes), EBIT or EBITDA as a percentage of net sales;
- returns (including one or more of return on actual or pro forma assets, net assets, equity, investment, revenue, sales, capital and net capital employed, total shareholder return (TSR) and total business return (TBR));
- implementation, completion or achievement of critical corporate objectives or projects, including specified milestones in the discovery, development, commercialization and/or manufacturing of one or more products or product candidates; and
- share price (minimum $20.00 per Share).

Each such Performance Goal may be based (i) solely by reference to absolute results of individual performance or organizational performance at various levels (e.g., the Company's performance or the performance of a subsidiary, division, business segment or business unit of the Company) or (ii) upon organizational performance relative to the comparable performance of other companies selected by the Committee. To the extent consistent with Section 162(m), the Committee may, when it establishes performance criteria, also provide for the exclusion of charges related to an event or occurrence which the Committee determines should appropriately be excluded, including (X) asset write downs, litigation or claim judgments or settlements, reorganizations, the impact of acquisitions and divestitures, restructurings, discontinued operations, extraordinary items, and other unusual or non recurring charges, (Y) foreign exchange gains and losses or an event either not directly related to the operations of the Company or not within the reasonable control of the Company's management, or (Z) the cumulative effects of tax or accounting changes in accordance with U.S. generally accepted accounting principles (or other accounting principles which may then be in effect). To the extent that Section 162(m) or applicable tax and/or securities laws change to permit Committee discretion to alter the governing performance measures without disclosing to shareholders and obtaining shareholder approval of such changes and without thereby exposing the Company to potentially adverse tax or other legal consequences, the Committee shall have the sole discretion to make such changes without obtaining shareholder approval.

(v) "**Person**" shall mean any individual or entity, including a corporation, partnership, limited liability company, association, joint venture or trust.

(w) "**Plan**" shall mean the Arbutus 2016 Omnibus Share and Incentive Plan, as amended from time to time.

(x) "**Restricted Stock**" shall mean any Share granted under Section 6(c) of the Plan.

(y) "**Restricted Stock Unit**" shall mean any unit granted under Section 6(c) of the Plan evidencing the right to receive a Share (or a cash payment equal to the Fair Market Value of a Share) at some future date.

(z) "**Rule 16b-3**" shall mean Rule 16b-3 promulgated by the Securities and Exchange Commission under the U.S. Exchange Act, as amended, or any successor rule or regulation.

(aa) "**Section 162(m)**" shall mean Section 162(m) of the U.S. Code, or any successor provision, and the applicable Treasury Regulations promulgated thereunder.

(bb) "**Section 409A**" shall mean Section 409A of the U.S. Code, or any successor provision, and applicable Treasury Regulations and other applicable guidance thereunder.

(cc) "**Share**" or "**Shares**" shall mean common shares without par value in the capital of the Company (or such other securities or property as may become subject to Awards pursuant to an adjustment made under Section 4(c) of the Plan).

(dd) "**Specified Employee**" shall mean a specified employee as defined in Section 409A(a)(2)(B) of the U.S. Code or applicable proposed or final regulations under Section 409A, determined in accordance with procedures established by the Company and applied uniformly with respect to all plans maintained by the Company that are subject to Section 409A.

(ee) "**Stock Appreciation Right**" shall mean any right granted under Section 4(b) of the Plan.

(ff) "**U.S. Code**" shall mean the Internal Revenue Code of 1986 of the United States, as amended from time to time, and any regulations promulgated thereunder.

(gg) "**U.S. Exchange Act**" shall mean the *Securities Exchange Act* of 1934 of the United States, as amended.

(hh) "**U.S. Incentive Stock Option**" shall mean an option granted under Section 6(a) of the Plan that is intended to meet the requirements of Section 422 of the U.S. Code or any successor provision.

Section 3.Administration

(a) *Power and Authority of the Committee.* The Plan shall be administered by the Committee. Subject to the express provisions of the Plan and to applicable law, the Committee shall have full power and authority to: (i) designate Participants; (ii) determine the type or types of Awards to be granted to each Participant under the Plan; (iii) determine the number of Shares to be covered by (or the method by which payments or other rights are to be calculated in connection with) each Award; (iv) determine the terms and conditions of any Award or Award Agreement, including any terms relating to the forfeiture of any Award and the forfeiture, recapture or disgorgement of any cash, Shares or other amounts payable with respect to any Award; (v) amend the terms and conditions of any Award or Award Agreement, subject to the limitations under Section 7; (vi) accelerate the exercisability of any Award or the lapse of any restrictions relating to any Award, subject to the limitations in Section 7, (vii) determine whether, to what extent and under what circumstances Awards may be exercised in cash, Shares, other securities, other Awards or other property (excluding promissory notes), or canceled, forfeited or suspended, subject to the limitations in Section 7; (viii) determine whether, to what extent and under what circumstances amounts payable with respect to an Award under the Plan shall be deferred either automatically or at the election of the holder thereof or the Committee, subject to the requirements of Section 409A; (ix) interpret and administer the Plan and any instrument or agreement, including an Award Agreement, relating to the Plan; (x) establish, amend, suspend or waive such rules and regulations and appoint such agents as it shall deem appropriate for the proper administration of the Plan; (xi) make any other determination and take any other action that the Committee deems necessary or desirable for the administration of the Plan; and (xii) adopt such modifications, rules, procedures and subplans as may be necessary or desirable to comply with provisions of the laws of non-U.S. jurisdictions in which the Company or an Affiliate may operate, including, without limitation, establishing any special rules for Affiliates, Eligible Persons or Participants located in any particular country, in order to meet the objectives of the Plan and to ensure the viability of the intended benefits of Awards granted to Participants located in such non-United States jurisdictions. Unless otherwise expressly provided in the Plan, all designations, determinations, interpretations and other decisions under or with respect to the Plan or any Award or Award Agreement shall be within the sole discretion of the Committee, may be made at any time and shall be final, conclusive and binding upon any Participant, any holder or beneficiary of any Award or Award Agreement, and any employee of the Company or any Affiliate.

(b) *Delegation.* The Committee may delegate to one or more officers or Directors of the Company, subject to such terms, conditions and limitations as the Committee may establish in its sole discretion, the authority to grant Awards; *provided*, *however*, that the Committee shall not delegate such authority (i) with regard to grants of Awards to be made to officers of the Company or any Affiliate who are subject to Section 16 of the U.S. Exchange Act or (ii) in such a manner as would cause the Plan not to comply with the requirements of Section 162(m), applicable exchange rules or applicable corporate law.

(c) *Power and Authority of the Board*. Notwithstanding anything to the contrary contained herein, (i) the Board may, at any time and from time to time, without any further action of the Committee, exercise the powers and duties of the Committee under the Plan, unless the exercise of such powers and duties by the Board would cause the Plan not to comply with the requirements of Rule 16b-3 or Section 162(m); and (ii) only the Committee (or another committee of the Board comprised of directors who qualify as independent directors within the meaning of the independence rules of any applicable securities exchange where the Shares are then listed) may grant Awards to Directors who are not also employees of the Company or an Affiliate

(d) *Indemnification*. To the full extent permitted by law, (i) no member of the Board, the Committee or any person to whom the Committee delegates authority under the Plan shall be liable for any action or determination taken or made in good faith with respect to the Plan or any Award made under the Plan, and (ii) the members of the Board, the Committee and each person to whom the Committee delegates authority under the Plan shall be entitled to indemnification by the Company with regard to such actions and determinations. The provisions of this paragraph shall be in addition to such other rights of indemnification as a member of the Board, the Committee or any other person may have by virtue of such person's position with the Company.

Section 4.Shares Available for Awards

(a) *Shares Available*. Subject to adjustment as provided in Section 4(c) of the Plan, the aggregate number of Shares that may be issued under all Awards under the Plan shall equal 5,000,000. The aggregate number of Shares that may be issued under all Awards under the Plan shall be reduced by Shares subject to Awards issued under the Plan in accordance with the Share counting rules described in Section 4(b) below.

(b) *Counting Shares*. For purposes of this Section 4, except as set forth in this Section 4(b), if an Award entitles the holder thereof to receive or purchase Shares, the number of Shares covered by such Award or to which such Award relates shall be counted on the date of grant of such Award against the aggregate number of Shares available for granting Awards under the Plan.

(i) Shares Added Back to Reserve. Subject to the limitations in (ii) below, if any Shares covered by an Award or to which an Award relates are not purchased or are forfeited or are reacquired by the Company (including any Awards that are settled in cash), or if an Award otherwise terminates or is cancelled without delivery of any Shares, then the number of Shares counted against the aggregate number of Shares available under the Plan with respect to such Award, to the extent of any such forfeiture, reacquisition by the Company, termination or cancellation, shall again be available for granting Awards under the Plan.

(ii) Shares Not Added Back to Reserve. Notwithstanding anything to the contrary in (i) above, the following Shares will not again become available for issuance under the Plan: (A) any Shares which would have been issued upon any exercise of an Option but for the fact that the exercise price was paid by a "net exercise" pursuant to Section 6(a)(iii)(B) or any Shares tendered in payment of the exercise price of an Option; (B) any Shares withheld by the Company or Shares tendered to satisfy any tax withholding obligation with respect to an Award under the Plan; (C) Shares covered by a share-settled Stock Appreciation Right issued under the Plan that are not issued in connection with settlement in Shares upon exercise; or (D) Shares that are repurchased by the Company using Option exercise proceeds.

(iii) Cash-Only Awards. Awards that do not entitle the holder thereof to receive or purchase Shares shall not be counted against the aggregate number of Shares available for Awards under the Plan.

(iv) Substitute Awards Relating to Acquired Entities. Shares issued under Awards granted in substitution for awards previously granted by an entity that is acquired by or merged with the Company or an Affiliate shall not be counted against the aggregate number of Shares available for Awards under the Plan.

(c) *Adjustments*. In the event that any dividend (other than a regular cash dividend) or other distribution (whether in the form of cash, Shares, other securities or other property), recapitalization, stock split, reverse stock split, reorganization, merger, consolidation, split-up, spin-off, combination, repurchase or exchange of Shares or other securities of the Company, issuance of warrants or other rights to purchase Shares or other securities of the Company or other similar corporate transaction or event affects the Shares such that an adjustment is necessary in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in such manner as it may deem equitable, adjust any or all of (i) the number and type of Shares (or other securities or other property) that thereafter may be made the subject of Awards, (ii) the number and type of Shares (or other securities or other property) subject to outstanding Awards, (iii) the purchase price or exercise price with respect to any Award and (iv) the limitations contained in Section 4(d)(i) below; *provided*, *however*, that the number of Shares covered by any Award or to which such Award relates shall always be a whole number. Such adjustment shall be made by the Committee or the Board, whose determination in that respect shall be final, binding and conclusive.

(d) *Award Limitations Under the Plan*. The limitation contained in this Section 4(d) shall apply only with respect to any Award or Awards granted under this Plan, and limitations on awards granted under any other shareholder-approved incentive plan maintained by the Company will be governed solely by the terms of such other plan.

(i) Section 162(m) Limitation for Awards Denominated in Shares. No Eligible Person may be granted any Stock Options, Stock Appreciation Rights or

Performance Awards denominated in Shares, for more than 2,500,000 Shares (subject to adjustment as provided for in Section 4(c) of the Plan), in the aggregate in any calendar year.

(ii) Section 162(m) Limitation for Performance Awards Denominated in Cash. The maximum amount payable pursuant to all Performance Awards denominated in cash to any Eligible Person in the aggregate in any calendar year shall be $5,000,000 in value. This limitation contained in this Section 4(d)(ii) does not apply to any Award or Awards subject to the limitation contained in Section 4(d)(i).

(iii) Limitation Awards Granted to Non-Employee Directors. No Director who is not also an employee of the Company or an Affiliate may be granted any Award or Awards denominated in Shares that exceed in the aggregate $500,000 (such value computed as of the date of grant in accordance with applicable financial accounting rules) in any calendar year. The foregoing limit shall not apply to any Award made pursuant to any election by the Director to receive an Award in lieu of all or a portion of annual and committee retainers and annual meeting fees.

Section 5.Eligibility

Any Eligible Person shall be eligible to be designated as a Participant. In determining which Eligible Persons shall receive an Award and the terms of any Award, the Committee may take into account the nature of the services rendered by the respective Eligible Persons, their present and potential contributions to the success of the Company or such other factors as the Committee, in its discretion, shall deem relevant. Notwithstanding the foregoing, a U.S. Incentive Stock Option may only be granted to full-time or part-time employees (which term as used herein includes, without limitation, officers and Directors who are also employees), and a U.S. Incentive Stock Option shall not be granted to an employee of an Affiliate unless such Affiliate is also a "subsidiary corporation" of the Company within the meaning of Section 424(f) of the U.S. Code or any successor provision.

Section 6.Awards

(a) *Options*. The Committee is hereby authorized to grant Options to Eligible Persons with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

(i) Exercise Price. The purchase price per Share purchasable under an Option shall be determined by the Committee and shall not be less than 100% of the Fair Market Value of a Share on the date of grant of such Option; *provided, however,* that the Committee may designate a purchase price below Fair Market Value on the date of grant if the Option is granted in substitution for a stock option previously granted by an entity that is acquired by or merged with the Company or an Affiliate.

(ii) Option Term. The term of each Option shall be fixed by the Committee at the date of grant but shall not be longer than 10 years from the date of grant. Notwithstanding the foregoing, the Committee may provide in the terms of an Option (either at grant or by subsequent modification) that, to the extent consistent with Section 409A, in the event that on the last business day of the term of an Option (other than a U.S. Incentive Stock Option) (i) the exercise of the Option is prohibited by applicable law or (ii) Shares may not be purchased or sold by certain employees or directors of the Company due to the "black-out period" of a Company policy or a "lock-up" agreement undertaken in connection with an issuance of securities by the Company, the term of the Option shall be extended for a period of not more than thirty (30) days following the end of the legal prohibition, black-out period or lock-up agreement.

(iii) Time and Method of Exercise. The Committee shall determine the time or times at which an Option may be exercised in whole or in part and the method or methods by which, and the form or forms, including, but not limited to, cash, Shares (actually or by attestation), other securities, other Awards or other property, or any combination thereof, having a Fair Market Value on the exercise date equal to the applicable exercise price, in which, payment of the exercise price with respect thereto may be made or deemed to have been made.

(A) Promissory Notes. Notwithstanding the foregoing, the Committee may not accept a promissory note as consideration.

(B) Net Exercises. The Committee may, in its discretion, permit an Option to be exercised by delivering to the Participant a number of Shares having an aggregate Fair Market Value (determined as of the date of exercise) equal to the excess, if positive, of the Fair Market Value of the Shares underlying the Option being exercised on the date of exercise, over the exercise price of the Option for such Shares.

(iv) U.S. Incentive Stock Options. Notwithstanding anything in the Plan to the contrary, the following additional provisions shall apply to the grant of stock options which are intended to qualify as U.S. Incentive Stock Options:

(A) The aggregate number of Shares that may be issued under all U.S. Incentive Stock Options under the Plan shall be 5,000,000 Shares.

(B) The Committee will not grant U.S. Incentive Stock Options in which the aggregate Fair Market Value (determined as of the time the Option is granted) of the Shares with respect to which U.S. Incentive Stock Options are exercisable for the first time by any Participant during any calendar year (under this Plan and all other plans of the Company and its Affiliates) shall exceed $100,000.

(C) All U.S. Incentive Stock Options must be granted within ten years from the earlier of the date on which this Plan was adopted by the Board or the date this Plan was approved by the shareholders of the Company.

(D) Unless sooner exercised, all U.S. Incentive Stock Options shall expire and no longer be exercisable no later than 10 years after the date of grant; *provided*, *however*, that in the case of a grant of a U.S. Incentive Stock Option to a Participant who, at the time such Option is granted, owns (within the meaning of Section 422 of the U.S. Code) shares possessing more than 10% of the total combined voting power of all classes of shares of the Company or of its Affiliates, such U.S. Incentive Stock Option shall expire and no longer be exercisable no later than five years from the date of grant.

(E) The purchase price per Share for a U.S. Incentive Stock Option shall be not less than 100% of the Fair Market Value of a Share on the date of grant of the U.S. Incentive Stock Option; *provided*, *however*, that, in the case of the grant of a U.S. Incentive Stock Option to a Participant who, at the time such Option is granted, owns (within the meaning of Section 422 of the U.S. Code) shares possessing more than 10% of the total combined voting power of all classes of shares of the Company or of its Affiliates, the purchase price per Share purchasable under a U.S. Stock Option shall be not less than 110% of the Fair Market Value of a Share on the date of grant of the U.S. Incentive Stock Option.

(F) Any U.S. Incentive Stock Option authorized under the Plan shall contain such other provisions as the Committee shall deem advisable, but shall in all events be consistent with and contain all provisions required in order to qualify the Option as a U.S. Stock Option.

(b) *Stock Appreciation Rights*. The Committee is hereby authorized to grant Stock Appreciation Rights to Eligible Persons subject to the terms of the Plan and any applicable Award Agreement. A Stock Appreciation Right granted under the Plan shall confer on the holder thereof a right to receive upon exercise thereof the excess of (i) the Fair Market Value of one Share on the date of exercise over (ii) the grant price of the Stock Appreciation Right as specified by the Committee, which price shall not be less than 100% of the Fair Market Value of one Share on the date of grant of the Stock Appreciation Right; *provided, however,* that the Committee may designate a grant price below Fair Market Value on the date of grant if the Stock Appreciation Right is granted in substitution for a stock appreciation right previously granted by an entity that is acquired by or merged with the Company or an Affiliate. Subject to the terms of the Plan and any applicable Award Agreement, the grant price, term, methods of exercise, dates of exercise, methods of settlement and any other

terms and conditions of any Stock Appreciation Right shall be as determined by the Committee (except that the term of each Stock Appreciation Right shall be subject to the same limitations in Section 6(a)(ii) applicable to Options). The Committee may impose such conditions or restrictions on the exercise of any Stock Appreciation Right as it may deem appropriate.

(c) *Restricted Stock and Restricted Stock Units*. The Committee is hereby authorized to grant an Award of Restricted Stock and Restricted Stock Units to Eligible Persons with the following terms and conditions and with such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine:

(i) Restrictions. Shares of Restricted Stock and Restricted Stock Units shall be subject to such restrictions as the Committee may impose (including, without limitation, any limitation on the right to vote a Share of Restricted Stock or the right to receive any dividend or other right or property with respect thereto), which restrictions may lapse separately or in combination at such time or times, in such installments or otherwise as the Committee may deem appropriate. Notwithstanding the foregoing, rights to dividend or Dividend Equivalent payments shall be subject to the limitations described in Section 6(e).

(ii) Issuance and Delivery of Shares. Any Restricted Stock granted under the Plan shall be issued at the time such Awards are granted and may be evidenced in such manner as the Committee may deem appropriate, including book-entry registration or issuance of a share certificate or certificates, which certificate or certificates shall be held by the Company or held in nominee name by the share transfer agent or brokerage service selected by the Company to provide such services for the Plan. Such certificate or certificates shall be registered in the name of the Participant and shall bear an appropriate legend referring to the restrictions applicable to such Restricted Stock. Shares representing Restricted Stock that are no longer subject to restrictions shall be delivered (including by updating the book-entry registration) to the Participant promptly after the applicable restrictions lapse or are waived. In the case of Restricted Stock Units, no Shares shall be issued at the time such Awards are granted. Upon the lapse or waiver of restrictions and the restricted period relating to Restricted Stock Units evidencing the right to receive Shares, such Shares shall be issued and delivered to the holder of the Restricted Stock Units.

(iii) Forfeiture. Except as otherwise determined by the Committee or as provided in an Award Agreement, upon a Participant's termination of employment or resignation or removal as a Director (in either case, as determined under criteria established by the Committee) during the applicable restriction period, all Shares of Restricted Stock and all Restricted Stock Units held by

such Participant at such time shall be forfeited and reacquired by the Company; *provided*, *however*, that the Committee may waive in whole or in part any or all remaining restrictions with respect to Shares of Restricted Stock or Restricted Stock Units.

(d) *Performance Awards*. The Committee is hereby authorized to grant to Eligible Persons Performance Awards that are intended to be "qualified performance-based compensation" within the meaning of Section 162(m). A Performance Award granted under the Plan (i) may be denominated or payable in cash, Shares (including, without limitation, Restricted Stock and Restricted Stock Units), other securities, other Awards or other property and (ii) shall confer on the holder thereof the right to receive payments, in whole or in part, upon the achievement of one or more objective Performance Goals during such performance periods as the Committee shall establish. Subject to the terms of the Plan, the Performance Goals to be achieved during any performance period, the length of any performance period, the amount of any Performance Award granted, the amount of any payment or transfer to be made pursuant to any Performance Award and any other terms and conditions of any Performance Award shall be determined by the Committee. Performance Awards shall be conditioned solely on the achievement of one or more objective Performance Goals established by the Committee within the time prescribed by Section 162(m), and shall otherwise comply with the requirements of Section 162(m), as described below; provided, however, that to the extent a Performance Goal is based on share price, such Performance Goal shall include a minimum threshold share price of at least $20.00 per Share (subject to adjustment made under Section 4(c) of the Plan).

(i) Timing of Designations; Duration of Performance Periods. For each Performance Award, the Committee shall, not later than 90 days after the beginning of each performance period, (i) designate all Participants for such performance period and (ii) establish the objective performance factors for each Participant for that performance period on the basis of one or more of the Performance Goals, the outcome of which is substantially uncertain at the time the Committee actually establishes the Performance Goal. The Committee shall have sole discretion to determine the applicable performance period, provided that in the case of a performance period less than 12 months, in no event shall a performance goal be considered to be pre-established if it is established after 25% of the performance period (as scheduled in good faith at the time the Performance Goal is established) has elapsed. To the extent required under Section 162(m), the terms of the objective performance factors must preclude discretion to increase an amount paid in connection with an Award, but may permit discretion to reduce such amount.

(ii) Certification. Following the close of each performance period and prior to payment of any amount to a Participant with respect to a Performance Award, the Committee shall certify in writing as to the attainment of all factors

(including the performance factors for a Participant) upon which any payments to a Participant for that performance period are to be based.

(e) *Dividend Equivalents*. The Committee is hereby authorized to grant Dividend Equivalents to Eligible Persons under which the Participant shall be entitled to receive payments (in cash, Shares, other securities, other Awards or other property as determined in the discretion of the Committee) equivalent to the amount of cash dividends paid by the Company to holders of Shares with respect to a number of Shares determined by the Committee. Subject to the terms of the Plan and any applicable Award Agreement, such Dividend Equivalents may have such terms and conditions as the Committee shall determine. Notwithstanding the foregoing, (i) the Committee may not grant Dividend Equivalents to Eligible Persons in connection with grants of Options, Stock Appreciation Rights or other Awards the value of which is based solely on an increase in the value of the Shares after the date of grant of such Award, and (ii) no dividend or Dividend Equivalent payments shall be made to a Participant with respect to any Performance Award or other Award subject to performance-based vesting conditions prior to the date on which all conditions or restrictions relating to such Award (or portion thereof to which the dividend or Dividend Equivalent relates) have been satisfied, waived or lapsed.

(f) *Other Stock-Based Awards*. The Committee is hereby authorized to grant to Eligible Persons such other Awards that are denominated or payable in, valued in whole or in part by reference to, or otherwise based on or related to, Shares (including, without limitation, securities convertible into Shares), as are deemed by the Committee to be consistent with the purpose of the Plan. The Committee shall determine the terms and conditions of such Awards, subject to the terms of the Plan and any applicable Award Agreement. No Award issued under this Section 6(f) shall contain a purchase right or an option-like exercise feature.

(g) *General*.

(i) Consideration for Awards. Awards may be granted for no cash consideration or for any cash or other consideration as may be determined by the Committee or required by applicable law.

(ii) Awards May Be Granted Separately or Together. Awards may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with or in substitution for any other Award or any award granted under any other plan of the Company or any Affiliate. Awards granted in addition to or in tandem with other Awards or in addition to or in tandem with awards granted under any other plan of the Company or any Affiliate may be granted either at the same time as or at a different time from the grant of such other Awards or awards.

(iii) Forms of Payment under Awards. Subject to the terms of the Plan and of any applicable Award Agreement, payments or transfers to be made by the

Company or an Affiliate upon the grant, exercise or payment of an Award may be made in such form or forms as the Committee shall determine (including, without limitation, cash, Shares, other securities (but excluding promissory notes), other Awards or other property or any combination thereof), and may be made in a single payment or transfer, in installments or on a deferred basis, in each case in accordance with rules and procedures established by the Committee. Such rules and procedures may include, without limitation, provisions for the payment or crediting of reasonable interest on installment or deferred payments or the grant or crediting of Dividend Equivalents with respect to installment or deferred payments.

(iv) Limits on Transfer of Awards. Except as otherwise provided by the Committee in its discretion and subject to such additional terms and conditions as it determines, no Award (other than fully vested and unrestricted Shares issued pursuant to any Award) and no right under any such Award shall be transferable by a Participant other than by will or by the laws of descent and distribution, and no Award (other than fully vested and unrestricted Shares issued pursuant to any Award) or right under any such Award may be pledged, alienated, attached or otherwise encumbered, and any purported pledge, alienation, attachment or encumbrance thereof shall be void and unenforceable against the Company or any Affiliate. Where the Committee does permit the transfer of an Award other than a fully vested and unrestricted Share, such permitted transfer shall be for no value and in accordance with the rules of Form S-8. The Committee may also establish procedures as it deems appropriate for a Participant to designate a person or persons, as beneficiary or beneficiaries, to exercise the rights of the Participant and receive any property distributable with respect to any Award in the event of the Participant's death.

(v) Restrictions; Securities Exchange Listing. All Shares or other securities delivered under the Plan pursuant to any Award or the exercise thereof shall be subject to such restrictions as the Committee may deem advisable under the Plan, applicable federal or state securities laws and regulatory requirements, and the Committee may cause appropriate entries to be made with respect to, or legends to be placed on the certificates for, such Shares or other securities to reflect such restrictions. The Company shall not be required to deliver any Shares or other securities covered by an Award unless and until the requirements of any federal or state securities or other laws, rules or regulations (including the rules of any securities exchange) as may be determined by the Company to be applicable are satisfied.

(vi) Prohibition on Option and Stock Appreciation Right Repricing. Except as provided in Section 4(c) hereof, the Committee may not, without prior approval of the Company's shareholders, seek to effect any re-pricing of any previously granted, "underwater" Option or Stock Appreciation Right by:

(i) amending or modifying the terms of the Option or Stock Appreciation Right to lower the exercise price; (ii) canceling the underwater Option or Stock Appreciation Right and granting either (A) replacement Options or Stock Appreciation Rights having a lower exercise price; or (B) Restricted Stock, Restricted Stock Units, Performance Award or Other Stock-Based Award in exchange; or (iii) cancelling or repurchasing the underwater Option or Stock Appreciation Right for cash or other securities. An Option or Stock Appreciation Right will be deemed to be "underwater" at any time when the Fair Market Value of the Shares covered by such Award is less than the exercise price of the Award.

(vii) Section 409A Provisions. Notwithstanding anything in the Plan or any Award Agreement to the contrary, to the extent that any amount or benefit that constitutes "deferred compensation" to a Participant under Section 409A and applicable guidance thereunder is otherwise payable or distributable to a Participant under the Plan or any Award Agreement solely by reason of the occurrence of a Change in Control or due to the Participant's disability or "separation from service" (as such term is defined under Section 409A), such amount or benefit will not be payable or distributable to the Participant by reason of such circumstance unless the Committee determines in good faith that (i) the circumstances giving rise to such Change in Control, disability or separation from service meet the definition of a Change in Control, disability, or separation from service, as the case may be, in Section 409A(a)(2)(A) of the U.S. Code and applicable proposed or final regulations, or (ii) the payment or distribution of such amount or benefit would be exempt from the application of Section 409A by reason of the short-term deferral exemption or otherwise. Any payment or distribution that otherwise would be made to a Participant who is a Specified Employee (as determined by the Committee in good faith) on account of separation from service may not be made before the date which is six months after the date of the Specified Employee's separation from service (or if earlier, upon the Specified Employee's death) unless the payment or distribution is exempt from the application of Section 409A by reason of the short-term deferral exemption or otherwise.

(viii) Acceleration of Vesting or Exercisability – Performance Awards. Award Agreements may provide that, in the event a Participant's employment is terminated without Cause or a Participant resigns for Good Reason at any time during the 12-month period following a Change in Control, all Performance Awards shall be considered to be earned and payable based on implementation, completion or achievement of performance goals or based on target performance (either in full or pro rata based on the portion of Performance Period completed as of the date of the Change in Control), and any limitations or other restrictions shall lapse and such Performance Awards shall be immediately settled or distributed; provided, however that no Award

Agreement shall accelerate the exercisability of any Award or result in the lapse of restrictions relating to any Award in connection with a Change in Control unless such acceleration occurs upon the consummation of (or effective immediately prior to the consummation of, provided that the consummation subsequently occurs) such Change in Control.

(ix) Ceasing to be an Eligible Person – Vesting of Options and Stock Appreciation Rights. Except as otherwise determined by the Committee, all Options and Stock Appreciation Rights will cease to vest as at the date upon which the Participant ceases to be an Eligible Person; provided, however, that in the event of the death of the Participant prior to the Participant ceasing to be an Eligible Person, all Options and Stock Appreciation Rights of such Participant shall become immediately vested.

(x) Ceasing to be an Eligible Person – Termination of Options and Stock Appreciation Rights. Except as otherwise determined by the Committee, each Option and Stock Appreciation Right granted pursuant to this Plan will, subject to the provisions of this Plan, expire automatically on the earlier of: (A) in the event the Participant ceases to be an Eligible Person for any reason, other than the death of the Participant or the termination of the Participant for Cause, such period of time after the date on which the Participant ceases to be an Eligible Person as may be (i) specified by the Committee, or (ii) set out in an agreement among the Participant and the Company; provided, however, that in the absence of such a specification or agreement, will be deemed to be the date that is three months following the Participant ceasing to be an Eligible Person; (B) in the event of the termination of the Participant as a director, officer, employee or consultant of the Company or an Affiliate for Cause, the date of such termination; (C) in the event of the death of a Participant prior to: (i) the Participant ceasing to be an Eligible Person; or (ii) the date which is the number of days specified by the Committee pursuant to subparagraph (A) above from the date on which the Participant ceased to be an Eligible Person, the date which is one year after the date of death of such Participant or such other date as may be specified by the Committee and which period will be specified in the Award Agreement with the Participant with respect to such Option or Stock Appreciation Right; provided, however, that, notwithstanding the foregoing provisions of subparagraphs (A), (B) and (C) of this Section 6(g)(ix), the Committee may, subject Section 7 of this Plan, at any time prior to expiry of an Option or Stock Appreciation Right, extend the period of time within which an Option or Stock Appreciation Right may be exercised by a Participant who has ceased to be an Eligible Person, but any such extension shall not be granted beyond the original expiry date of such Option or Stock Appreciation Right as provided for in Section 6(a) and 6(b) above, as applicable.

(xi) Termination of a Participant for Cause. Notwithstanding any other provision of this Plan, in the case of a Participant's termination for Cause, any and all then outstanding Awards granted to such Participant, whether or not vested, shall be immediately forfeited and cancelled, without any consideration therefore, and any and all rights of such Participant with respect to or arising from this Plan shall terminate, as of the commencement of the date that notice of such termination is given, without regard to any period of reasonable notice or any salary continuance, except as otherwise determined by the Committee.

Section 7.Amendment and Termination; Corrections

(a) *Amendments to the Plan and Awards*. The Board may from time to time amend, suspend or terminate this Plan, and the Committee may amend the terms of any previously granted Award, provided that no amendment to the terms of any previously granted Award may, (except as expressly provided in the Plan) materially and adversely alter or impair the terms or conditions of the Award previously granted to a Participant under this Plan without the written consent of the Participant or holder thereof. Any amendment to this Plan, or to the terms of any Award previously granted, is subject to compliance with all applicable laws, rules, regulations and policies of any applicable governmental entity or securities exchange, including receipt of any required approval from the governmental entity or stock exchange. For greater certainty and without limiting the foregoing, the Board may amend, suspend, terminate or discontinue the Plan, and the Committee may amend or alter any previously granted Award, as applicable, without obtaining the approval of shareholders of the Company in order to:

(i) amend the eligibility for, and limitations or conditions imposed upon, participation in the Plan;

(ii) amend any terms relating to the granting or exercise of Awards, including but not limited to terms relating to the amount and payment of the exercise price, or the vesting, expiry, assignment or adjustment of Awards, or otherwise waive any conditions of or rights of the Company under any outstanding Award, prospectively or retroactively;

(iii) make changes that are necessary or desirable to comply with applicable laws, rules, regulations and policies of any applicable governmental entity or stock exchange (including amendments to Awards necessary or desirable to avoid any adverse tax results under Section 409A), and no action taken to comply shall be deemed to impair or otherwise adversely alter or impair the rights of any holder of an Award or beneficiary thereof; or

(iv) amend any terms relating to the administration of the Plan, including the terms of any administrative guidelines or other rules related to the Plan.

For greater certainty, prior approval of the shareholders of the Company shall be required for any amendment to the Plan or an Award that would:

(i) require shareholder approval under the rules or regulations of the Securities and Exchange Commission, the National Association of Securities Dealers Inc. Automated Quotation System (NASDAQ) or any other securities exchange that are applicable to the Company;

(ii) increase the number of shares authorized under the Plan as specified in Section 4(a) of the Plan;

(iii) increase the number of shares or value subject to the limitations contained in Section 4(d) of the Plan or otherwise cause the Section 162(m) exemption for qualified performance-based compensation to become unavailable with respect to the Plan;

(iv) permit repricing of Options or Stock Appreciation Rights, which is currently prohibited by Section 6(g)(vi) of the Plan;

(v) permit the award of Options or Stock Appreciation Rights at a price less than 100% of the Fair Market Value of a Share on the date of grant of such Option or Stock Appreciation Right, contrary to the provisions of Section 6(a)(i) and Section 6(b) of the Plan; or

(vi) increase the maximum term permitted for Options and Stock Appreciation Rights as specified in Section 6(a)(ii) and Section 6(b).

(b) *Corporate Transactions*. In the event of any reorganization, merger, consolidation, split-up, spin-off, combination, plan of arrangement, take-over bid or tender offer, repurchase or exchange of Shares or other securities of the Company or any other similar corporate transaction or event involving the Company (or the Company shall enter into a written agreement to undergo such a transaction or event), the Committee or the Board may, in its sole discretion, provide for any of the following to be effective upon the consummation of the event (or effective immediately prior to the consummation of the event, provided that the consummation of the event subsequently occurs), and no action taken under this Section 7(b) shall be deemed to impair or otherwise adversely alter the rights of any holder of an Award or beneficiary thereof:

(i) either (A) termination of the Award, whether or not vested, in exchange for an amount of cash and/or other property, if any, equal to the amount that would have been attained upon the exercise of the Award or realization of the Participant's rights (and, for the avoidance of doubt, if, as of the date of the occurrence of the transaction or event described in this Section 7(b)(i)(A), the Committee or the Board determines in good faith that no amount would have been attained upon the exercise of the Award or realization of

the Participant's rights, then the Award may be terminated by the Company without any payment) or (B) the replacement of the Award with other rights or property selected by the Committee or the Board, in its sole discretion;

(ii) that the Award be assumed by the successor or survivor corporation, or a parent or subsidiary thereof, or shall be substituted for by similar options, rights or awards covering the shares of the successor or survivor corporation, or a parent or subsidiary thereof, with appropriate adjustments as to the number and kind of shares and prices;

(iii) that, subject to Section 6(g)(viii), the Award shall be exercisable or payable or fully vested with respect to all Shares covered thereby, notwithstanding anything to the contrary in the applicable Award Agreement; or

(iv) that the Award cannot vest, be exercised or become payable after a date certain in the future, which may be the effective date of the event.

(c) *Correction of Defects, Omissions and Inconsistencies*. The Committee may, without prior approval of the shareholders of the Company, correct any defect, supply any omission or reconcile any inconsistency in the Plan or in any Award or Award Agreement in the manner and to the extent it shall deem desirable to implement or maintain the effectiveness of the Plan.

Section 8.Income Tax Withholding

In order to comply with all applicable federal, state, local or foreign income tax laws or regulations, the Company may take such action as it deems appropriate to ensure that all applicable federal, state, local or foreign payroll, withholding, income or other taxes, which are the sole and absolute responsibility of a Participant, are withheld or collected from such Participant. In order to assist a Participant in paying all or a portion of the applicable taxes to be withheld or collected upon exercise or receipt of (or the lapse of restrictions relating to) an Award, the Committee, in its discretion and subject to such additional terms and conditions as it may adopt, may permit the Participant to satisfy such tax obligation by (a) electing to have the Company withhold a portion of the Shares otherwise to be delivered upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes (but only to the extent necessary to satisfy minimum statutory withholding requirements if required by ASC Topic 718 to avoid adverse accounting treatment) or (b) delivering to the Company Shares other than Shares issuable upon exercise or receipt of (or the lapse of restrictions relating to) such Award with a Fair Market Value equal to the amount of such taxes. The election, if any, must be made on or before the date that the amount of tax to be withheld is determined.

Section 9.General Provisions

(a) *Currency*. Unless otherwise specified, all currency amounts are stated in United States dollars.

(b) *No Rights to Awards*. No Eligible Person, Participant or other Person shall have any claim to be granted any Award under the Plan, and there is no obligation for uniformity of treatment of Eligible Persons, Participants or holders or beneficiaries of Awards under the Plan. The terms and conditions of Awards need not be the same with respect to any Participant or with respect to different Participants.

(c) *Award Agreements*. No Participant shall have rights under an Award granted to such Participant unless and until an Award Agreement shall have been signed by the Participant (if requested by the Company), or until such Award Agreement is delivered and accepted through an electronic medium in accordance with procedures established by the Company. An Award Agreement need not be signed by a representative of the Company unless required by the Committee. Each Award Agreement shall be subject to the applicable terms and conditions of the Plan and any other terms and conditions (not inconsistent with the Plan) determined by the Committee.

(d) *Plan Provisions Prevail*. In the event that any provision of an Award Agreement conflicts with or is inconsistent in any respect with the terms of the Plan as set forth herein or subsequently amended, the terms of the Plan shall prevail.

(e) *No Rights of Shareholders*. Except with respect to Shares issued under Awards (and subject to such conditions as the Committee may impose on such Awards pursuant to Section 6(c)(i) or Section 6(e)), neither a Participant nor the Participant's legal representative shall be, or have any of the rights and privileges of, a shareholder of the Company with respect to any Shares issuable upon the exercise or payment of any Award, in whole or in part, unless and until such Shares have been issued.

(f) *No Limit on Other Compensation Arrangements*. Nothing contained in the Plan shall prevent the Company or any Affiliate from adopting or continuing in effect other or additional compensation plans or arrangements, and such plans or arrangements may be either generally applicable or applicable only in specific cases.

(g) *No Right to Employment*. The grant of an Award shall not be construed as giving a Participant the right to be retained as an employee of the Company or any Affiliate, nor will it affect in any way the right of the Company or an Affiliate to terminate a Participant's employment at any time, with or without Cause, in accordance with applicable law. In addition, the Company or an Affiliate may at any time dismiss a Participant from employment free from any liability or any claim under the Plan or any Award, unless otherwise expressly provided in the Plan or in any Award Agreement. Nothing in this Plan shall confer on any person any legal or equitable right against the Company or any Affiliate, directly or indirectly, or give rise to any cause of action at law or in equity against the Company or an Affiliate. Under no circumstances shall any person ceasing to be an employee of the Company or any Affiliate be entitled to any compensation for any loss of any right or benefit under the Plan which such employee might otherwise have enjoyed but for termination of employment, whether such compensation is claimed by way of damages for wrongful

or unfair dismissal, breach of contract or otherwise. By participating in the Plan, each Participant shall be deemed to have accepted all the conditions of the Plan and the terms and conditions of any rules and regulations adopted by the Committee and shall be fully bound thereby.

(h) *Governing Law*. The internal law, and not the law of conflicts, of the Province of British Columbia, Canada shall govern all questions concerning the validity, construction and effect of the Plan or any Award, and any rules and regulations relating to the Plan or any Award.

(i) *Severability*. If any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal or unenforceable in any jurisdiction or would disqualify the Plan or any Award under any law deemed applicable by the Committee, such provision shall be construed or deemed amended to conform to applicable laws, or if it cannot be so construed or deemed amended without, in the determination of the Committee, materially altering the purpose or intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction or Award, and the remainder of the Plan or any such Award shall remain in full force and effect.

(j) *No Trust or Fund Created*. Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or a fiduciary relationship between the Company or any Affiliate and a Participant or any other Person. To the extent that any Person acquires a right to receive payments from the Company or any Affiliate pursuant to an Award, such right shall be no greater than the right of any unsecured general creditor of the Company or any Affiliate.

(k) *Other Benefits*. No compensation or benefit awarded to or realized by any Participant under the Plan shall be included for the purpose of computing such Participant's compensation or benefits under any pension, retirement, savings, profit sharing, group insurance, disability, severance, termination pay, welfare or other benefit plan of the Company, unless required by law or otherwise provided by such other plan.

(l) *No Fractional Shares*. No fractional Shares shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine whether cash shall be paid in lieu of any fractional Share or whether such fractional Share or any rights thereto shall be canceled, terminated or otherwise eliminated.

(m) *Headings*. Headings are given to the sections and subsections of the Plan solely as a convenience to facilitate reference. Such headings shall not be deemed in any way material or relevant to the construction or interpretation of the Plan or any provision thereof.

Section 10.Clawback or Recoupment

All Awards under this Plan shall be subject to any applicable law, rule or regulation or applicable stock exchange rule, including, without limitation, Section 304 of the Sarbanes-Oxley Act of 2002,

Section 954 of the Dodd-Frank Wall Street Reform and Consumer Protection Act and any applicable stock exchange listing rule adopted pursuant thereto. Awards may be granted with additional clawback or recoupment conditions or provisions as may be determined by the Committee.

Section 11.Effective Date of the Plan

This Plan, which was adopted by the Board on April 5 2016 and approved by the shareholders of the Company at the annual meeting of shareholders of the Company held on May 19, 2016, is effective as of and from the date of such shareholder approval (the "**Effective Date**"). For the avoidance of doubt, the provisions of subparagraphs 6(g)(ix), (x) and (xi) of this Plan, which were adopted by the Committee on May 9, 2019 to provide for the memorialization in this Plan of those terms and conditions that applied to Awards granted under this Plan since the Effective Date, are also effective as of and from the Effective Date notwithstanding the actual date of grant of any applicable Award Agreement.

Section 12.Term of the Plan

No Award shall be granted under the Plan, and the Plan shall terminate, on the tenth anniversary of the Effective Date, or any earlier date of discontinuation or termination established pursuant to Section 7(a) of the Plan; provided, however, that no Performance Award shall be granted under the Plan after the first shareholder meeting to occur in the fifth year following the year in which shareholders approved the Performance Goals unless and until the Performance Goals or the Plan is re-approved by the shareholders. Unless otherwise expressly provided in the Plan or in an applicable Award Agreement, any Award theretofore granted may extend beyond such dates, and the authority of the Committee provided for hereunder with respect to the Plan and any Awards, and the authority of the Board to amend the Plan, shall extend beyond the termination of the Plan.

OPTION AGREEMENT

This Option Agreement (the "**Agreement**") is entered into between Arbutus Biopharma Corporation (the "**Company**") and [INSERT name] (the "**Optionee**"), pursuant to the Arbutus 2016 Omnibus Share and Incentive Plan (the "**Plan**") and is being granted in respect of the Optionee being an employee, officer or director of the Company, and confirms that:

1. On [INSERT Date] (the "**Grant Date**"), the Optionee is granted the option (the "**Option**") to purchase [number] Common Shares (the "**Option Shares**") of the Company at a per share price of US$[INSERT dollar price] (the "**Option Price**");
2. the Option shall vest as follows: one third to vest on [INSERT Date]; one third to vest on [INSERT Date] and one third to vest on [INSERT Date], while the Optionee remains an Eligible Person, and will be exercisable in whole up to [INSERT Date] (the "**Expiry Date**") or such earlier date as may be required or stipulated in accordance with the Plan or the terms of this Agreement; the Option, once vested, shall remain vested until the expiration, termination or surrender of the Option;
3. this Option shall be considered a [U.S. Incentive Stock Option] [Non-Qualified Stock Option]. Subject to the terms of the Plan and this Agreement (including without limitation any such terms regarding the termination of this Option), if this Option is intended to be a U.S. Incentive Stock Option but does not meet the requirements for constituting an "incentive stock option" within the meaning of U.S. Code Section 422(b), this Option shall be a Non-Qualified Stock Option;
4. if within twelve (12) months following a Change in Control, Optionee's status as a service provider is terminated without Cause by the Company or an Affiliate (or a successor company of the Company or such Affiliate), excluding, for such purposes, a transfer of employment or service by the service provider between or among the Company and one or more Affiliates, then all shares underlying this Option shall become fully vested and exercisable as of the moment immediately prior to such termination;
5. the Option may be exercised only by notice signed by the Optionee or, in certain circumstances permitted by the Plan, the legal representative of the Optionee, and accompanied by full payment for the Option Shares being purchased;
6. the Optionee (i) meets the criteria set out in Section 4 of the Plan as of the Grant Date; (ii) has not been induced to enter into this Agreement by the expectation of employment or continued employment with the Company or an Affiliate; (iii) is aware that the grant of the Option and the issuance by the Company of Option Shares thereunder are exempt from the obligation under applicable securities laws to file a prospectus or other registration document qualifying the distribution, other than the Form S-8 registration statement; (iv) will, upon each exercise or settlement of an Option and if requested by the Company, confirm these representations; and (v) will, upon each exercise or settlement of an Option, comply with all applicable securities laws, rules and regulations, including restrictions on transfer;
7. the Company will have no obligation to issue any Option Shares until the Company is satisfied that the issuance of such Option Shares to the Optionee will be exempt from all registration or qualification requirements of applicable securities laws and will be permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject;
8. the Option is subject to the terms and conditions set out in the Plan, and if there is any conflict between the terms of this Agreement and the Plan, the terms of the Plan will govern, despite any term of this Agreement; and
9. nothing herein or otherwise shall be construed so as to confer on the Optionee any rights as a shareholder of the Company with respect to any Common Shares reserved for the purpose of the Option.

All capitalized terms not defined herein shall have their respective meanings as set out in the Plan.

This Agreement is governed by the laws of the Province of British Columbia and the laws of Canada applicable therein.

By signing this Agreement, the Optionee acknowledges that the Optionee has read and understands the Plan and accepts the Option in accordance with the terms of the Plan and this Agreement.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF this Agreement has been executed by the parties hereto as of the Grant Date.

SIGNED, SEALED and DELIVERED by [INSERT Optionee Name] in the presence of:	)	
	)	_
	)	**(Optionee's signature)**
_	)	
Witness's signature	)	
_	)	_
	)	
	)	_
_	)	**(Optionee's address)**
Witness's Address	)	
	)	
_		
Witness's Occupation		

_____

Authorized Signatory of the Company

UNLESS PERMITTED UNDER SECURITIES LEGISLATION, THE HOLDER OF THIS SECURITY MUST NOT TRADE THIS OPTION OR ANY OPTION SHARES ISSUABLE ON EXERCISE OF THIS OPTION BEFORE OCTOBER 25, 2019

OPTION AGREEMENT - EMPLOYEES

This Option Agreement (the "**Agreement**") is entered into between Arbutus Biopharma Corporation (the "**Company**") and William H. Collier (the "**Optionee**"), and is being granted in respect of the Optionee being an employee of Arbutus Biopharma Inc., an Affiliate ("**Arbutus**"), and confirms that:

1. On June 24, 2019 (the "**Grant Date**"), the Optionee is granted the option (the "**Option**") to purchase 1,112,000 Common Shares (the "**Option Shares**") of the Company at a per share price of US$2.18 (the "**Option Price**");
2. the Option is granted to the Optionee in connection with the Optionee entering into employment with Arbutus and is an inducement material to the Optionee's entry into employment within the meaning of Rule 5635(c)(4) of the Nasdaq Listing Rules;
3. the Option shall be subject to and governed by, and shall be construed and administered in accordance with, the terms and conditions of the Arbutus 2016 Omnibus Share and Incentive Plan (the "**Plan**"), which terms and conditions are incorporated herein by reference; provided, however, that the Option is not awarded under the Plan and the grant of the Option shall not reduce the number of Common Shares available for issuance under awards issued pursuant to the Plan;
4. the Option shall vest as follows: subject to Sections 7, 8 and 9 below, twenty-five percent (25%) of the total number of Option Shares subject to the Option to vest on the one-year anniversary of the Grant Date, and an additional 1/48th of the total original number of Option Shares subject to the Option to vest on the corresponding day of each month thereafter, subject to the Optionee's continued employment with Arbutus through the applicable vesting date, and will be exercisable in whole up to June 24, 2029 (the "**Expiry Date**") or such earlier date as may be required or stipulated in accordance with the Plan or the terms of this Agreement; the Option, once vested, shall remain vested until the expiration, termination or surrender of the Option;
5. this Option shall be considered a Non-Qualified Stock Option;
6. except as provided in Sections 7, 8, 9 and 10 below, if the Optionee's employment with Arbutus terminates for any reason, the unvested portion of the Option shall terminate on, and not be exercisable following, the Optionee's date of termination, and the vested portion of the Option will remain exercisable by the Optionee, the Optionee's estate or the Optionee's estate's personal representative, as applicable, until the earlier of the Expiry Date and the ninetieth (90th) day following the date of the Optionee's termination of employment (or, if the Optionee dies during such ninety (90) day period, the first anniversary of the date of death of the Optionee);
7. in the event of the death of the Optionee, the Option shall become immediately fully vested and exercisable, and shall remain exercisable by the Optionee's estate or the Optionee's estate's personal representative, as applicable, until the earlier of the Expiry Date and the first anniversary of the date of death of the Optionee;
8. except as provided below in Section 9, if the Optionee's employment with Arbutus is terminated by Arbutus without Cause (as defined in the Optionee's employment letter agreement with the Company, dated as of June 13, 2019 (the "**Letter Agreement**")) or by the Optionee for Good Reason (as defined in the Letter Agreement), the Option shall vest and become exercisable as of the moment immediately prior to such termination on a pro-rata basis, prorated at 1/48th of the total original number of Option Shares subject to the Option for each completed month of service as of the Optionee's date of termination, with the vested portion of the Option remaining exercisable by the Optionee, the Optionee's estate or the Optionee's estate's personal representative, as applicable, until the earlier of the Expiry Date and the ninetieth (90th) day following the date of the Optionee's termination of employment (or, if the Optionee dies during such ninety (90) day period, the first anniversary of the date of death of the Optionee);
9. if, within twelve (12) months following a Change in Control, the Optionee's employment with Arbutus is terminated by Arbutus without Cause or by the Optionee for Good Reason, the Option shall become fully vested and exercisable as of the moment immediately prior to such termination, with the vested portion of the Option remaining exercisable by the Optionee, the Optionee's estate or the Optionee's estate's personal representative, as applicable, until the earlier of the Expiry Date and the ninetieth (90th) day following the date of the Optionee's termination of employment (or, if the Optionee dies during such ninety (90) day period, the first anniversary of the date of death of the Optionee);
10. if the Optionee's employment with Arbutus is terminated by Arbutus for Cause, the Option, whether or not vested, shall be immediately forfeited and cancelled, without any consideration therefore, and any and all rights of the Optionee with respect to or arising from the Plan shall terminate, as of the commencement of the date that notice

of such termination is given, without regard to any period of reasonable notice or any salary continuance, except as otherwise determined by the Committee;

11. the Option may be exercised only by notice signed by the Optionee or, in certain circumstances permitted by the Plan, the legal representative of the Optionee, and accompanied by full payment for the Option Shares being purchased;
12. the Optionee (i) meets the criteria set out in Section 4 of the Plan as of the Grant Date; (ii) is aware that the grant of the Option and the issuance by the Company of Option Shares thereunder are exempt from the obligation under applicable securities laws to file a prospectus or other registration document qualifying the distribution, other than the Form S-8 registration statement; (iii) will, upon each exercise or settlement of an Option and if requested by the Company, confirm these representations; and (iv) will, upon each exercise or settlement of an Option, comply with all applicable securities laws, rules and regulations, including restrictions on transfer;
13. the Company will have no obligation to issue any Option Shares until the Company is satisfied that the issuance of such Option Shares to the Optionee will be exempt from all registration or qualification requirements of applicable securities laws and will be permitted under the applicable rules and regulations of all regulatory authorities to which the Company is subject;
14. the Option is subject to the terms and conditions set out in the Plan, and if there is any conflict between the terms of this Agreement and the Plan, the terms of the Plan will govern, despite any term of this Agreement; and
15. nothing herein or otherwise shall be construed so as to confer on the Optionee any rights as a shareholder of the Company with respect to any Common Shares reserved for the purpose of the Option.

All capitalized terms not defined herein shall have their respective meanings as set out in the Plan.

This Agreement is governed by the laws of the Province of British Columbia and the laws of Canada applicable therein.

By signing this Agreement, the Optionee acknowledges that the Optionee has read and understands the Plan and accepts the Option in accordance with the terms of the Plan and this Agreement.

[REMAINDER OF PAGE LEFT BLANK INTENTIONALLY]

IN WITNESS WHEREOF this Agreement has been executed by the parties hereto as of the Grant Date.

SIGNED, SEALED and DELIVERED by William J. Collier in the presence of:	)	
	)	/s/ William H. Collier
	)	**(Optionee's signature)**
_	)	
Witness's signature	)	
_	)	_
	)	
	)	_
_	)	**(Optionee's address)**
Witness's Address	)	
	)	
_		
Witness's Occupation		

/s/ David Hastings
Authorized Signatory of the Company

Exhibit 31.1

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

I, William Collier, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: August 5, 2019

/s/ William Collier
Name: William Collier
Title: President and Chief Executive Officer

Exhibit 31.2

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

I, David Hastings, certify that:

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

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

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

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

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

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

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

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

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

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

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

Date: August 5, 2019

/s/ David Hastings
Name: David Hastings
Title: Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Arbutus Biopharma Corporation (the "Company") for the quarter ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I William Collier, President and Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of the operations of the Company.

Date: August 5, 2019

/s/ William Collier
Name: William Collier
Title: President and Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,

AS ADOPTED PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Arbutus Biopharma Corporation (the "Company") for the quarter ended June 30, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I David Hastings, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly represents, in all material respects, the financial condition and results of the operations of the Company.

Date: August 5, 2019

/s/ David Hastings
Name: David Hastings
Title: Chief Financial Officer