UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended June 30, 2020

OR

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

For the Transition Period from to

Commission File Number: **001-34949**

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 ☒ No ☐

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

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

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

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes ☐ No ☒

As of August 5, 2020, the registrant had 80,909,259 common shares, without par value, outstanding.

ARBUTUS BIOPHARMA CORPORATION

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands of U.S. Dollars, except share and per share amounts)

	June 30, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 45,899	$ 31,799
Investments in marketable securities, current	36,489	59,035
Accounts receivable	1,108	1,204
Prepaid expenses and other current assets	2,040	1,790
Total current assets	85,536	93,828
Property and equipment, net of accumulated depreciation of $6,643 (December 31, 2019: $5,642)	7,741	8,676
Investments in marketable securities, non-current	1,600	—
Right of use asset	2,575	2,738
Other non-current assets	173	293
Total assets	$ 97,625	$ 105,535
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable and accrued liabilities	$ 5,813	$ 7,235
Liability-classified options	150	253
Lease liability, current	364	340
Total current liabilities	6,327	7,828
Liability related to sale of future royalties	19,739	18,992
Contingent consideration	3,181	2,953
Lease liability, non-current	2,867	3,018
Total liabilities	32,114	32,791
Stockholders' equity		
Preferred shares		
Authorized: unlimited number without par value		
Issued and outstanding: 1,164,000 (December 31, 2019: 1,164,000)	143,258	137,285
Common shares		
Authorized: unlimited number without par value		
Issued and outstanding: 71,256,579 (December 31, 2019: 64,780,314	916,066	898,535
Additional paid-in capital	58,300	55,246
Deficit	(1,004,014)	(970,093)
Accumulated other comprehensive loss	(48,099)	(48,229)
Total stockholders' equity	65,511	72,744
Total liabilities and stockholders' equity	$ 97,625	$ 105,535

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(In thousands of U.S. Dollars, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	**2019**	**2020**	**2019**
Revenue				
Collaborations and licenses	$ 825	$ 398	$ 1,660	$ 814
Non-cash royalty revenue	689	255	1,345	$ 518
Total Revenue	1,514	653	3,005	1,332
Operating expenses				
Research and development	10,465	12,740	20,881	27,452
General and administrative	3,566	8,189	7,119	12,601
Depreciation and amortization	501	505	1,001	1,014
Change in fair value of contingent consideration	116	130	228	255
Site consolidation	7	(266)	64	(149)
Total operating expenses	14,655	21,298	29,293	41,173
Loss from operations	(13,141)	(20,645)	(26,288)	(39,841)
Other income (loss)				
Interest income	200	606	545	1,206
Interest expense	(1,099)	(2)	(2,140)	(14)
Foreign exchange gain (loss)	(47)	60	(65)	68
Equity investment loss	—	(3,334)	—	(7,985)
Total other loss	(946)	(2,670)	(1,660)	(6,725)
Loss before income taxes	(14,087)	(23,315)	(27,948)	(46,566)
Income tax benefit	—	—	—	—
Net loss	(14,087)	(23,315)	(27,948)	(46,566)
Items applicable to preferred shares:				
Dividend accretion of convertible preferred shares	(2,995)	(2,762)	(5,973)	(5,477)
Net loss attributable to common shares	$ (17,082)	$ (26,077)	$ (33,921)	$ (52,043)
Loss per share				
Basic and diluted	$ (0.25)	$ (0.46)	$ (0.49)	$ (0.92)
Weighted average number of common shares				
Basic and diluted	69,604,726	56,805,583	68,656,566	56,275,795
Comprehensive income (loss)				
Unrealized gain on available-for-sale securities	$ 122	$ —	$ 130	$ —
Currency translation adjustment	—	(52)	$ —	(74)
Comprehensive loss	$ (13,965)	$ (23,367)	$ (27,818)	$ (46,640)

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)
(In thousands of U.S. Dollars, except share and per share amounts)

	Convertible Preferred Shares		Common Shares					
	Number of Shares	Share Capital	Number of Shares	Share Capital	Additional Paid-In Capital	Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance December 31, 2019	1,164,000	$ 137,285	64,780,314	$ 898,535	$ 55,246	$ (970,093)	$ (48,229)	$ 72,744
Accretion of accumulated dividends on Preferred Shares	—	2,978	—	—	—	(2,978)	—	—
Stock-based compensation	—	—	—	—	1,460	—	—	1,460
Certain fair value adjustments to liability stock option awards	—	—	—	—	180	—	—	180
Issuance of common shares pursuant to the Open Market Sales Agreement	—	—	4,147,081	12,315	—	—	—	12,315
Issuance of common shares pursuant to exercise of options	—	—	34,000	249	(83)	—	—	166
Unrealized gain on available-for-sale securities	—	—	—	—	—	—	252	252
Net loss	—	—	—	—	—	(13,861)	—	(13,861)
Balance March 31, 2020	1,164,000	$ 140,263	68,961,395	$ 911,099	$ 56,803	$ (986,932)	$ (47,977)	$ 73,256
Accretion of accumulated dividends on Preferred Shares	—	2,995	—	—	—	(2,995)	—	—
Stock-based compensation	—	—	—	—	1,597	—	—	1,597
Certain fair value adjustments to liability stock option awards	—	—	—	—	(92)	—	—	(92)
Issuance of common shares pursuant to the Open Market Sales Agreement	—	—	2,291,184	5,045	—	—	—	5,045
Issuance of common shares pursuant to exercise of options	—	—	4,000	(78)	(8)	—	—	(86)
Unrealized gain on available-for-sale securities	—	—	—	—	—	—	(122)	(122)
Net loss	—	—	—	—	—	(14,087)	—	(14,087)
Balance June 30, 2020	1,164,000	$ 143,258	71,256,579	$ 916,066	$ 58,300	$ (1,004,014)	$ (48,099)	$ 65,511

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)
(In thousands of U.S. Dollars, except share and per share amounts)

	Convertible Preferred Shares		Common Shares					
	Number of Shares	Share Capital	Number of Shares	Share Capital	Additional Paid-In Capital	Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance December 31, 2018	1,164,000	126,136	55,518,800	$ 879,405	$ 48,084	$ (805,221)	$ (48,170)	$ 200,234
Accretion of accumulated dividends 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 Sales Agreement	—	—	614,401	2,248	—	—	—	2,248
Issuance of common shares pursuant to exercise of options	—	—	122,603	490	(202)	—	—	288
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 accumulated dividends 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 Sales Agreement	—	—	593,689	2,477	—	—	—	2,477
Issuance of common shares pursuant to exercise of options	—	—	679	3	(1)	—	—	2
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 Statements of Cash Flow
(Unaudited)
(In thousands of U.S. Dollars)

	Six Months Ended June 30,	
	2020	**2019**
OPERATING ACTIVITIES		
Net loss	$ (27,948)	$ (46,566)
Non-cash items:		
Depreciation	1,001	1,014
Gain on sale of property and equipment	—	(11)
Stock-based compensation expense	3,042	5,306
Unrealized foreign exchange losses (gains)	56	(95)
Change in fair value of contingent consideration	228	255
Net equity investment loss	—	7,985
Non-cash royalty revenue	(1,345)	(518)
Non-cash interest expense	2,092	—
Net accretion and amortization of investments in marketable securities	40	—
Net change in operating items:		
Accounts receivable	96	(100)
Prepaid expenses and other assets	33	759
Accounts payable and accrued liabilities	(1,398)	(2,637)
Other liabilities	(151)	423
Net cash used in operating activities	(24,254)	(34,185)
INVESTING ACTIVITIES		
Purchase of investments	(25,912)	(484)
Disposition of investments	46,948	71,749
Proceeds from sale of property and equipment	—	11
Acquisition of property and equipment	(66)	(271)
Net cash provided by investing activities	20,970	71,005
FINANCING ACTIVITIES		
Issuance of common shares pursuant to the Open Market Sale agreement	17,360	4,725
Issuance of common shares pursuant to exercise of options	80	290
Net cash provided by financing activities	17,440	5,015
Effect of foreign exchange rate changes on cash and cash equivalents	(56)	95
Increase in cash and cash equivalents	14,100	41,930
Cash and cash equivalents, beginning of period	31,799	36,942
Cash and cash equivalents, end of period	$ 45,899	$ 78,872
Supplemental cash flow information		
Preferred shares dividends accrued	(5,973)	(5,477)

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 clinical-stage biopharmaceutical company primarily focused on developing a cure for people with chronic hepatitis B virus ("HBV") infection. The Company is advancing multiple drug product candidates that may be combined into a potentially curative regimen for chronic HBV infection. Arbutus has also initiated a drug discovery and development effort for treating coronaviruses, including COVID-19.

The Company's pipeline includes:

- AB-729, a subcutaneously-delivered RNA interference ("RNAi") product candidate currently in a Phase 1a/1b clinical trial. Preliminary positive safety data in single-dose cohorts of healthy subjects and safety and efficacy data in the 60 mg and 180 mg single-dose cohorts in subjects with chronic HBV infection were reported in March 2020. Additional follow-on week 12 data for the 60 mg single-dose cohort were reported in May 2020. The Company is dosing two 60 mg multi-dose cohorts of subjects with chronic HBV infection with dosing intervals of every four and eight weeks, respectively. The Company is also dosing subjects in a 90 mg single-dose cohort and has initiated an additional AB-729 90 mg single-dose cohort in HBV positive subjects. Results from all of these cohorts are expected in the second half of 2020. Additionally, the Company intends to initiate two 90 mg multi-dose cohorts in the second half of 2020. As the Company awaits data from the 90 mg single-dose cohorts, the Company anticipates that the dose interval for the planned 90 mg multi-dose cohorts will be every eight and twelve weeks, respectively;
- AB-836, a next-generation capsid inhibitor product candidate currently advancing through IND-enabling studies, which the Company expects to be completed by the end of 2020; and
- other compounds early in the development process, including oral compounds that inhibit PD-L1 and next-generation oral HBV RNA destabilizers.

The Company's research and development activities and commercialization of its products are dependent on its ability to successfully obtain adequate financing through a combination of financing activities and operations. The success of the Company is dependent on progressing its pipeline and subsequently obtaining the necessary regulatory approvals to bring its products to market and achieving profitable 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, nor to predict whether it will be successful in obtaining the necessary regulatory approvals to bring its products to market.

COVID-19

In December 2019, an outbreak of a novel strain of coronavirus (COVID-19) was identified in Wuhan, China. This virus continues to spread globally, has been declared a pandemic by the World Health Organization and has spread to nearly every country in the world. The impact of this pandemic has been, and will likely continue to be, extensive in many aspects of society. The pandemic has resulted in and will likely continue to result in significant disruptions to businesses. A number of countries and other jurisdictions around the world have implemented extreme measures in an attempt to slow the spread of the virus. These measures include the closing of businesses and requiring people to stay in their homes, the latter of which raises uncertainty regarding the ability to travel to hospitals in order to participate in clinical trials. Additional measures that have had, and will likely continue to have, a major impact on clinical development, at least in the near-term, include shortages and delays in the supply chain, and prohibitions in certain countries on enrolling subjects in new clinical trials. Despite the challenges of COVID-19, we have not had to alter our objectives for 2020. However, future disruptions related to the COVID-19 pandemic could negatively impact our plans and timelines, including enrolling and monitoring subjects in our clinical trials.

While Arbutus' core mission is to find a cure for hepatitis B, the magnitude of the coronavirus pandemic is undeniable. Given the Company's proven expertise in the discovery of new antiviral therapies, Arbutus feels compelled to work towards the discovery of a new treatment. To that end, the Company has assembled an internal team of expert scientists under the direction of Arbutus' Chief Scientific Officer, Dr. Michael Sofia, to identify novel small molecule therapies to treat COVID-19 and future coronavirus outbreaks. Dr. Sofia, who was awarded the Lasker-DeBakey Award for his discovery of sofosbuvir, brings extensive antiviral drug discovery experience to this new program. The Company has also recently joined forces with the COVID R&D consortium to further support and expedite efforts to address the SARS-CoV-2 pandemic and any future coronavirus outbreaks. At this time, Arbutus' COVID-19 research program will focus on the discovery and development of new molecular entities that address specific viral targets including the nsp12 viral polymerase and the viral protease. These targets are essential viral proteins which Arbutus has experience in targeting. The establishment of the COVID-19 effort does not materially impact the Company's cash guidance for 2020 of $54 million to $58 million.

2. Significant accounting policies

Basis of presentation

These unaudited condensed consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles 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, 2019 included in the Company's Annual Report on Form 10-K for the year ended December 31, 2019 (the "2019 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, 2020, the Company's results of operations for the three and six months ended June 30, 2020 and the Company's cash flows for the six months ended June 30, 2020. The results of operations for the three and six months ended June 30, 2020 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, 2019, 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.

Net loss attributable to common shareholders 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 11, 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. The calculation of diluted net loss attributable to common shareholders per share does not differ from the calculation of basic net loss attributable to common shareholders per share, as the effect of the Company's dilutive potential common shares was anti-dilutive. During the six months ended June 30, 2020 and 2019, potential common shares of 31.3 million and 27.5 million, respectively, consisting of the "if-converted" number of Preferred Shares and outstanding stock options, were excluded from the calculation of diluted net loss per common share because their inclusion would be anti-dilutive.

Revenue recognition

The Company recognizes revenue in accordance with ASC 606, *Revenue from Contracts with Customers* ("ASC 606"), which requires an entity to recognize 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 Financial Accounting Standards Board ("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.

In June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments* (ASC 326). The guidance is effective for the Company beginning January 1, 2023 and it changes how entities account for credit losses on financial assets and other instruments that are not measured at fair value through net income, including available-for-sale debt securities. The Company is currently evaluating the impact of the new standard on its 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.

Assets and liabilities are classified based on the lowest level of input that is significant to the fair value measurements. Changes in the observability of valuation inputs may result in a reclassification of levels for certain securities within the fair value hierarchy.

The carrying values of cash and cash equivalents, investments in marketable securities, accounts receivable, accounts payable and accrued liabilities approximate their fair values due to the immediate or short-term maturity of these financial instruments.

To determine the fair value of the contingent consideration (note 8), the Company uses a probability weighted assessment of the likelihood the milestones would be met and the estimated timing of such payments, and then the potential contingent payments were discounted to their present value using a probability adjusted discount rate that reflects the early stage nature of the development program, time to complete the program development, and overall biotech indices. The Company determined the fair value of the contingent consideration was $3.2 million as of June 30, 2020 and the increase of $0.2 million has been recorded as a component of total operating expenses in the statement of operations and comprehensive loss for the six months ended June 30, 2020. The assumptions used in the discounted cash flow model are level 3 inputs as defined above. The Company assessed the sensitivity of the fair value measurement to changes in these unobservable inputs, and determined that changes within a reasonable range would not result in a materially different assessment of fair value.

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:

As of June 30, 2020	Level 1	Level 2	Level 3	Total
		(in thousands)		
Assets				
Cash and cash equivalents	$ 45,899	$ —	$ —	$ 45,899
Short-term investments	36,489	—	—	36,489
Long-term investments	1,600	—	—	1,600
Total	83,988	—	—	83,988
Liabilities				
Liability-classified options	—	—	150	150
Contingent consideration	—	—	3,181	3,181
Total	$ —	$ —	$ 3,331	$ 3,331

As of December 31, 2019	Level 1	Level 2	Level 3	Total
		(in thousands)		
Assets				
Cash and cash equivalents	$ 31,799	$ —	$ —	$ 31,799
Short-term investments	59,035	—	—	59,035
Total	90,834	—	—	90,834
Liabilities				
Liability-classified stock option awards	—	—	253	253
Contingent consideration	—	—	2,953	2,953
Total	$ —	$ —	$ 3,206	$ 3,206

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
	(in thousands)			
Six Months Ended June 30, 2020	$ 253	$ —	$ (103)	$ 150
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 liability	Liability at end of the period
	(in thousands)		
Six Months Ended June 30, 2020	$ 2,953	$ 228	$ 3,181
Six Months Ended June 30, 2019	$ 3,126	$ 255	$ 3,381

4. Investments in marketable securities

Investments in marketable securities consisted of the following:

As of June 30, 2020	Amortized Cost	Gross Unrealized Gain[1]	Gross Unrealized Loss[1]	Fair Value
	(in thousands)			
Cash equivalents				
Money market fund	28,606	$ —	$ —	28,606
US government agency bonds	—	—	—	—
US treasury bills	—	—	—	—
Total	$ 28,606	$ —	$ —	$ 28,606
Investments in marketable securities				
US government agency bonds	$ 15,357	$ 52	$ —	$ 15,409
US treasury bills	4,494	6	—	4,500
US government bonds	18,108	72	—	18,180
Total	$ 37,959	$ 130	$ —	$ 38,089

[1] Gross unrealized gain (loss) is pre-tax and is reported in other comprehensive loss.

As of December 31, 2019	Amortized Cost	Gross Unrealized Gain[1]	Gross Unrealized Loss[1]	Fair Value
	(in thousands)			
Cash equivalents				
Money market fund	$ 4,106	$ —	$ —	$ 4,106
US government agency bonds	1,511	—	—	1,511
US treasury bills	1,499	—	—	1,499
Total	$ 7,116	$ —	$ —	$ 7,116
Investments in marketable securities				
US government agency bonds	$ 19,863	$ 2	$ (1)	$ 19,864
US treasury bills	15,926	2	(1)	15,927
US government bonds	23,246	—	(2)	23,244
Total	$ 59,035	$ 4	$ (4)	$ 59,035

[1] Gross unrealized gain (loss) is pre-tax and is reported in other comprehensive loss.

The contractual term to maturity of the $36.5 million of short-term marketable securities held by the Company as of June 30, 2020 is less than one year. As of June 30, 2020, the Company held $1.6 million of long-term marketable securities with contractual maturities of more than one year, but less than five years. As of December 31, 2019, the Company's $59.0 million of marketable securities had contractual maturities of less than one year.

There were no realized gains or losses for the three and six months ended June 30, 2020 or 2019.

5. Equity method investment

In April 2018, Arbutus entered into an agreement with Roivant Sciences Ltd. ("Roivant"), its largest shareholder, to launch Genevant Sciences Ltd. ("Genevant"), a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by Arbutus' lipid nanoparticle ("LNP") and ligand conjugate delivery technologies. Arbutus licensed exclusive rights to its LNP and ligand conjugate delivery platforms to Genevant for RNA-based applications outside of HBV, except to the extent certain rights had already been licensed to other third parties. Arbutus retained all rights to its LNP and conjugate delivery platforms for HBV. Arbutus is entitled to receive tiered low single-digit royalties on future sales of Genevant products covered by the licensed patents. If Genevant sub-licenses the intellectual property licensed by Arbutus to Genevant, Arbutus would receive upon the commercialization of a product developed by such sub-licensee the lesser of (i) twenty percent of the revenue received by Genevant for such sublicensing and (ii) tiered low single-digit royalties on product sales by the sublicensee. As of June 30, 2020, the carrying value of Arbutus' investment in Genevant was zero and Arbutus owned approximately 40% of the common equity of Genevant.

On July 23, 2020, the United States Patent and Trademark Office before the Patent Trial and Appeal Board ("PTAB") announced their decision in Moderna Therapeutics, Inc.'s challenge of the validity of U.S. Patent 8,058,069 ("the '069 Patent"). In this decision, the PTAB determined no challenged claims were unpatentable. While Arbutus is the patent holder, this patent has been licensed to Genevant. The '069 Patent was included in this license agreement between Genevant and Arbutus. Arbutus is gratified by the recent decision of the Patent Trademark and Appeals Board, upholding the validity of one of the patents protecting its LNP technology that was licensed to Genevant. This decision reinforces Arbutus' continuing belief in the potential of this technology.

On July 31, 2020, Roivant recapitalized Genevant through an equity investment and conversion of previously issued convertible debt securities held by Roivant. Arbutus participated in the recapitalization of Genevant with an equity investment of $2.5 million. Following the recapitalization, Arbutus owns approximately 16% of the common equity of Genevant. In connection with the recapitalization, the three parties entered into an Amended and Restated Shareholders Agreement that provides Roivant with substantial control of Genevant. Arbutus has a non-voting observer seat on Genevant's Board of Directors. Arbutus' entitlement to receive future royalties or sublicensing revenue from Genevant was not impacted by the recapitalization.

6. Accounts payable and accrued liabilities

Accounts payable and accrued liabilities are comprised of the following:

	June 30, 2020	December 31, 2019
	(in thousands)	
Trade accounts payable	$ 1,182	$ 2,398
Research and development accruals	2,732	1,433
Professional fee accruals	304	809
Payroll accruals	1,589	2,314
Site consolidation accrual	—	137
Other accrued liabilities	6	144
Total accounts payable and accrued liabilities	$ 5,813	$ 7,235

7. Sale of future royalties

On July 2, 2019, the Company entered into a Purchase and Sale Agreement (the "Agreement") with the Ontario Municipal Employees Retirement System (or "OMERS"), pursuant to which the Company sold to OMERS part of its royalty interest on future global net sales of ONPATTRO® (Patisiran) ("ONPATTRO"), an RNAi therapeutic currently being sold by Alnylam Pharmaceuticals, Inc. ("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% to 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. OMERS has assumed the risk of collecting up to $30 million of future royalty payments from Alnylam and Arbutus is not obligated to reimburse OMERS if they fail to collect any such future royalties.

The $30 million in royalties to be collected by OMERS is accounted for as a liability, with the difference between the liability and the gross proceeds received accounted for as a discount. The discount, as well as $1.5 million of transaction costs, will be amortized as interest expense based on the projected balance of the liability as of the beginning of each period. Over the course of the Agreement, the actual interest rate will be affected by the amount and timing of royalty revenue recognized and changes in the timing of forecasted royalty revenue. On a quarterly basis, the Company will reassess the expected timing of the royalty revenue, recalculate the amortization and effective interest rate and adjust the accounting prospectively as needed. As of June 30, 2020, the effective annual interest rate was approximately 22%.

The Company will recognize non-cash royalty revenue related to the sales of ONPATTRO during the term of the Agreement. As royalties are remitted to OMERS from Alnylam, the balance of the recognized liability will be effectively repaid over the life of the Agreement. From the inception of the royalty sale through June 30, 2020, the Company has recorded an aggregate of $3.0 million of non-cash royalty revenue for royalties earned by OMERS. There are a number of factors that could materially affect the amount and timing of royalty payments from Alnylam, none of which are within the Company's control.

During the three and six months ended June 30, 2020, the Company recognized non-cash royalty revenue of $0.7 million and $1.3 million, respectively, and $1.1 million and $2.1 million of related non-cash interest expense, respectively.

The table below shows the activity related to the net liability for 2020:

	Six Months Ended June 30, 2020
	(in thousands)
Net liability related to sale of future royalties - beginning balance	$ 18,992
Non-cash royalty revenue	(1,345)
Non-cash interest expense	2,092
Net liability related to sale of future royalties - ending balance	$ 19,739

In addition to the royalty from the LNP License Agreement, the Company is also receiving 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 the Company and was not part of the royalty sale to OMERS.

8. Contingencies and commitments

Product development partnership with the Canadian Government

The Company entered into a Technology Partnerships Canada ("TPC") agreement with the Canadian Federal Government on November 12, 1999. Under this agreement, TPC agreed to fund 27% of the costs incurred by the Company, prior to March 31, 2004, in the development of certain oligonucleotide product candidates up to a maximum contribution from TPC of $7.2 million (C$9.3 million). The Company received a cumulative contribution of $2.7 million (C$3.7 million). In return for the funding provided by TPC, the Company agreed to pay royalties on the share of future licensing and product revenue, if any, that is received by the Company on certain non-RNAi oligonucleotide product candidates covered by the funding under the agreement. These royalties are payable until a certain cumulative payment amount is achieved or until a pre-specified date. In addition, until a cumulative amount equal to the funding actually received under the agreement has been paid to TPC, the Company agreed to pay 2.5% royalties on any royalties the Company receives on sales of Acrotech Biopharma LLC's Marqibo® (formerly Spectrum Pharmaceuticals, Inc.). For the six months ended June 30, 2020 and 2019, the Company earned royalties on Marqibo sales in the amounts of $0.1 million and $0.1 million, respectively. The resulting royalties payable by the Company to TPC were not material in either period. The cumulative amount paid or accrued up to June 30, 2020 was less than $0.1 million, resulting in the contingent amount due to TPC being $2.7 million (C$3.7 million).

Arbitration with the University of British Columbia

Certain early work on lipid nanoparticle delivery systems and related inventions was undertaken at the University of British Columbia ("UBC"), as well as by us that was subsequently assigned to UBC. These inventions are licensed to the Company by UBC under a license agreement, initially entered into in 1998 and amended in 2001, 2006 and 2007. The Company has granted sublicenses under the UBC license to certain third parties, including Alnylam. In November 2014, UBC filed a demand for arbitration against the Company and in January 2015, filed a Statement of Claim, which alleged 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 sought 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 alleged UBC wrongly licensed to a third party. The proceedings were 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. 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 the Company. The second phase of the arbitration took place in the second quarter of 2019. In August 2019, the arbitrator issued his decision for the second phase of the arbitration, awarding UBC $5.9 million, which includes interest of approximately $2.6 million. The Company paid the $5.9 million award to UBC in September 2019. The arbitrator also held that the third phase of the arbitration, which would address patent validity, should the Company choose to pursue a third phase, would not provide a defense to the award. An award for costs and attorneys' fees is still to be determined. The Company has accrued $0.4 million for an estimate of a potential award for costs and attorneys' fees as of June 30, 2020.

Stock Purchase Agreement with Enantigen

In October 2014, Arbutus Inc., our wholly-owned subsidiary, acquired all of the outstanding shares of Enantigen Therapeutics, Inc. ("Enantigen") pursuant to a stock purchase agreement. Through this transaction, Arbutus Inc. acquired an 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 stockholders 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 development milestones are tied to programs which are no longer under development by the Company, and therefore the contingency related to these milestones has been reduced to zero.

An additional $102.5 million may also be paid to Enantigen's selling stockholders related to the achievement of certain 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, which is measured at its fair value at each reporting period, with any changes in fair value from the previous reporting period recorded in the statements of operations and comprehensive loss (see note 3). The fair value of the contingent consideration was $3.2 million as of June 30, 2020.

9. Collaborations, contracts and licensing agreements

Revenue contracts are described in detail in the Overview section of Part II, Item 8, “Financial Statements and Supplementary Data” in the Company’s 2019 Form 10-K.

Alnylam Pharmaceuticals, Inc. and Acuitas Therapeutics, Inc.

The Company has two royalty entitlements to Alnylam’s global net sales of ONPATTRO.

In 2012, the Company entered into a license agreement with Alnylam that entitles Alnylam to develop and commercialize certain identified products with the Company’s LNP technology. During the third quarter of 2018, Alnylam’s ONPATTRO, which utilizes the Company’s LNP technology, was approved by the U.S. Food and Drug Administration (“FDA”) and the European Medicines Agency. The Company is entitled to tiered low to mid single-digit royalty payments on global net sales of ONPATTRO. In July 2019, the Company sold this portion of its royalty entitlement for Alnylam’s ONPATTRO to OMERS. The Company recognizes non-cash royalty revenue for royalties on global net sales of ONPATTRO collected by OMERS. See note 7 for further details.

The Company also has rights to a second royalty interest on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas Therapeutics, Inc. (“Acuitas”). This royalty entitlement from Acuitas has been retained by us and was not part of the royalty entitlement sale to OMERS.

Revenues are summarized in the following table:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)		(in thousands)	
Revenue from collaborations and licenses				
Acuitas Therapeutics, Inc.	$ 761	$ 288	$ 1,514	$ 645
Other milestone and royalty payments	63	110	146	169
Non-cash royalty revenue				
Alnylam Pharmaceuticals, Inc.	690	255	1,345	518
Total revenue	$ 1,514	$ 653	$ 3,005	1,332

10. Stockholders’ equity

Open Market Sales Agreement

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

In December 2019, the Company entered into an amendment to the Sale Agreement with Jefferies (the “Amended Sale Agreement”) in connection with the filing of a new shelf registration statement on Form S-3 (File No. 333-235674), filed with the SEC on December 23, 2019 (the “New Shelf Registration Statement”). The amendment revised the original Sale Agreement to reflect that the Company may sell its common shares, without par value, from time to time, for an aggregate sales price of up to $50.0 million, under the New Shelf Registration Statement. During the three and six months ended June 30, 2020, the Company issued 2,291,184 and 6,438,265 common shares pursuant to the Sale Agreement and the Amended Sale Agreement, resulting in net proceeds of approximately $5.0 million and $17.4 million, respectively. During July 2020, Arbutus fully utilized the remaining availability under the Amended Sale Agreement resulting in an additional $36.5 million of net proceeds from the issuance of 9,548,780 common shares.

Stock-based compensation

The table below summarizes information about the Company's stock based compensation for the three and six months ended June 30, 2020 and 2019 and the expense recognized in the condensed consolidated statements of operations:

	Three Months Ended June 30, 2020	Three Months Ended June 30, 2019	Six Months Ended June 30, 2020	Six Months Ended June 30, 2019
	(in thousands, except share and per share data)			
Options granted during period	566,513	1,171,100	2,667,550	2,775,600
Weighted average exercise price	$ 3.00	$ 2.21	$ 3.27	3.57
Research and development	$ 681	$ 817	$ 1,533	1,544
General and administrative	916	2,967	1,509	3,762
Total stock compensation expense	$ 1,597	$ 3,784	$ 3,042	5,306

Series A Preferred Shares

In October 2017, the Company entered into a subscription agreement with Roivant for the sale of 1,164,000 Preferred Shares for gross proceeds of $116.4 million. These Preferred Shares are non-voting and accrue an 8.75% per annum coupon in the form of additional Preferred Shares, compounded annually, until October 16, 2021, at which time all the Preferred Shares will be subject to mandatory conversion into common shares (subject to limited exceptions in the event of certain fundamental corporate transactions relating to Arbutus's capital structure or assets, which would permit earlier conversion at Roivant's option). The conversion price is $7.13 per share, which will result in the Preferred Shares being converted into approximately 23 million common shares. After conversion of the Preferred Shares into common shares, based on the number of common shares outstanding as of June 30, 2020, Roivant will hold approximately 41% 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).

11. Related Party Transactions

Through the first quarter of 2019, the Company purchased certain research and development services from Genevant. These services were billed at agreed hourly rates and were reflective of market rates for such services. The total cost of these services during 2019 was less than $0.1 million, which was included in the Condensed Consolidated Statement of Operations under research and development. There were no such costs incurred during 2020.

Conversely, Genevant purchased certain administrative and transitional services from the Company totaling $19.3 thousand and $38.5 thousand for the three and six months ended June 30, 2020, respectively. The total income from these services was $73 thousand and $189 thousand for the three and six months ended June 30, 2019, which were netted against research and development expenses in the condensed consolidated statements of operations.

In addition, during 2019 Genevant had a sublease for 17,900 square feet in the Company's Burnaby facility. Sublease income from Genevant was $62 thousand and $124 thousand for the three and six months ended June 30, 2019, and was netted against site consolidation costs and lease liability. The Company's Burnaby facility lease and the corresponding sublease to Genevant expired on July 31, 2019.

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, 2019 and our unaudited condensed consolidated financial statements for the three and six months ended June 30, 2020. Our consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles and are presented in U.S. dollars.

REFERENCES TO ARBUTUS BIOPHARMA CORPORATION.

Throughout this Quarterly Report on Form 10-Q ("Form 10-Q") , the "Company," "Arbutus," "we," "us," and "our," except where the context requires otherwise, refer to Arbutus Biopharma Corporation and its consolidated subsidiaries, and "our board of directors" refers to the board of directors of Arbutus Biopharma Corporation.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Form 10-Q contains "forward-looking statements" or "forward-looking information" within the meaning of applicable United States 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 potential impact of the COVID-19 pandemic on our business;
- our expectations regarding the technology that we licensed to Genevant Sciences Lt. ("Genevant");
- the discovery, development and commercialization of a curative combination regimen 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 curative combination regimen 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 expected timing of and amount for payments related to the Enantigen Therapeutics, Inc.'s 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 reversion of the Ontario Municipal Employees Retirement System ("OMERS") royalty monetization transaction for our ONPATTRO® (Patisiran) ("ONPATTRO") 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;
- our expectation for AB-729 for preliminary results from a single-dose 90 mg cohort and multi-dose 60 mg cohorts in our Phase 1a/1b trial to be available in the second half of 2020;
- our expectation for AB-729 for preliminary results from a 90 mg single-dose cohort in HBV DNA positive subjects to be available in the second half of 2020;
- our expectation that AB-729 could be combined with our lead capsid inhibitor candidate, AB-836, and approved NAs, in our first combination therapy for HBV patients;
- our expectations regarding the dose interval for the planned AB-729 90 mg multi-dose cohorts;
- the potential for an oral HBsAg-reducing agent and potential all-oral combination therapy;
- our objective to complete IND/CTA-enabling studies for AB-836 by the end of 2020;

- the potential for AB-836 to be low-dose regimen with a wide therapeutic window and to address known capsid resistant variants T33N and I105T;
- the potential for AB-836 to have increased potency and an enhanced resistance profile, compared to our previous capsid inhibitor candidate, AB-506;
- the potential for AB-836 to be once-daily dosing;
- our expectation to pursue development of a next generation oral HBV RNA-destabilizer;
- our expectations regarding our ability to develop a potential COVID-19 therapy;
- payments from our license agreement with Gritstone Oncology, Inc.;
- the expected return from strategic alliances, licensing agreements, and research collaborations;
- statements with respect to revenue and expense fluctuation and guidance;
- having sufficient cash resources to fund our operations through mid-2022; and
- 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, other non-dilutive commercial arrangements and government grants and contracts;

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, 2019 (the “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 is a clinical-stage biopharmaceutical company primarily focused on developing a cure for people with chronic hepatitis B virus ("HBV") infection. We are advancing multiple drug product candidates that may be combined into a potentially curative regimen for chronic HBV infection. Arbutus has also initiated a drug discovery and development effort for treating coronaviruses, including COVID-19.

Hepatitis B is a potentially life-threatening liver infection caused by HBV. HBV can cause chronic infection which leads to a higher risk of death from cirrhosis and liver cancer. Chronic HBV infection represents a significant unmet medical need. The World Health Organization estimates that over 250 million people worldwide suffer from chronic HBV infection, while other estimates indicate that approximately 2 million people in the United States suffer from chronic HBV infection. Approximately 900,000 people die every year from complications related to chronic HBV infection despite the availability of effective vaccines and current treatment options.

Today's current treatment options include nucleos(t)ide analogs ("NA") and pegylated interferon regimens ("Peg-IFN"). However, less than 5% of patients are cured by these current treatment options after a finite treatment duration. With such low cure rates, most patients with chronic HBV infection are required to take NA therapy daily for the rest of their lives.

Our focus is on developing new HBV treatment regimens with finite treatment durations and higher cure rates. We define a cure as a functional cure where HBV DNA replication and hepatitis B surface antigen ("HBsAg") expression are reduced to undetectable levels and this level of expression is sustained six months after a finite duration of therapy. Our HBV product pipeline includes RNA interference ("RNAi") therapeutics, oral capsid inhibitors, oral compounds that inhibit PD-L1 and oral HBV RNA destabilizers. We believe a combination of these product candidates could lead to a curative treatment regimen with a finite duration for patients with chronic HBV infection.

There is a compelling market opportunity for an HBV curative regimen. Currently, an estimated 27 million (10.5%) of a total of over 250 million people worldwide with chronic HBV infection are diagnosed and approximately 4.5 million (1.8%) are on treatment. We believe that the introduction of an HBV curative regimen with a finite duration would substantially increase diagnosis and treatment rates for patients with chronic HBV.

Strategy

Our business strategy is to develop a curative combination regimen for patients with chronic HBV infection. We believe this can best be achieved by:

- developing a broad portfolio of proprietary therapeutic assets that target multiple elements of the HBV viral lifecycle, most importantly suppressing HBV replication and HBsAg expression;
- developing compounds that reawaken the host immune response;
- identifying a combination of therapeutic assets with complementary mechanisms of action that can deliver higher cure rates with a finite treatment duration; and
- advancing a curative combination regimen through clinical development, regulatory approval and commercial launch.

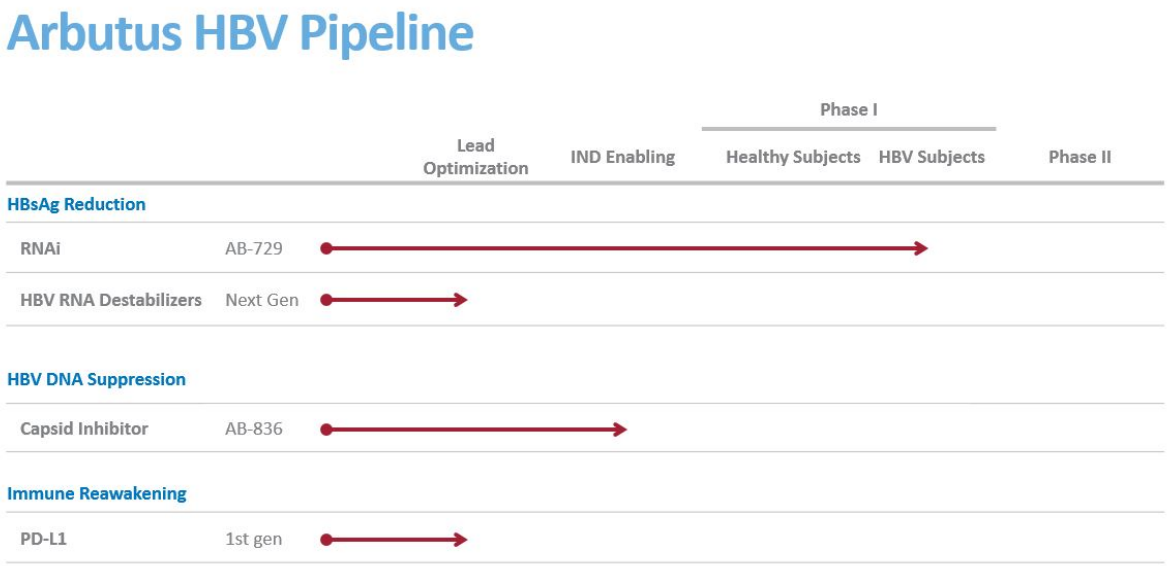
Additionally, we have initiated an internal research program to identify new small molecule antiviral medicines to treat COVID-19 and future coronavirus outbreaks.

Our product candidates are first evaluated in Phase 1 clinical trials as a monotherapy or in combination with other currently-marketed therapies to assess patient safety and antiviral activity. We are currently conducting a Phase 1a/1b clinical trial and performing pre-clinical and investigational new drug ("IND")-enabling studies for our HBV product candidates. Results from our Phase 1 clinical trials and other studies will inform the design of future Phase 2 and Phase 3 clinical trials that will evaluate a combination of our therapeutic agents in a potentially curative combination regimen.

Our Product Candidates

Given the biology of HBV, we believe therapeutic success will require a combination of agents with complementary mechanisms of action. We are developing product candidates that have the potential to reduce HBsAg expression, suppress HBV DNA replication and reawaken the immune response in patients with chronic HBV.

Our HBV product pipeline consists of the following programs:



We believe that AB-729, our subcutaneously administered RNAi product candidate, may be combinable with AB-836, our lead capsid inhibitor product candidate, and other currently-marketed or investigational therapies, in our first combination therapy for chronic HBV patients. In parallel, we are in lead optimization with several oral compounds for our PD-L1 program and our next-generation HBV RNA destabilizer program. We continue to explore expansion of our HBV pipeline through internal discovery and development activities and through potential strategic alliances.

GalNAc RNAi (AB-729)

RNAi therapeutics represent a recent significant advancement in drug development. RNAi therapeutics utilize a natural pathway within cells to silence genes by eliminating the disease-causing proteins that they code for. We are developing RNAi therapeutics that are designed to reduce HBsAg expression and other HBV antigens in patients chronically infected with HBV. Reducing HBsAg is widely believed to be a key prerequisite to enable a patient's immune system to reawaken and respond against the virus.

AB-729 is a subcutaneously-delivered RNAi therapeutic targeted to hepatocytes using our novel covalently conjugated GalNAc delivery technology. AB-729 inhibits viral replication and reduces all HBV antigens. In July 2019, we initiated a single- and multi-dose Phase 1a/1b clinical trial for AB-729, designed to investigate the safety, tolerability, pharmacokinetics, and pharmacodynamics of AB-729 in healthy volunteers and in chronic HBV subjects.

The ongoing first-in-human clinical trial of AB-729 consists of three parts:

- In Part 1, three cohorts of healthy subjects were randomized 4:2 to receive single doses (60 mg, 180 mg or 360 mg) of AB-729 or placebo.
- In Part 2, non-cirrhotic, HBeAg positive or negative, chronic hepatitis B subjects (n=6) currently taking nucleos(t)ide antiviral therapy with HBV DNA below the limit of quantitation received single doses (60 mg, 90 mg or 180 mg) of AB-729. All subjects continued their nucleos(t)ide antiviral therapy throughout the trial. Part 2 will also include dosing of AB-729 in HBV DNA positive chronic hepatitis B subjects.
- In Part 3, chronic hepatitis B subjects, HBV DNA negative first and HBV DNA positive later, will receive multiple doses of AB-729 for up to six months at four and eight week dosing intervals.

In March 2020, we announced positive preliminary results in the three cohorts of healthy subjects, all of whom received a single subcutaneous injection of AB-729 with no serious adverse events ("SAEs") observed and most adverse events ("AEs") were mild and considered unrelated to AB-729. Two subjects in the 360 mg cohort had asymptomatic, reversible Grade 3 ALT elevations assessed as related to AB-729. Neither subject had meaningful changes in any other laboratory parameter excepting Grade 1 or 2 AST elevation. There were no other clinically relevant abnormalities in laboratory tests, ECGs, or vital signs.

In March 2020, we also announced positive preliminary results in two cohorts (60 mg and 180 mg dose groups) of chronic hepatitis B subjects and, in May 2020, we announced additional Week 12 follow-up data on the 60 mg cohort. All chronic hepatitis B subjects were on nucleos(t)ide antiviral therapy and received a single subcutaneous injection of AB-729.

Mean HBsAg changes from baseline:

	60 mg Single-Dose Cohort (N=6)	180 mg Single-Dose Cohort (N=4)
Day 29 mean log10 IU/mL (Standard Error of the Mean)	-0.24 (0.13)	-0.8 (0.38)
Week 12 (day 84) mean log10 IU/mL (Standard Error of the Mean)	-0.99 (0.24)	-0.98 (0.22)

The Week 12 mean log10 (SE) HBsAg decline for the 60 mg single-dose cohort was equivalent to the 180 mg single-dose cohort. AB-729 dosed at either 60 mg or 180 mg in chronic hepatitis B subjects was generally safe and well tolerated and there were no SAEs. Most AEs were mild (13/15) and considered unrelated (12/15) to AB-729. One subject receiving the 180 mg dose who experienced the highest HBsAg decline also experienced a Grade 3 ALT/AST flare. Notably, this subject experienced an unrelated gastroenteritis and self-medicated.

We are dosing two 60 mg multi-dose cohorts of subjects with chronic HBV infection with dosing intervals of every four and eight weeks, respectively. We are also dosing subjects in a 90 mg single-dose cohort and we have initiated an additional AB-729 90 mg single-dose cohort in HBV positive subjects. Results from all of these cohorts are expected in the second half of 2020. Additionally, we intend to initiate two 90 mg multi-dose cohorts in the second half of 2020. As we await data from the 90 mg single-dose cohorts, we anticipate that the dose interval for the planned 90 mg multi-dose cohorts will be every eight and twelve weeks, respectively. While we have been able to progress with our clinical and pre-clinical activities to date, it is not possible to predict if the COVID-19 pandemic will negatively impact our plans and timelines, including enrolling and monitoring subjects in the trial.

HBV RNA Destabilizers

HBV RNA destabilizers are small molecule orally active agents that cause the destabilization and ultimate degradation of HBV RNAs. These agents result in the reduction of HBsAg and other viral proteins in both whole cell systems and animal models. They have the potential to selectively impact HBV versus other RNA or DNA viruses and demonstrate pangenotypic characteristics. HBV RNA destabilizers have demonstrated additive effects in combination with other anti-HBV mechanisms of action. HBV RNA destabilizers have the potential to complement or replace subcutaneously delivered RNAi agents with an oral therapy in combination with a capsid inhibitor and an approved NA.

In February 2020, we discontinued the development of AB-452, our first-generation oral HBV RNA destabilizer product candidate following extensive preclinical evaluations. However, oral HBV RNA destabilizers have shown compelling anti-viral effects in multiple HBV pre-clinical models and we believe this target offers potential for an oral HBsAg reducing agent and potentially an all oral combination HBV therapy. Given this, we continue to advance next-generation oral HBV RNA-destabilizers with chemical scaffolds distinct from AB-452 through lead optimization.

Capsid Inhibitors (AB-836)

HBV core protein assembles into a capsid structure, which is required for viral replication. The current commercially available therapies (NAs or Peg-IFN) significantly reduce HBV DNA levels in the serum, but HBV replication continues in the liver, thereby enabling HBV infection to persist. More effective therapies for patients require 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 further reduce HBV replication. 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 cccDNA, the viral reservoir which resides in the cell nucleus, and which is believed to play a role in viral persistence.

Our oral capsid inhibitor discovery effort generated promising next-generation compounds, which led to the nomination of AB-836 in January 2020. AB-836 has the potential for increased potency and an enhanced resistance profile compared to our previous capsid inhibitor product candidates, including AB-506. AB-836 is a novel chemical series differentiated from AB-506 and other competitor compounds in the capsid inhibitor space. AB-836 leverages a novel binding site within the core protein dimer-dimer interface, has shown to be active against NA resistant variants and has the potential to address certain known capsid resistant variants. AB-836 is anticipated to be combinable with other mechanisms of action and is also anticipated to be dosed once daily. We anticipate completing IND/CTA-enabling studies for AB-836 by the end of 2020.

Immune Reawakening

We are in lead optimization with oral compounds which are potentially capable of reawakening patients' HBV-specific immune response by inhibiting PD-L1. These compounds complement our pipeline of agents and could potentially be an important part of a combination therapy for the treatment of HBV.

COVID-19

In December 2019, an outbreak of a novel strain of coronavirus (COVID-19) was identified in Wuhan, China. This virus continues to spread globally, has been declared a pandemic by the World Health Organization and has spread to nearly every country in the world. The impact of this pandemic has been, and will likely continue to be, extensive in many aspects of society. The pandemic has resulted in and will likely continue to result in significant disruptions to businesses. A number of countries and other jurisdictions around the world have implemented extreme measures to try and slow the spread of the virus. These measures include the closing of businesses and requiring people to stay in their homes, the latter of which raises uncertainty regarding the ability to travel to hospitals in order to participate in clinical trials. Additional measures that have had, and will likely continue to have, a major impact on clinical development, at least in the near-term, include shortages and delays in the supply chain, and prohibitions in certain countries on enrolling subjects in new clinical trials. Despite the challenges of COVID-19, we have not had to alter our objectives for 2020. However, future disruptions related to the COVID-19 pandemic could negatively impact our plans and timelines, including enrolling and monitoring subjects in the trial.

While our core mission is to find a cure for hepatitis B, the magnitude of the coronavirus pandemic is undeniable. Given our proven expertise in the discovery of new antiviral therapies, we feel compelled to work towards the discovery of a new treatment. To that end, we have assembled an internal team of expert scientists under the direction of our Chief Scientific Officer, Dr. Michael Sofia, to identify novel small molecule therapies to treat COVID-19 and future coronavirus outbreaks. Dr. Sofia, who was awarded the Lasker-DeBakey Award for his discovery of sofosbuvir, brings extensive antiviral drug discovery experience to this new program. We have also recently joined forces with the COVID R&D consortium to further support and expedite efforts to address the SARS-CoV-2 pandemic and any future coronavirus outbreaks. At this time, our COVID-19 research program will focus on the discovery and development of new molecular entities that address specific viral targets including the nsp12 viral polymerase and the viral protease. These targets are essential viral proteins which we have experience in targeting. We are actively screening multiple new oral molecular entities. The establishment of the COVID-19 effort does not materially impact our cash guidance for 2020 of $54 million to $58 million.

Royalty Entitlements

Alnylam Pharmaceuticals, Inc. and Acuitas Therapeutics, Inc.

The Company has two royalty entitlements to Alnylam's global net sales of ONPATTRO®.

In 2012, we entered into a license agreement with Alnylam Pharmaceuticals, Inc. (“Alnylam”) that entitles Alnylam to develop and commercialize products with our lipid nanoparticle delivery (“LNP”) technology. Alnylam’s ONPATTRO, which represents the first approved application of our LNP technology, was approved by the United States Food and Drug Administration (“FDA”) and the European Medicines Agency (“EMA”) during the third quarter of 2018 and was launched by Alnylam immediately upon approval in the United States. Under the terms of this 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. OMERS has assumed the risk of collecting up to $30 million of future royalty payments from Alnylam and we are not obligated to reimburse OMERS if they fail to collect any such future royalties. 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.
We also have rights to a second royalty interest on global net sales of ONPATTRO originating from a settlement agreement and subsequent license agreement with Acuitas. This royalty entitlement from Acuitas has been retained by us and was not part of the royalty entitlement sale to OMERS.

Genevant Sciences, Ltd.

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 Arbutus’ lipid nanoparticle (“LNP”) and ligand conjugate delivery technologies. We licensed exclusive rights to our LNP and ligand conjugate delivery platforms to Genevant for RNA-based applications outside of HBV, except to the extent certain rights had already been licensed to other third parties. We retained all rights to our LNP and conjugate delivery platforms for HBV. We are entitled to receive tiered low single-digit royalties on future sales of Genevant products covered by the licensed patents. If Genevant sub-licenses the intellectual property licensed by us to Genevant, we would receive upon the commercialization of a product developed by such sub-licensee the lesser of (i) twenty percent of the revenue received by Genevant for such sublicensing and (ii) tiered low single-digit royalties on product sales by the sublicensee. As of June 30, 2020, the carrying value of our investment in Genevant was zero and we owned approximately 40% of the common equity of Genevant.

On July 23, 2020, the United States Patent and Trademark Office before the Patent Trial and Appeal Board ("PTAB") announced their decision in Moderna Therapeutics, Inc.'s challenge of the validity of U.S. Patent 8,058,069 ("the '069 Patent"). In this decision, the PTAB determined no challenged claims were unpatentable. While Arbutus is the patent holder, this patent has been licensed to Genevant. The '069 Patent was included in this license agreement between Genevant and Arbutus. We are gratified by the recent decision of the PTAB, upholding the validity of one of the patents protecting our LNP technology that we have licensed to Genevant. This decision reinforces our continuing belief in the potential of this technology.

On July 31, 2020, Roivant recapitalized Genevant through an equity investment and conversion of previously issued convertible debt securities held by Roivant. We participated in the recapitalization of Genevant with an equity investment of $2.5 million. Following the recapitalization, we own approximately 16% of the common equity of Genevant. In connection with the recapitalization, the three parties entered into an Amended and Restated Shareholders Agreement that provides Roivant with substantial control of Genevant. We have a non-voting observer seat on Genevant’s Board of Directors. Our entitlement to receive future royalties or sublicensing revenue from Genevant was not impacted by the recapitalization.

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 United States generally accepted accounting principles. 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, 2019.

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:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)			
Total revenue	$ 1,514	$ 653	$ 3,005	$ 1,332
Operating expenses	14,655	21,298	29,293	41,173
Loss from operations	(13,141)	(20,645)	(26,288)	(39,841)
Other income (loss)	(946)	(2,670)	(1,660)	(6,725)
Net loss	$ (14,087)	$ (23,315)	$ (27,948)	$ (46,566)
Dividend accretion of convertible preferred shares	(2,995)	(2,762)	(5,973)	(5,477)
Net loss attributable to common shares	$ (17,082)	$ (26,077)	$ (33,921)	$ (52,043)

Revenue

Revenues are summarized in the following tables:

	Three Months Ended June 30,			
	2020	% of Total	2019	% of Total
	(in thousands, except percentages)			
Revenue from collaborations and licenses				
Acuitas Therapeutics, Inc.	$ 761	50 %	$ 288	44 %
Other milestone and royalty payments	63	4 %	110	17 %
Non-cash royalty revenue				
Alnylam Pharmaceuticals, Inc.	690	46 %	255	39 %
Total revenue	$ 1,514	100 %	$ 653	100 %

	Six Months Ended June 30,			
	2020	% of Total	2019	% of Total
	(in thousands, except percentages)			
Revenue from collaborations and licenses				
Acuitas Therapeutics, Inc.	$ 1,514	50 %	$ 645	48 %
Other milestone and royalty payments	146	5 %	169	13 %
Non-cash royalty revenue				
Alnylam Pharmaceuticals, Inc.	1,345	45 %	518	39 %
Total revenue	$ 3,005	100 %	$ 1,332	100 %

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 2019 Form 10-K.

Revenue increased $0.9 million and $1.7 million for the three and six months ended June 30, 2020, respectively, as compared to the same periods in 2019, due primarily to an increase in royalties from the growth of Alnylam’s sales of ONPATTRO.

Operating expenses

Operating expenses are summarized in the following tables:

	Three Months Ended June 30,			
	2020	% of Total	2019	% of Total
	(in thousands, except percentages)			
Research and development	$ 10,465	71 %	$ 12,740	60 %
General and administrative	3,566	24 %	8,189	38 %
Depreciation	501	3 %	505	2 %
Change in fair value of contingent consideration	116	1 %	130	1 %
Site consolidation	7	— %	(266)	(1)%
Total operating expenses	$ 14,655	100 %	$ 21,298	100 %

	Six Months Ended June 30,			
	2020	% of Total	2019	% of Total
	(in thousands, except percentages)			
Research and development	$ 20,881	71 %	$ 27,452	67 %
General and administrative	7,119	24 %	12,601	31 %
Depreciation	1,001	3 %	1,014	2 %
Change in fair value of contingent consideration	228	1 %	255	1 %
Site consolidation	64	— %	(149)	— %
Total operating expenses	$ 29,293	100 %	$ 41,173	100 %

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 $2.3 million and $6.6 million for the three and six months ended June 30, 2020, respectively, as compared to the same periods in 2019. The decrease was due primarily to the October 2019 decision to discontinue development of AB-506, our prior generation capsid inhibitor product candidate, as well as higher spend on AB-729 during 2019 for preclinical studies and drug product supply in preparation for the Phase 1a/1b clinical trial which commenced in the second quarter of 2019. These decreases for the three and six months ended June 30, 2020 were partially offset by higher spend related to AB-836, our next generation capsid inhibitor.

A significant portion of our research and development 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 decreased $4.6 million and $5.5 million for the three and six months ended June 30, 2020, as compared to the same periods in 2019, due primarily to our former President and Chief Executive Officer's departure from the company in June 2019 and a decrease in legal fees primarily associated with the arbitration case with the University of British Columbia that was settled in September 2019. In accordance with the terms of his legacy employment agreement, our former President and Chief Executive Officer received $2.3 million of cash severance, which was paid in July 2019, and we recognized $1.1 million of non-cash stock-based compensation expense for accelerated vesting of his stock options.

Change in fair value of contingent consideration

Contingent consideration is a liability we assumed from our acquisition of Arbutus, Inc. in March 2015. In general, as time passes and assuming no changes to the assumptions related to the contingency, the fair value of the contingent consideration increases as the progress of our programs get closer to triggering contingent payments. There were no changes to the assumptions related to the contingency in 2020.

Site consolidation

As of June 30, 2020, we have recognized all of the expense related to our site consolidation.

Other income (loss)

Other income (loss) is summarized in the following table:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2020	2019	2020	2019
	(in thousands)			
Interest income	$ 200	$ 606	$ 545	$ 1,206
Interest expense	(1,099)	(2)	(2,140)	(14)
Foreign exchange (losses) / gains	(47)	60	(65)	68
Net equity investment loss	—	(3,334)	—	(7,985)
Total other loss	$ (946)	$ (2,670)	$ (1,660)	$ (6,725)

Interest income

The decreases in interest income for the three and six months ended June 30, 2020, compared to the same periods in 2019 were due primarily to lower average cash and investment balances and a general decline in market interest rates.

Interest expense

Interest expense for the three and six months ended June 30, 2020 consisted primarily of non-cash amortization of the liability related to the sale of future royalties, which occurred in July 2019.

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 Science Ltd. (“Roivant”), we launched Genevant Sciences Ltd. (“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 account for our 40% ownership interest in Genevant using the equity method of accounting. Genevant has issued convertible debt securities to other investors. If those securities are converted to common shares, the Company’s ownership interest in Genevant may be significantly diluted. As of June 30, 2020, the carrying value of our investment in Genevant was zero and we did not record equity losses during the three and six months ended June 30, 2020. For the three and six months ended June 30, 2019, we recorded $3.3 million and $8.0 million of equity investment losses, reflecting our proportionate share of Genevant’s net results on a one-quarter lag basis.

LIQUIDITY AND CAPITAL RESOURCES

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

	Six Months Ended June 30,	
	2020	2019
	(in thousands)	
Net loss	$ (27,948)	$ (46,566)
Non-cash items	5,114	13,936
Net change in operating items	(1,420)	(1,555)
Net cash used in operating activities	(24,254)	(34,185)
Net cash provided by investing activities	20,970	71,005
Net cash provided by financing activities	17,440	5,015
Effect of foreign exchange rate changes on cash and cash equivalents	(56)	95
Increase in cash and cash equivalents	14,100	41,930
Cash and cash equivalents, beginning of period	31,799	36,942
Cash and cash equivalents, end of period	$ 45,899	$ 78,872

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, 2020, $24.3 million of cash was used in operating activities compared to $34.2 million of cash used in the six months ended June 30, 2019. The decrease in net cash used in operating activities was related primarily to lower research and development expenses from our decision in October 2019 to discontinue development of AB-506 as well as higher spend on AB-729 during 2019 for preclinical studies and drug product supply in preparation for the Phase 1a/1b clinical trial which commenced in the second quarter of 2019.

For the six months ended June 30, 2020, net cash provided by investing activities was $21.0 million as we purchased additional investments in marketable securities of $25.9 million, while $46.9 million of short-term investments matured. For the six months ended June 30, 2019, net cash provided by investing activities was $71.0 million as certain short-term investments matured.

For the six months ended June 30, 2020, net cash provided by financing activities was $17.4 million due primarily to proceeds from sales of common shares under our open market sale agreement, as amended, with Jefferies LLC (“Jefferies”). For the six months ended June 30, 2019, net cash provided by financing activities was $5.0 million due primarily to proceeds from sales of common stock under such sales agreement.

Sources of Liquidity

As of June 30, 2020, we had cash, cash equivalents and investments of $84.0 million. We had no outstanding debt at June 30, 2020.

In December 2018, we entered into an Open Market Sale Agreement with Jefferies (the “Sale Agreement”), under which we could issue and sell common shares, from time to time, for an aggregate sales price of up to $50.0 million. In December 2019, we entered into an amendment to the Sale Agreement with Jefferies (the “Amended Sale Agreement”) in connection with the filing of a new shelf registration statement on Form S-3 (File No. 333-235674), filed with the SEC on December 23, 2019 (the “New Shelf Registration Statement”). The Amended Sale Agreement revised the original Sale Agreement to reflect that we may sell our common shares, from time to time, for an aggregate sales price of up to $50.0 million, under the New Shelf Registration Statement. For the six months ended June 30, 2020, we issued 6,438,265 common shares pursuant to the Sale Agreement and the Amended Sale Agreement, resulting in net proceeds of approximately $17.4 million. During July 2020, we fully utilized the remaining availability under the Amended Sale Agreement resulting in an additional $36.5 million of net proceeds from the issuance of 9,548,780 common shares.

Additionally, we have a royalty entitlement on ONPATTRO, 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. OMERS has assumed the risk of collecting up to $30 million of future royalty payments from Alnylam and Arbutus is not obligated to reimburse OMERS if they fail to collect any such future royalties. 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 receiving 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.

In October 2017, we closed the sale of 500,000 Series A participating convertible preferred shares (the “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, 2020, we held an aggregate of $84.0 million in cash, cash equivalents and investments. We believe that our cash, cash equivalents and investments as of June 30, 2020 plus the additional $36.5 million of proceeds received under our Amended Sale Agreement during July 2020 are sufficient to fund our operations into mid-2022. 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 effects of the COVID-19 pandemic on our business, the medical community and the global economy;
- 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 product candidates;
- delays in the development of our product candidates due to pre-clinical and clinical findings;
- our decisions to in-license or acquire additional products, product candidates 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 or licensing 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 research and development programs. Further, the continued spread of COVID-19 has also led to severe disruption and volatility in the global capital markets, which could increase our cost of capital and adversely affect our ability to access the capital markets in the future.

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, 2019.

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, 2020. 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, 2020, 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, 2020 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 other information regarding legal matters, please refer to note 8. 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.

Moderna Inter Partes Review Petitions

On February 21, 2018 and on March 5, 2018, Moderna Therapeutics, Inc. ("Moderna") filed petitions requesting the United States Patent and Trademark Office to institute an Inter Partes Review of Arbutus United States Patents 9,404,127 ("'127 patent") and 9,364,435 ("'435 patent"), respectively. In its petitions, Moderna sought to invalidate all claims of each Arbutus patent based on Moderna's allegation that the claims are anticipated and/or obvious. Arbutus filed a response to Moderna's petitions on June 14, 2018. On September 12, 2018, the Patent Trial and Appeal Board ("PTAB") rendered its decision to institute Inter Partes Review of both challenged patents. Arbutus' response was provided December 21, 2018. Oral hearing took place on June 6, 2019. On September 10, 2019, the PTAB rendered its decision on the '127 patent, holding all claims invalid as anticipated and on September 11, 2019, the PTAB rendered its decision on the '435 patent, holding certain claims invalid and upholding other claims as valid. On February 27, 2020, the Federal Circuit vacated the '127 IPR decision and remanded it back to the PTAB for rehearing, where it is presently being held in abeyance until the Supreme Court acts on a petition for writ of certiorari filed July 23, 2020 in a different case. On November 27, 2019, Moderna and Arbutus both appealed the '435 IPR decision. Moderna filed its opening brief on May 4, 2020. Arbutus' opening and responsive brief was provided on July 27, 2020.

On January 9, 2019, Moderna filed an additional petition requesting Inter Partes Review of Arbutus United States Patent 8,058,069 ("'069 patent"). The PTAB instituted Inter Partes Review of the '069 patent on July 24, 2019, with a hearing held on April 22, 2020. On July 23, 2020, the PTAB rendered its decision on the '069 patent, upholding all claims as valid.

Moderna and Merck European Oppositions

On April 5 2018, Moderna and Merck, Sharp & Dohme Corporation ("Merck") filed Notices of Opposition to Arbutus' European patent EP 2279254 ("'254 patent") with the European Patent Office ("EPO"), requesting that the patent be revoked in its entirety for all contracting states. Arbutus filed a response to Moderna and Merck's oppositions on September 3, 2018. A hearing was conducted before the Opposition Division on October 10, 2019. At the conclusion of the hearing, the EPO upheld an auxiliary request adopting the amendment, as put forth by Arbutus, of certain claims of the '254 patent. In February 2020 Moderna and Merck filed Notices of Appeal challenging the EPO's grant of the auxiliary request. Merck filed its notice of appeal on February 24, 2020 and Moderna on February 27, 2020. Arbutus' response is due on September 8, 2020.

ITEM 1A. RISK FACTORS

The COVID-19 coronavirus could adversely impact our business, including our clinical development plans.

In December 2019, a novel strain of coronavirus, COVID-19, was reported to have surfaced in Wuhan, China. Since then, the COVID-19 coronavirus has spread to multiple countries, including the United States, and has caused significant disruptions around the world. We may experience other disruptions as a result of the COVID-19 pandemic that could severely impact our business, including:

- interruption of key manufacturing, research and clinical development activities due to limitations on work and travel imposed or recommended by federal or state governments, employers and others;
- delays or difficulties in clinical trial site operations, including difficulties in recruiting clinical site investigators and clinical site staff and difficulties in enrolling patients or treating patients in active trials;
- interruption of key business activities due to illness and/or quarantine of key individuals and delays associated with recruiting, hiring and training new temporary or permanent replacements for such key individuals, both internally and at our third party service providers;
- delays in research and clinical trial sites receiving the supplies and materials needed to conduct preclinical studies and clinical trials, due to work stoppages, travel and shipping interruptions or restrictions or other reasons;
- difficulties in raising additional capital needed to pursue the development of our programs due to the slowing of our economy and near term and/or long term negative effects of the pandemic on the financial, banking and capital markets;
- changes in local regulations as part of a response to the COVID-19 coronavirus outbreak that may require us to change the ways in which research, including clinical development, is conducted, which may result in unexpected costs; and

- delays in necessary interactions with regulators and other important agencies and contractors due to limitations in employee resources, travel restrictions or forced furlough of government employees.

The global outbreak of the COVID-19 coronavirus continues to rapidly evolve. The extent to which the COVID-19 coronavirus may impact our business will depend on future developments, which are highly uncertain and cannot be predicted with confidence, such as the ultimate geographic spread of the disease, the duration of the outbreak, travel restrictions and social distancing in the United States and other countries, business closures or business disruptions and the effectiveness of actions taken in the United States and other countries to contain and treat the virus.

There have been no other material changes in our risk factors from those disclosed in our Annual Report on Form 10-K for the fiscal year-ended December 31, 2019.

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 the Company, as amended.(incorporated herein by reference to Exhibit 3.1 to the Registrant'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 the Company (incorporated herein by reference to Exhibit 3.1 to the Registrant'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	Arbutus Biopharma Corporation 2016, Omnibus Share and Incentive Plan, as supplemented and amended (incorporated herein by reference to Exhibit 10.1 to the Registrants Current Report on Form 8-K filed with the SEC on June 1, 2020)
10.2	Arbutus Biopharma Corporation 2020 Employee Stock Purchase Plan (incorporated herein by reference to Exhibit 10.2 to the Registrants Current Report on Form 8-K filed with the SEC on June 1, 2020)
10.3*#	Cross License Agreement, dated April 11, 2018, by and between the Company and Genevant Sciences Ltd.
10.4*#	First Amendment to Cross License Agreement, dated June 27, 2018, by and among the Company, Genevant Sciences Ltd. And Genevant Sciences GmbH
10.5*#	Second Amendment to Cross License Agreement, dated June 27, 2018, by and among the Company, Genevant Sciences Ltd. And Genevant Sciences GmbH
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, 2020, formatted in inline 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
104	Cover page interactive data file (embedded within the inline XBRL document and included in Exhibit 101)

* Filed herewith.

** Furnished herewith.

Portions of this exhibit have been omitted in compliance with Item 601 of Regulation S-K.

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 7, 2020.

ARBUTUS BIOPHARMA CORPORATION

By: /s/ William H Collier

William H Collier

President and Chief Executive Officer

EXECUTION COPY

Portions of this exhibit indicated by bracketed asterisks have been omitted because they are not material and would cause competitive harm to Arbutus Biopharma Corporation if publicly disclosed.

CROSS LICENSE AGREEMENT

by and between

GENEVANT SCIENCES LTD.

and

ARBUTUS BIOPHARMA CORPORATION

Dated as of April 11, 2018

TABLE OF CONTENTS

CROSS LICENSE AGREEMENT

This CROSS LICENSE AGREEMENT (this "Agreement") is entered into as of April 11, 2018 (the "Effective Date"), by and between Genevant Sciences Ltd., a Bermuda exempted limited company (the "Company"), and Arbutus Biopharma Corporation, a British Columbia corporation with a principal place of business at 100-8900 Glenlyon Parkway, Burnaby, B.C., Canada V5J 5J8 ("Arbutus"). Capitalized terms when used in this Agreement have the meanings set forth in Article I.

WHEREAS, Arbutus and its Affiliates possess, develop and improve from time to time the Licensed Intellectual Property;

WHEREAS, Arbutus and its Affiliates or Subsidiaries desires to grant the Company licenses to the Licensed Intellectual Property to Research, Develop, Manufacture and Commercialize the Product(s) upon the terms and subject to the conditions set forth in this Agreement; and

WHEREAS, the Company desires to grant back to Arbutus licenses to the Licensed Intellectual Property and to grant certain After Acquired Intellectual Property Controlled by the Company or its Subsidiaries to Research, Develop, Manufacture and Commercialize the Arbutus Licensed Product(s) upon the terms and subject to the conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt of which is hereby acknowledged, the Company and Arbutus enter into this Agreement effective as of the Effective Date:

ARTICLE I - DEFINITIONS

1.1 General. When used in this Agreement, each of the following terms, whether used in the singular or plural, shall have the meanings set forth in this Article I.

"Affiliate" means, with respect to a Person, any corporation, company, partnership, joint venture or firm that controls, is controlled by, or is under common control with such Person. For purposes of the foregoing sentence, "control" means (a) in the case of corporate entities, direct or indirect ownership of at least fifty percent (50%) of the stock or shares having the right to vote for the election of directors, or (b) in the case of non-corporate entities, direct or indirect ownership of at least fifty percent (50%) of the equity interest with the power to direct the management and policies of such non-corporate entities (it being understood that for purposes of this Agreement, the Company and its Affiliates, on the one hand, and Arbutus and its Affiliates, on the other hand, shall not be deemed to be Affiliates of one another and, for the avoidance of doubt, the Company shall not be considered an Affiliate of Arbutus for purposes of this Agreement).

"After Acquired Intellectual Property" means any Intellectual Property Controlled by either the Company or Arbutus, or their respective Affiliates or Subsidiaries, after the Effective Date whether through an acquisition, its own development or co-development (including Joint IP owned by the Company), or the in-licensing of such Intellectual Property. After Acquired

Intellectual Property does not include Licensed Intellectual Property as of the Effective Date, but does include Arbutus Patents acquired, developed or in-licensed after the Effective Date.

"Agreement" has the meaning set forth in the introductory paragraph.

"Applicable Laws" means all applicable laws, statutes, rules, regulations, guidelines, guidances, ordinances, orders, decrees, writs, judicial or administrative decisions and the like of any nation or government, any state or other political subdivision thereof, any entity exercising executive, judicial, regulatory or administrative functions of or pertaining to government (including any Governmental Authority), any tribunal or arbitrator of competent jurisdiction, and any trade organization whose regulations have the force of law.

"Alnylam Cross License" means that certain Cross-License Agreement by and among Alnylam Pharmaceuticals, Inc. ("Alnylam"), Arbutus (or its direct or indirect predecessor) and Protiva dated November 12, 2012.

"Arbutus" has the meaning set forth in the introductory paragraph.

"Arbutus Controlled Patent" means [***], and all patents and patent applications claiming benefit of priority thereof.

"Arbutus Field" means the treatment or prevention of HBV infections in humans.

"Arbutus Indemnitees" has the meaning set forth in Section 7.2.

"Arbutus Licensed Products" means any product, which includes an HBV Payload, for use in the Arbutus Field Covered by the Licensed Intellectual Property.

"Arbutus Patents" means, other than the Excluded Patents, any and all Patents Controlled by Arbutus or any of its Affiliates at any time during the Term (including After Acquired Intellectual Property Controlled by Arbutus or its Affiliates or Subsidiaries) that include one or more claims that Cover LNP Technology and/or GalNAc Technology, for example, LNPs, any components of LNP and/or GalNAc Technologies, any compositions or formulations including LNP and/or GalNAc Technologies, and any methods of making or using the same. [***]

"Business Day" means any day that is not a Saturday, a Sunday, or other day which is a statutory holiday in the Province of British Columbia, Canada or Bermuda, or a state or federal holiday in the State of New York.

"Calendar Quarter" means the respective periods of three (3) consecutive calendar months ending on March 31, June 30, September 30 and December 31.

"Closing" has the meaning set forth in the Contribution Agreement.

"Change of Control" means the occurrence of any of the following: (a) Arbutus consummates a merger, consolidation, stock sale or other similar transaction or series of transactions with another Person (other than Roivant Sciences Ltd. or any affiliate thereof) pursuant to which: (i) the individuals and entities that were the beneficial owners of the

outstanding voting securities of Arbutus immediately prior to such transaction beneficially own, directly or indirectly, less than fifty percent (50%) of the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors or similar governing persons of the corporation or other entity resulting from such transaction ("Successor"), or (ii) less than fifty percent (50%) of the members of the board of directors or similar governing body of the Successor were members of the board of directors of Arbutus at the time of the execution of the relevant transaction agreement; or (b) Arbutus enters into a sale or transfer of all or substantially all of its assets.

"CMC" means manufacturing related activities including the regulatory Chemistry, Manufacturing, and Controls matters of an IND or NDA or any foreign equivalent thereof, or Pharmaceutical Quality/CMC, as such terms are defined by the regulations of the applicable Regulatory Authority, including as required for Module 3 per International Conference on Harmonisation M4Q.

"Code" has the meaning set forth in Section 2.8.

"Commercialize" or "Commercialization" means, excluding Manufacturing, any and all activities directed to marketing, promoting, distributing, importing, having imported, exporting, having exported, selling and having sold products and services, including, subject to the terms of this Agreement, having Third Parties conduct such activities on behalf of the Person receiving the rights to Commercialize.

"Commercially Reasonable Efforts" means the efforts and resources that would reasonably be used (including the promptness with which such efforts and resources would be applied) by a similarly sized company within the biopharmaceutical industry for the pharmaceutical or clinical Development, Manufacture or Commercialization of a pharmaceutical product of similar market and profit potential and at a similar stage in development or product life as compared to a product or for the other activities to which this term applies, taking into account its present and future market and commercial potential (including competitive market conditions, patent coverage, regulatory exclusivity, the size of the particular market in the applicable country for the relevant indication, and the probability of profitability of the relevant product or service in light of existing and anticipated competitive products and services, as well as pricing and reimbursement issues) and all other relevant factors, including commercial, technical, legal, scientific, regulatory, or medical factors, including such Product's efficacy, safety, existing and anticipated approved labeling, and post-approval requirements, in each case in the applicable country.

"Company" has the meaning set forth in the introductory paragraph.

"Company Background IP" means any and all Intellectual Property Controlled by the Company or its Affiliates prior to the Closing.

"Company Improvement IP" has the meaning set forth in Section 5.1(b)(v).

"Company Intellectual Property" has the meaning set forth in Section 5.1(b)(vi).

"Company Indemnitees" has the meaning set forth in Section 7.1.

"Competitor" means: (a) in the case of Arbutus, any Third Party competing for market share of an HBV specific product, including through the development of a product that would compete for the applicable market share of any such HBV product(s); and (b) in the case of the

Company, any Third Party competing for market share of any product (other than an HBV specific product) using LNP technology or GalNAc technology, including through the development of a product that would compete for the applicable market share of any such product(s).

"Confidential Information" means all confidential information and confidential materials, patentable or otherwise, of a Party disclosed by or on behalf of such Party to the other Party before, on or after the Effective Date in connection with the discussions and negotiations pertaining to, or in the course of performing, this Agreement, including chemical composition of a formulation using LNP Technology or GalNAc Technology, chemical substances, equipment, data, reports, Know-How, sources of supply, patent positioning, business plans, and also the proprietary and confidential information of Third Parties in possession of such Party under an obligation of confidentiality, whether or not related to making, using or selling a product.

"Contribution Agreement" means that certain Master Contribution and Share Subscription Agreement by and among the Company, Arbutus and Roivant Sciences Ltd. dated as of April 11, 2018.

"Control," "Controls" or "Controlled by" means, with respect to Intellectual Property, the possession of (whether by ownership or license, other than pursuant to this Agreement), that provides the Party, as applicable, with the ability to grant access to, or a license or sublicense of, such Intellectual Property.

"Cover," "Covers" or "Covered by" means, with respect to any product, that the making, using, selling, offering for sale or importing of such a product or practice of a method with respect to the Manufacture or use of such a product would, but for the licenses granted under this Agreement, infringe a Valid Claim of a Patent in the country in which such activity occurs.

"Develop," "Developing" or "Development" means, excluding Manufacturing, any and all activities and studies required to develop products and services for Marketing Authorization Approval or for Commercialization, including, subject to the terms of this Agreement, having Third Parties conduct such activities and studies on behalf of the Person receiving the rights to Develop.

"Disclosing Party" means the Party that discloses its Confidential Information.

"Effective Date" has the meaning set forth in the introductory paragraph.

"EU" means any country that is a member of the European Union as of the Effective Date.

"Excluded Know-How" means any Know-How Controlled by Arbutus or its Affiliates that is solely related to HBV, Arbutus Licensed Products and/or the Excluded Patents.

"Excluded Patents" means those Patents listed on Exhibit B and any Patents that claim the benefit of priority of an application that issued as any such Patent.

"Excluded Licensed Product" means any of the following: (i) an Arbutus Licensed Product; (ii) a Gritstone Product; (iii) Marqibo (sphingosomal vincristine); (iv) Alocrest (sphingosomal

vinorelbine); (v) Brakiva (sphingosomal topotecan); and (vi) an Alnylam Product as defined in the Alnylam Cross License that is directed to an Alnylam Existing Exclusive Target [***].

"Excluded Fields" means: (i) Arbutus Field; (ii) the Agriculture Field (as defined in [***]); and (iii) Research, Development, Manufacture and Commercialization of Marqibo; and (iv) TSNA field.

"Excluded Technology" means (i) Excluded Patents and (ii) Excluded Know-How.

"Executive Officer" means (a) in the case of the Company, any senior executive officer of the Company; and (b) in the case of Arbutus, any senior executive officer of Arbutus.

"FDA" means the Food and Drug Administration of the U.S. Department of Health and Human Services, or any successor agency(ies) thereof performing similar functions.

"Field" means any use except for the Excluded Fields. In some instances, the Field includes human therapeutic applications, relating to methods and/or compositions including LNP Technology and/or GalNAc Technology.

"First Commercial Sale" means, on a country-by-country basis, the first bona fide sale of a Product to a non-Sublicensee Third Party in an arm's length transaction after Marketing Authorization Approval of such Product in such country.

"GalNAc Technology" means: [***]. "Good Laboratory Practices" or "GLP" means the regulations set forth in 21 C.F.R. Part 58 and the requirements expressed or implied thereunder imposed by the FDA and (as applicable) any comparable regulatory standards, practices and procedures promulgated by the EMA or other Regulatory Authority applicable to the Territory, as they may be updated from time to time, including applicable quality guidelines promulgated under the International Conference on Harmonisation.

"Good Manufacturing Practices" or "GMP" means the regulations set forth in 21 C.F.R. Parts 210–211, 820 and 21 C.F.R. Subchapter C (Drugs), Quality System Regulations and the requirements thereunder imposed by the FDA, and any comparable regulatory standards, practices and procedures promulgated by the EMA or other Regulatory Authority applicable to the Territory, as they may be updated from time to time, including applicable quality guidelines promulgated under the International Conference on Harmonisation.

"Governmental Authority" means any United States or supra-national, foreign, federal, state, local, provincial, or municipal government, governmental, regulatory or administrative authority, agency, body, branch, bureau, instrumentality or commission or any court, tribunal, or judicial or arbitral body having relevant jurisdiction over a subject matter, including any Regulatory Authority.

"Gritstone Agreement" means that certain License Agreement by and among Gritstone Oncology, Inc. ("Gritstone"), Arbutus and Protiva dated October 16, 2017, assigned in part pursuant to that certain Bill of Sale and Assignment and Assumption Agreement by and among Arbutus and the Company dated as of the date hereof.

"Gritstone Arbutus Revenue" means the Gritstone Revenue less the Gritstone Company Revenue.

"Gritstone Company Revenue" means 50% of the Gritstone Revenue that is to be transferred to the Company as an LNP Asset as defined in, and pursuant to, section 2.1(a)(xi) of the Contribution Agreement and this Agreement, without reduction for any Taxes withheld or deducted.

"Gritstone Product" means [***].

"Gritstone Revenue" means all payments due and payable from Gritstone, its Affiliates, or assigns, under the Gritstone Agreement on or after the Effective Date, without reduction for any Taxes withheld or deducted.

"HBV" means the hepatitis B virus.

"HBV Payload" means a therapeutic molecule, including nucleic acids and small molecules, which can be formulated in or with LNP Technology or GalNAc Technology and used for treatment or prevention of an HBV infection in a human.

"IND" means an Investigational New Drug Application filed with the FDA pursuant to Part 312 of Title 21 of the U.S. Code of Federal Regulations (or its successor regulation), or the equivalent application or filing filed with any equivalent agency or Governmental Authority outside the United States of America (including any supra-national agency such as the European Medicines Agency).

"IPRs" has the meaning set forth in Section 5.2(b)(iii).

"Indemnified Party" has the meaning set forth in Section 7.3.

"Indemnifying Party" has the meaning set forth in Section 7.3.

"Infringement Action" has the meaning set forth in Section 5.3(a).

"Insolvent Party" has the meaning set forth in Section 8.4.

"Intellectual Property" means Patents, Know-How, trade names, trademarks, copyright, trade dress, industrial and other designs, trade secrets, and all other forms of intellectual property, all whether or not registered, or capable of registration.

"Joint IP" has the meaning set forth in Section 5.1(e)(ii).

"Joint Patents" means Patents that cover Joint IP.

"Know-How" means biological materials and other tangible materials, information, data, inventions, practices, methods, methodologies, protocols, formulas, formulations, oligonucleotide sequences, knowledge, trade secrets, processes, assays, skills, techniques and results of experimentation and testing, patentable or otherwise.

"Licensed Improvement IP" means Intellectual Property that is an improvement, enhancement or derivative of any Licensed Intellectual Property.

"Licensed Intellectual Property" means, collectively: (i) Arbutus Patents; and (ii) Know-How Controlled as of the Effective Date by Arbutus or its Affiliates that is directed to any aspect of LNP Technology or GalNAc Technology. Notwithstanding anything to the contrary in the foregoing, Licensed Intellectual Property excludes the Excluded Technology.

"LNP" means lipid nanoparticle.

"LNP Technology" means lipid nanoparticles, components of lipid nanoparticles, and methods of making and using lipid nanoparticles. For example, the LNP technology includes (i) LNP related compositions of matter (e.g., LNPs, lipids and other components of the LNPs, and formulations including LNP or the LNP with a Payload), (ii) the physical characteristics of LNPs, including the lipid or non-lipid components of LNPs, or (iii) lipid ratios (e.g., ratios of the lipid components within a formulation or LNP).

"Losses" has the meaning set forth in Section 7.1.

"Manufacture" or "Manufacturing" means all activities associated with the production, manufacture and processing of a product, and the filling, finishing, packaging, labeling, shipping, and storage of such product, including formulation process scale-up for GLP toxicology and clinical study use, aseptic fill and finish, stability testing, analytical development, quality assurance and quality control, and the production of the bulk finished dosage form of such product in compliance with GMP. For clarity, Manufacture includes the manufacture of LNP Technology or GalNAc Technology, for the sole purpose of the formulation of and manufacture of Products.

"Manufacturing Know-How" means (a) all Know-How used by Arbutus and/or its Affiliates (or their contractors) necessary to Manufacture a Product (including manufacturing, process engineering, SOPs, documents relating to the production process, data, information and results (e.g., batch records, deviation reports, in process tracking and trending data, analytical testing, development and validation reports, vendor audits, etc.) relating to the production process); and (b) any other Know-How that is necessary to Manufacture a Product in compliance with GMP requirements, including the identity, amounts and assurance quality of ingredients, the manufacturing processes and controls, specifications, technology, inventions, assays, quality control and testing procedures, and batch records.

"Marketing Authorization Approval" means, with respect to any country or region, any registration, license, approval or authorization from any Regulatory Authority required for the Development, Manufacture or Commercialization of a Product in a regulatory jurisdiction in such country or region, including any pricing or reimbursement approval required by Applicable Laws to obtain such registration, license, approval or authorization.

"Net Sales" means the gross amount invoiced by the Company, its Affiliates or Sublicensees on sales or other dispositions in the Territory of a Product during the Royalty Payment Term to Third Parties that are not Affiliates or Sublicensees of the Company, less:

(a) normal and customary cash, trade, quantity or prompt settlement discounts (including chargebacks and allowances) actually allowed, including any actually granted to trade customers, managed health care organizations, pharmaceutical benefit managers, group purchasing organizations and national, state, or local government, and any other adjustments, including those granted on account of price adjustments and billing errors, and including any retroactive price reductions that are actually allowed or granted;

(b) amounts repaid or credited by reason of rejection, returns or recalls of goods, rebates or *bona fide* price reductions determined by the Company, its Affiliates, or Sublicensees, as applicable, in good faith, and uncollectible amounts on previously sold Products;

(c) rebates and similar payments made with respect to sales paid for by managed care organizations, hospitals, other buying groups or any governmental or regulatory authority including federal or state Medicaid, Medicare or similar state program in the United States or equivalent governmental program in any other country and refunds made in connection with revenue or cost caps agreed with such organizations or entities;

(d) excise Taxes, customs duties, customs levies and import fees and other Taxes imposed on the sale, importation, use or distribution of the Products, other than such Taxes that are imposed on or with respect to net income (however denominated);

(e) administrative fees paid to group purchasing organizations, managed care entities or other similar types of organizations or networks participating in the distribution or sales of the Product;

(f) amounts paid or credited to customers for inventory management services;

(g) that portion of the annual fee on prescription drug manufacturers imposed by the Patient Protection and Affordable Care Act, Pub. L. No. 111-148 (as amended) that is reasonably allocated to the sale of Products;

(h) any other similar and customary deductions that are consistent with U.S. generally accepted accounting principles or in the case of non-United States sales, other applicable accounting standards; and

(i) payments made for separately itemized insurance and transportation costs incurred in shipping Product, including packaging, freight, postage, shipping, transportation, warehousing, handling and insurance charges, in each case actually allowed or paid for the delivery of Product, and any customary payments with respect to Product actually made to wholesalers or other distributors, in each case actually allowed or paid for distribution and delivery of Product, to the extent billed or recognized.

Net Sales shall be determined from books and records maintained in accordance with U.S. generally accepted accounting principles, consistently applied. Nothing herein shall prevent the

Company or any of its Affiliates or Sublicensees from selling, distributing or invoicing any Product at a discounted price to Third Parties in connection with clinical studies, compassionate or named patient sales, or an indigent program or similar bona fide arrangements in which such party agrees to forego a normal profit margin for good faith business reasons. To the extent that the Company or its Affiliates or Sublicensees receives any consideration other than monies for the sale of Products, Net Sales shall include the fair market value of such consideration. For the avoidance of doubt, the supply of Products free of charge shall not be included in Net Sales, and transfer of a Product between the Company and any of its Affiliates or Sublicensees for resale shall be excluded from the computation of Net Sales, but the subsequent resale of such Product to a Third Party shall be included within the computation of Net Sales.

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

"Party" means Arbutus or the Company, and "Parties" means Arbutus and the Company.

"Patent" means any patent (including any reissue, extension, substitution, confirmation, re-registrations, re-examination, revival, supplementary protection certificate, patents of addition, continuation, continuation-in-part, or divisional) or patent application (including any provisional application, non-provisional patent application, continuation, continuation-in-part, divisional, PCT international applications or national phase applications), in each case whether in the U.S. or any foreign country.

"Patisiran" means means Alnylam's (still investigational as of the effective date of this agreement) RNAi therapeutic targeting transthyretin (TTR) for the treatment of adults with hereditary transthyretin-mediated amyloidosis (hATTR amyloidosis). First regulatory approval of Patisiran is estimated by second half of 2018.

"Person" means an individual, corporation, limited liability company, syndicate, association, trust, partnership, joint venture, unincorporated organization, government agency or any agency, instrumentality or political subdivision thereof, or other entity.

"Proceeds" has the meaning set forth in Section 5.3(g).

"Product" means any product, other than an Excluded Licensed Product, that is Covered by the Licensed Intellectual Property or Licensed Improvement IP. For avoidance of doubt, such product can include, but is not limited to, nucleic acids (e.g., RNA molecules such as mRNA, RNAi (e.g., siRNA), and sdRNA), DNA molecules (e.g., for gene therapy or gene editing), and small molecules formulated in or with LNP Technology or GalNAc Technology. The Product(s) can be used for any therapeutic purpose, for example, as a therapeutic for inhibition (e.g., RNAi), modification (e.g., gene editing), replacement or enhancement (e.g., gene therapy), or immunotherapy (e.g., vaccines) in the Field.

"Protiva" means Protiva Biotherapeutics Inc., formerly a wholly-owned subsidiary of TPC and a British Columbia corporation, which was merged by way of amalgamation into Arbutus effective January 1, 2018.

"Receiving Party" means the Party that receives Confidential Information of the other Party.

"Record Retention Period" has the meaning set forth in Section 3.3(b).

"Regulatory Authority" means any federal, national, multinational, state, provincial or local regulatory agency, department, bureau or other governmental entity anywhere in the world with authority over the Development, Manufacture or Commercialization of a Product under this Agreement. The term "Regulatory Authority" includes the FDA, the EMA, the European Commission and relevant national competent authorities in the EU member states.

"Research" or "Researching" means identifying, evaluating, validating and optimizing products prior to pre-IND GLP toxicology studies.

"RNA" means ribonucleic acid, and includes, for example, mRNA.

"Royalty" has the meaning set forth in Section 3.2.

"Royalty Patents" has the meaning set forth in Section 5.2(b)(i).

"Royalty Payment Term" means on a Product by Product basis, the term beginning on the First Commercial Sale of any Product in any country and ending on the date of the last to expire Valid Claim that exists in such country that would be infringed by Research, Development, Manufacturing or Commercialization of such Product in such country absent the license grant to the Company in this Agreement.

"Solvent Party" has the meaning set forth in Section 8.4.

"Sublicensee" means any Person to whom the Company or Arbutus has granted a sublicense under Section 2.3, for example a Third Party.

"Subsidiary" or "Subsidiaries" means, with respect to any Person, (i) any corporation or similar person in which more than fifty percent (50%) of the stock of any class or classes that by the terms thereof have the ordinary voting power to elect a majority of the directors of such corporation (irrespective of the happening of any contingency) is owned by such person directly or indirectly through one or more Subsidiaries of such person and (ii) any partnership, association, joint venture, limited liability company or other similar entity in which such person directly or indirectly through one or more Subsidiaries of such person has more than a fifty percent (50%) equity interest (it being understood that, for the avoidance of doubt, for purposes of this agreement the Company shall not be deemed to be a Subsidiary of Arbutus).

"Tax" and "Taxes" means any (a) federal, provincial, territorial, state, municipal, local, foreign or other taxes, imposts, rates, levies, assessments and other charges in the nature of a tax (and all interest and penalties thereon and additions thereto imposed by any Governmental Authority), including without limitation all income, excise, franchise, gains, capital, real property, goods and services, transfer, value added, gross receipts, windfall profits, severance, ad valorem, personal property, production, sales, use, license, stamp, documentary stamp, mortgage recording, employment, payroll, social security, unemployment, disability, estimated or withholding taxes, and all customs and import duties, together with all interest, penalties and additions thereto imposed with respect to such amounts, in each case whether disputed or not; (b) any liability for the payment of any amounts of the type described in clause (a) as a result of

being or having been a member of an affiliated, consolidated, combined or unitary group; and (c) any liability for the payment of any amounts as a result of being party to any tax sharing agreement or arrangement or as a result of any obligation to indemnify any other person with respect to the payment of any amounts of the type described in clause (a) or (b).

"Tax Returns" means all returns and reports, amended returns, information returns, statements, declarations, estimates, schedules, notices, notifications, forms, elections, certificates or other documents required to be filed or submitted to any Governmental Authority with respect to the determination, assessment, collection or payment of any Tax or in connection with the administration, implementation or enforcement of, or compliance with, any Tax.

"Term" means the term described in Section 8.1.

"Territory" means worldwide.

"Third Party" means any Person other than Arbutus, the Company or any of either Party's respective Affiliates.

"Third Party Claim" has the meaning set forth in Section 7.3.

"Transferable LIP Rights" has the meaning set forth in Section 2.6(a).

"Tumor-Specific Neoantigen(s)" or "TSNA" means peptide sequence(s) arising from gene mutations occurring specifically in tumor cells that are presented, or predicted to be presented, to the immune system on the surface of tumor cells in association with human leokocyte antigens (HLA) (as defined in the Gritstone Agreement).

"Valid Claim" means a claim of an issued and unexpired Patent, which claim has not been revoked or held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, which is not appealable or has not been appealed within the time allowed for appeal, and which has not been abandoned, disclaimed, denied, or admitted to be invalid or unenforceable through reissue, re-examination or disclaimer or otherwise.

1.2 Interpretation. Words such as "herein," "hereinafter," "hereof" and "hereunder" refer to this Agreement as a whole and not merely to a section, paragraph or clause in which such words appear, unless the context otherwise requires. Enumerative references to sections, paragraphs or clauses, or exhibits, without reference to an explicit agreement, document or exhibit, refer to this Agreement or exhibits attached to this Agreement, as applicable. The singular shall include the plural, and each masculine, feminine and neuter reference shall include and refer also to the others, unless the context otherwise requires. The words "include," "includes" and "including" are deemed to be followed by "without limitation" or words of similar import. Except where the context otherwise requires, the word "or" is used in the inclusive sense (and/or). All dollar amounts are expressed in U.S. dollars. This Agreement is between financially sophisticated and knowledgeable parties and is entered into by the Parties in reliance upon the economic and legal bargains contained herein. The language used in this Agreement has been negotiated by the Parties and shall be interpreted and construed in a fair and

impartial manner without regard to such factors as the Party that prepared, or caused the preparation of, this Agreement or the relative bargaining power of the Parties.

ARTICLE II - LICENSE GRANTS AND RELATED RIGHTS

2.1 License Grant to the Company. Subject to the terms and conditions in this Agreement and the agreements listed on Exhibit C, Arbutus and its Affiliates hereby grants to the Company and its Affiliates, and the Company hereby accepts,

(a) an exclusive (even as to Arbutus and its Affiliates and Subsidiaries), sublicensable (through multiple tiers, subject to Section 2.3), transferable (subject to Section 9.4), irrevocable and perpetual (subject to Article VIII) right and license under the Licensed Intellectual Property to Research, Develop, Manufacture and Commercialize Products in the Field in the Territory; and

(b) to the extent an exclusive grant is unavailable, a non-exclusive (subject to Section 2.4), sublicensable (through multiple tiers, subject to Section 2.3), irrevocable and perpetual (subject to Article VIII) right and license under the Licensed Intellectual Property to Research, Develop, Manufacture and Commercialize Products in the Field in the Territory; and

(c) any license under (a) or (b) shall be royalty-free (subject to Section 2.5) if the Licensed Intellectual Property is After Acquired Intellectual Property Controlled by Arbutus or its Affiliates or Subsidiaries.

(d) Arbutus agrees that after the Effective Date Arbutus and its Affiliates shall not further license to any Third Party on a non-exclusive or exclusive basis any Licensed Intellectual Property in the Field in the Territory.

2.2 License Grant to Arbutus. Subject to the terms and conditions in this Agreement, the Company hereby grants to Arbutus and its Affiliates, and Arbutus hereby accepts, an exclusive (even as to the Company and its Affiliates and Subsidiaries), sublicenseable (through multiple tiers, subject to Section 2.3), irrevocable and perpetual (subject to Article VIII), royalty-free license, under (a) the Licensed Intellectual Property, and (b) After Acquired Intellectual Property useful to an Arbutus Licensed Product (subject to Section 2.5) that is Controlled by the Company or its Subsidiaries, each of which to Research, Develop, Manufacture and Commercialize Arbutus Licensed Products in the Arbutus Field in the Territory.

2.3 Sublicensing. Each Party and its Affiliates and Sublicensees, and Sublicensees of Sublicensees may grant sublicenses under Patents and other Intellectual Property licensed under Sections 2.1 and 2.2 (with the right to sublicense through multiple tiers consistent with this Section 2.3); *provided*, *however*, that, in the case of sublicenses granted to Affiliates or Third Parties:

(a) in the case of Third Party Sublicensees, each sublicense and sub- sublicense is in writing and on terms consistent with, and subject to, the terms of this Agreement;

(b) upon termination of this Agreement, any sublicenses shall convert into a direct license from Arbutus or the Company, as applicable licensor, under the terms of this

Agreement; *provided* that the Sublicensee (i) is not then in breach of the sublicense agreement, (ii) agrees in writing to be bound to Arbutus or the Company, as applicable, as a licensee under the terms and conditions of this Agreement, and (iii) agrees in writing that in no event shall Arbutus or the Company, as applicable licensor, assume any obligations or liability, or be under any obligation or requirement of performance that extends beyond Arbutus' or the Company's obligations and liabilities, as applicable, under this Agreement;

(c) in the case of Third Party Sublicensees, each Party shall promptly provide the other Party hereto with a copy of the executed sublicense within thirty (30) days following its execution or in the case of a sub-sublicense, within thirty (30) days following receipt thereof, with such reasonable redaction as the sub-licensor or its Sublicensee may make; *provided* that such redactions do not include provisions necessary to demonstrate compliance with the requirements of this Agreement; and

(d) the grant of such sublicense shall not relieve the sub-licensor Party of its obligations under this Agreement, and such Party shall be responsible for any and all obligations of such Sublicensee as if such Sublicensee were a party to this Agreement.

2.4 Automatic Conversion of Non-Exclusive to Exclusive License. If any Licensed Intellectual Property in Section 2.1(b) is no longer, for whatever reason (including, for example, as a result of the termination or expiration of a Third Party agreement listed in Exhibit C), subject to a non-exclusive license, then to the extent that any such Licensed Intellectual Property is no longer so subject, such Licensed Intellectual Property will become automatically, without any further action or notice required by anyone (including the Parties), exclusively licensed by Arbutus to the Company and its Affiliates under Section 2.1(a) as of the Effective Date.

2.5 License Fees. If a Party, subsequent to the Effective Date, acquires or in-licenses After Acquired Intellectual Property from a Third Party, such After Acquired Intellectual Property from such Third Party will become subject to Section 2.1 or 2.2, as applicable, of this Agreement; *provided*, *however*, that if the Research, Development, Manufacture or Commercialization of an Arbutus Product or a Product, as applicable, triggers a development or commercialization milestone payment and/or a royalty payment to such Third Party, the licensee Party in Section 2.1 or 2.2, as applicable, of the After Acquired Intellectual Property acquired or in-licensed by the licensor Party in Section 2.1 or 2.2, as applicable, shall pay to such Third Party (i) a reasonable share of such milestone payment owed to such Third Party, such share to be reasonably and in good faith agreed to by the Parties, and (ii) the full royalty obligation due to such Third Party for the Commercialization of the Arbutus Product or the Product, as applicable, to the extent the Arbutus Product or the Product, as applicable, is Covered by the After Acquired Intellectual Property from such Third Party.

2.6 Right of Assignment. Arbutus shall not (and shall cause its Affiliates not to), directly or indirectly, offer or grant an assignment or transfer of rights related to the Licensed Intellectual Property, in whole or in part, to any Person, except as permitted pursuant to clauses (a), (b), or (c) in this Section 2.6:

(a) Arbutus may offer or grant to any Person the following rights in the Licensed Intellectual Property: (i) the license granted to Arbutus herein under Section 2.2

(subject to Sections 2.3 and 2.5); (ii) the Gritstone Arbutus Revenue under Section 3.1 (subject to Section 3.4); (iii) Royalty Payments granted to Arbutus herein under Section 3.2 (subject to Sections 3.3 and 3.4); and/or (iv) any royalties under the Alnylam Cross License for Patisiran or any other license or agreement listed on Exhibit C hereto (the rights described in the immediately preceding
clauses (i) through (iv) being referred to as the "Transferable LIP Rights"); in each case, so long as Arbutus or its Subsidiary retains ownership of the Licensed Intellectual Property, including the Arbutus Patents; or

(b) Arbutus may offer or grant ownership of the Licensed Intellectual Property to its Subsidiary so long as such Subsidiary assumes all obligations and restrictions under this Agreement, including such obligations and restrictions of Section 2.6, and so long as, if the failure to transfer ownership of all or any subset of the Arbutus Patents would separate ownership of Arbutus Patents claiming a common benefit of priority and/or give rise to an inability to assert or put at risk the ability to assert any Arbutus Patent (for example, in view of a co-ownership requirement under a terminal disclaimer), ownership of all or the relevant subset of the Arbutus Patents is transferred together to such Subsidiary; or

(c) Arbutus shall not transfer or grant ownership of the Licensed Intellectual Property to any Person other than to a Subsidiary as set out in Section 2.6(b) above or a purchaser of all or substantially all of the assets or business of Arbutus and its Subsidiaries, or to a Successor resulting from any Change of Control of Arbutus; *provided*, *however*, immediately prior to the transfer or grant of any Licensed Intellectual Property or rights in the Licensed Intellectual Property to such purchaser or Successor, Arbutus shall, upon the written request of the Company cause all or any subset of Arbutus's ownership rights to the Licensed Intellectual Property (other than the Transferable LIP Rights) requested by the Company, including ownership of any of the Arbutus Patents, but with the exception of the Arbutus Controlled Patent, to be transferred to the Company or any of its designated Affiliates effective immediately prior to the time any remaining Licensed Intellectual Property or rights in the Licensed Intellectual Property is transferred or granted to such purchaser or Successor (in which case such assignment to the Company or applicable Affiliate of the Company of Arbutus's ownership rights to such Licensed Intellectual Property shall be made and perfected for no additional monetary or financial consideration beyond what has already been provided for in the Contribution Agreement); provided further, however, Arbutus shall not have any obligation to cause its ownership rights to the Royalty Patents to be transferred to the Company or any of its designated Affiliates to the extent that, prior to the date of any transaction with such purchaser or Successor that triggers such an obligation, Arbutus or its Subsidiary (subject to Section 2.6(b)) has entered into any royalty financing or other Intellectual Property monetization transaction, including any secured financing or structured financing of any kind, in each case related to Patisiran or the royalties payable by any Person with respect to Patisiran to Arbutus or its Subsidiary, in connection with which Arbutus or its Subsidiary has agreed to maintain ownership of the relevant Royalty Patents, and no transfer restriction contained in this Agreement shall prohibit Arbutus or its Subsidiary from entering into any such transaction (subject to Section 2.6(b)). If, after all such obligations (if any) to maintain ownership of the Royalty Patents expire or terminate, or Arbutus determines that it can maintain its rights to receive royalties under the Royalty Patents without continuing to maintain ownership thereof, the Royalty Patents shall be transferred to the Company or any of its designated Affiliates upon such determination. Prior to effecting any transfer or grant of the Licensed Intellectual Property to a purchaser or Successor

as described in this Section 2.6(c), Arbutus shall provide the Company with written notice of any offer or intention to transfer or grant any rights to such purchaser or Successor at least thirty (30) days prior to such offer or intention to transfer or grant.

(d) Any grant or transfer of rights by Arbutus under Section 2.6(a) or under Section 2.6(b) to an Affiliate or Subsidiary shall not relieve Arbutus of its obligations herein. Any purchaser, transferee or Successor under Section 2.6(c) shall assume the obligations of Arbutus under this Agreement.

2.7 Retained Rights. Arbutus expressly retains all right, title and interest not expressly granted to the Company and its Affiliates under this Article II (or otherwise under this Agreement), including, for the avoidance of doubt, (i) all rights with respect to Licensed Intellectual Property for use in the Excluded Fields, (ii) all rights with respect to the Excluded Technology, (iii) all rights to royalties relating to Patisiran, (iv) rights under the Gritstone Agreement only to the extent necessary to entitle Arbutus to receive the Gritstone Arbutus Revenue; and (v) all Intellectual Property in which the University of British Columbia has any property interest of any kind, whether consisting of ownership, licensed right or any option with respect thereto. The Company expressly retains all right, title and interest not expressly granted to Arbutus and its Affiliates under this Article II (or otherwise under this Agreement), including, for the avoidance of doubt, (i) all rights with respect to Company Intellectual Property and (ii) all rights with respect to any Product.

2.8 Rights in Bankruptcy. All licenses and rights to licenses granted under or pursuant to this Agreement by Arbutus to the Company and its Affiliates or by the Company to Arbutus and its Affiliates are, and shall otherwise be deemed to be, for purposes of Section 365(n) of the United States Bankruptcy Code (the "Code"), licenses of rights to "intellectual property" as defined under Section 101(35A) of the Code. Each Party, as a licensee of such rights under this Agreement, shall retain and may fully exercise all of its rights and elections under the Code and, upon commencement of a bankruptcy proceeding by or against a Party (or any Affiliate of a Party that owns or Controls Licensed Intellectual Property) under the Code, the other Party shall be entitled to a complete duplicate of, or complete access to, any such Licensed Intellectual Property and all embodiments of such Licensed Intellectual Property.

ARTICLE III- FINANCIAL PROVISIONS

3.1 Gritstone Revenue. Arbutus or any of its Affiliates shall pay to the Company the Gritstone Company Revenue when and as received from Gritstone. The Parties acknowledge and agree that Arbutus shall serve as agent of the Company with respect to the receipt from Gritstone, its Affiliates or assigns of any amount of Gritstone Company Revenue and with respect to the payment of any such amounts to the Company. The Parties agree to file all Tax Returns and to submit all Tax forms, certifications, and other documentation to Gritstone in a manner consistent with this Section 3.1 and shall not take any action that is inconsistent with the foregoing treatment; provided, however, that nothing in this paragraph requires either party to agree on a particular character of income for the amounts received by the Company. All payments of Gritstone Company Revenue shall be made without deduction for any reason, including without limitation transfer fees, withholding, or other Taxes of any kind. All payments to the Company under this Section 3.1 shall be calculated and made without any deduction or withholding for or on account of any Tax of any kind; provided that, if deduction or withholding is required from any payments under this Section 3.1, the sum payable to the Company shall be

increased and paid by Arbutus or any of its Affiliates as necessary so that after all required deductions and withholdings have been made, the Company receives an amount equal to the amount it would have received had no such deductions or withholding been made.

3.2 Royalty Payments. As additional consideration of the grant of the license in Section 2.1, the Company shall pay to Arbutus the following royalty during the Royalty Payment Term (the "Royalty") for any approved and commercialized Product Covered by one or more Valid Claims of an Arbutus Patent:

(a) the Company shall pay to Arbutus an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are less than $[***];

(b) the Company shall pay to Arbutus an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are equal to or greater than $[***] and less than $[***]; and

(c) the Company shall pay to Arbutus an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are equal to or greater than $[***].

(d) Following expiry of the Royalty Payment Term in respect of any Product or country (i) the licenses granted to the Company with respect to such Product and country become fully paid-up, sublicensable (subject to Section 2.3), royalty-free, exclusive, transferable, perpetual and irrevocable licenses and (ii) the obligation of the Company to pay any Royalty with respect to sales of Products in such country shall terminate. Without limiting the definition of the Royalty Payment Term, it shall be deemed to expire upon the expiration of all Valid Claims of Patents within the Licensed Intellectual Property that exist in such country. Except as specifically provided in this Section 3.2, the Royalties due and payable under this Section 3.2 shall not be subject to any reduction or offset.

3.3 Royalty Reports; Expense Reports; Records and Audits.

(a) Within sixty (60) days after the end of each Calendar Quarter during the Royalty Payment Term, the Company shall provide to Arbutus a written report on a Product-by-Product and country-by-country basis (in electronic form) that includes, for each Calendar Quarter, (i) the gross invoiced sales and the Net Sales of all Products, and (ii) the calculated amount of the Royalty owed by the Company to Arbutus in respect of the sale of such Products.

(b) Until the fifth (5^{th}) anniversary of the date any book or record is created or such longer period required by Applicable Laws (the "Record Retention Period"), the Company shall maintain and retain complete and accurate books of account and records covering all transactions relating to payment of amounts that may be due under this Article III. Upon the reasonable advance notice received by the Company from Arbutus (of at least thirty (30) days), the Company shall make such books and records available for inspection and audit by Arbutus' authorized representative (which shall be a national certified public accounting firm designated

by Arbutus and reasonably acceptable to the Company), subject to reasonable precautions to protect the Confidential Information of the Company. Such examinations may not be conducted more than once in any twelve (12) month period and going back only during the Record Retention Period after receipt of the respective invoice and report. All audits must be conducted during normal business hours of the Company and conducted in a manner so as to minimize the impact on

the normal operations of the Company. The accounting firm conducting any such audit must provide a report of its findings of any such audit to both Parties, may only identify in such report whether the amount of Royalties paid was correct and the actual amount of Royalties payable and may not disclose any other Confidential Information of the Company. The auditor's report and all other information disclosed to the auditor or generated by the auditor in such audit shall be the Confidential Information of the Company. Arbutus shall pay the cost of such audits unless it discovers that the Company has underreported aggregate Royalties during the applicable examination period by an amount equal to or greater than [***] ([***]), in which case the costs of such audit shall be borne by the Company. If an audit reveals an underpayment or overpayment, the Party responsible for making payment shall promptly pay to the other Party the amount of the underpayment or overpayment discovered unpaid under this Section 3.4(b).

3.4 Payment Procedure.

(a) Remittance of payments under this Article III shall be made by means of wire transfer of immediately available funds to a bank account designated in advance in writing by Arbutus, or in the case of overpayment, by the Company. All amounts payable to Arbutus or to the Company under this Agreement shall be paid in United States dollars. With respect to Net Sales in a currency other than U.S. dollars, the Net Sales shall be converted to U.S. dollars using the Company's then current internal foreign currency translation methodology actually used on a consistent basis in preparing its audited financial statements.

(b) Any payment owed by the Company pursuant to Section 3.1 or 3.2 shall be paid by the Company to Arbutus within thirty (30) days after the occurrence of the event triggering the payment.

(c) Any Royalty shall accrue in accordance with Section 3.4 during the applicable Royalty Payment Term. Royalty obligations that accrue during a Calendar Quarter shall be paid within sixty (60) days after the end of such Calendar Quarter.

(d) Any payments due from one Party to the other Party under this Article III that are not paid within thirty (30) days after the date such payments are due (and not being disputed in good faith) shall bear interest from the date such unpaid payments are due until paid in full at the lesser of: (i) one percent (1%) above the prime rate quoted by the Wall Street Journal (U.S., Eastern Edition) in effect on the date that such payment would have been first due, and (ii) the highest amount of interest permitted by Applicable Laws. The foregoing interest shall be in addition to any other remedies that either Party may have pursuant to this Agreement.

3.5 Taxes. The Parties agree to use commercially reasonable efforts to cooperate with one another and to use commercially reasonable efforts to avoid or reduce Tax withholding or similar obligations in respect of any payment made under this Agreement. Except for payments of the Gritstone Company Revenue, if any withholding Taxes are imposed on or with

respect to any payment made under this Agreement pursuant to Applicable Law, (A) the liability for such Taxes shall be the sole responsibility of the Party receiving such payment (the "Payee"), (B) the Party making such payment (the "Payor") shall (i) deduct or withhold such Taxes from the payment made to the Payee, (ii) timely pay such Taxes to the proper taxing authority, and (iii) send proof of payment to the Payee within thirty (30) days following such payment, and (C) to the

extent that any amounts are so withheld, such amounts shall be treated for all purposes of this Agreement as having been paid to the applicable Payee. Each Party shall comply with (or provide the other Party with) any tax certification, identification or other reporting requirements or forms that may be reasonably necessary in order for the Payor to not withhold Tax or to withhold Tax at a reduced rate under Applicable Laws. In each case, the applicable Payee shall use reasonable efforts to provide any such Tax forms to the Payor in advance of the due date of payment.

ARTICLE IV - ADDITIONAL OBLIGATIONS

4.1 Obligations of the Company.

(a) The Company shall use Commercially Reasonable Efforts to Develop and Commercialize the Product(s) in the Territory.

(b) The Company shall make reasonable efforts to provide to Arbutus relevant CMC information, non-clinical and clinical data, and non-clinical and clinical documentation in support of Marketing Authorization Approvals and applications therefor or to support responses to requests from or inquiries of Regulatory Authorities, including INDs, biologics license applications and other regulatory filings, investigational brochures, and research reports related thereto that are reasonably available to and within the Company's control, in each case related to the LNP Technology and/or GalNAc Technology used in an Arbutus Licensed Product. The Company will also make reasonable efforts to provide to Arbutus in a timely fashion, any pertinent materials and/or support that is reasonably available to and within the Company's control as required in response to Regulatory Authority requests related to the LNP Technology and/or GalNAc Technology used in an Arbutus Licensed Product. For avoidance of doubt, (i) the Company does not assume under this Agreement any of Arbutus's obligations for Marketing Authorization Approval or compliance with Regulatory Authorities for any Arbutus Licensed Product and (ii) Arbutus does not assume under this Agreement any of the Company's obligations for Marketing Authorization Approval or compliance with Regulatory Authorities for any Product.

4.2 Ownership of Approvals, INDs and Registration Filings.

(a) The Company shall be responsible for, and shall have the decision-making authority in respect of, preparing, determining final content, prosecuting and maintaining in its name INDs and any Marketing Authorization Approvals for Products in the Field under this Agreement. The Company shall own, in their entirety, (a) all non-clinical and clinical data and reports related to any Product, including those arising from clinical trials conducted for any Product, and (b) all Marketing Authorization Approvals and applications therefor, including INDs, biologics license applications and other regulatory filings, related thereto; provided, however, that the Company shall make such data and Marketing Authorization Approvals

available to Arbutus to the extent reasonably related to prosecuting and maintaining INDs and any Marketing Authorization Approvals for Arbutus Licensed Products in the Arbutus Field.

(b) Arbutus shall be responsible for, and shall have the decision-making authority in respect of, preparing, determining final content, prosecuting and maintaining in its name INDs and any Marketing Authorization Approvals for Arbutus Licensed Products in the Arbutus Field. Arbutus shall own, in their entirety, (a) all non-clinical and clinical data and reports

related to any Arbutus Licensed Product, including those arising from clinical trials conducted for any Arbutus Licensed Product, and (b) all Marketing Authorization Approvals and applications therefor, including INDs, biologics license applications and other regulatory filings, related thereto; *provided*, *however*, that Arbutus shall make such data and Marketing Authorization Approvals available to the Company to the extent reasonably related to prosecuting and maintaining INDs and any Marketing Authorization Approvals for Products in the Field.

4.3 Recalls and Other Corrective Actions.

(a) Decisions with respect to any recall, market withdrawal or other corrective action related to any Product shall be made by the Company, unless such decision making is transferred to a Third Party. If a decision with respect to any recall, market withdrawal or other corrective action related to any Product is made by the Company, the Company shall provide to Arbutus prompt written notice if the Company determines to conduct any recall, market withdrawal or other corrective action in respect of a Product. The Parties shall cooperate in good faith with respect to any actions taken or public statements made in connection with any such recall or market withdrawal.

(b) Decisions with respect to any recall, market withdrawal or other corrective action related to any Arbutus Licensed Product shall be made by Arbutus, unless such decision making is transferred to a Third Party. If a decision with respect to any recall, market withdrawal or other corrective action related to any Product is made by Arbutus, Arbutus shall provide to the Company prompt written notice if Arbutus determines to conduct any recall, market withdrawal or other corrective action in respect of an Arbutus Licensed Product. The Parties shall cooperate in good faith with respect to any actions taken or public statements made in connection with any such recall or market withdrawal.

4.4 Regulatory Authority Communications.

(a) The Company shall be solely responsible for initiating and responding to any communications related to any Product from any Regulatory Authority, including meetings with any Regulatory Authorities, at its sole cost and expense. Arbutus shall provide any assistance reasonably requested by the Company in connection with the foregoing activities.

(b) Arbutus shall be solely responsible for initiating and responding to any communications related to any Arbutus Licensed Product from any Regulatory Authority, including meetings with any Regulatory Authorities, at its sole cost and expense. The Company shall provide any assistance reasonably requested by Arbutus in connection with the foregoing activities.

4.5 Compliance with Law; Further Assurances. Both Arbutus and the Company, and their respective Affiliates, shall perform their respective obligations under this Agreement in compliance with Applicable Laws. The Parties shall cooperate with each other to provide all reasonable assistance and take all actions that are necessary to comply with any Applicable Laws in connection with their respective Regulatory Authority obligations in relation to a Product or Arbutus Licensed Product, as applicable, under this Agreement.

4.6 Regulatory Authority Inspections.

(a) If a Regulatory Authority desires to conduct an inspection or audit of any facility in which any Development or Manufacturing activities are being carried out under this Agreement by or on behalf of Arbutus or any data generated in the conduct of activities under this Agreement by or on behalf of Arbutus, then (a) the Party receiving notice of such inspection or audit shall promptly notify the other Party of such inspection or audit, and (b) Arbutus shall (i) cooperate with such Regulatory Authority during such inspection or audit, (ii) immediately update the Company during (in the case of multi-day inspections or audits) and following such inspection or audit of any information relating to Products, (iii) promptly provide to the Company the inspection or audit observations of such Regulatory Authority relating to such activities or data to the extent that it may reasonably be applicable to a Product; provided that Arbutus shall have the right to redact any material from such inspection or audit observations that do not relate to the Products, (iv) prepare the response to any such observations, (v) provide a copy of such planned response to the Company to the extent it relates to the Product, shall consult with the Company concerning the response of Arbutus to each such communication and, if such response affects the Product specifications or any Marketing Authorization Approval (or the Company's obligations to comply with any legal requirements), such response shall be subject to the Company's approval, and (vi) conform its activities under this Agreement to any commitments made in such a response. To the extent reasonably practicable and not otherwise prohibited by Applicable Laws, Arbutus shall permit the Company the opportunity to be present on-site during (but not directly participate in) any such inspection.

(b) If a Regulatory Authority desires to conduct an inspection or audit of any facility in which any Development or Manufacturing activities are being carried out under this Agreement by or on behalf of the Company or any data generated in the conduct of activities under this Agreement by or on behalf of the Company, then (a) the Party receiving notice of such inspection or audit shall promptly notify the other Party of such inspection or audit, and (b) the Company shall (i) cooperate with such Regulatory Authority during such inspection or audit, (ii) immediately update Arbutus during (in the case of multi-day inspections or audits) and following such inspection or audit of any information relating to Products, (iii) promptly provide to Arbutus the inspection or audit observations of such Regulatory Authority relating to such activities or data to the extent that it may reasonably be applicable to an Arbutus Licensed Product; *provided* that the Company shall have the right to redact any material from such inspection or audit observations that do not relate to Arbutus Licensed Products, (iv) prepare the response to any such observations, (v) provide a copy of such planned response to the Company to the extent it relates to an Arbutus Licensed Product, shall consult with the Company concerning the response of Arbutus to each such communication and, if such response affects an Arbutus Licensed Product specifications or any Marketing Authorization Approval (or the Company's obligations to comply with any legal requirements), such response shall be subject to

the Company's approval, and (vi) conform its activities under this Agreement to any commitments made in such a response. To the extent reasonably practicable and not otherwise prohibited by Applicable Laws, the Company shall permit Arbutus the opportunity to be present on-site during (but not directly participate in) any such inspection.

ARTICLE V - INTELLECTUAL PROPERTY

5.1 Ownership.

(a) Subject to the licenses granted by Arbutus herein, Section 2.6, Section 2.7, and Section 5.1(e) of this Agreement, Arbutus is and shall at all times remain the sole and exclusive owner, regardless of inventorship, of all:

(i) Licensed Intellectual Property, and

(ii) Arbutus' Confidential Information.

(b) Subject to the licenses granted by the Company herein, Section 2.7 and Section 5.1(e) in this Agreement, the Company is, remains, and/or shall become the sole and exclusive owner, regardless of inventorship, of all:

(i) Company Background IP,

(ii) After Acquired Intellectual Property Controlled by the Company or its Subsidiaries (including Joint IP),

(iii) the Company's Confidential Information,

(iv) Licensed Improvement IP,

(v) Intellectual Property that is an improvement, enhancement or derivative of any Company Background IP or After Acquired Intellectual Property (collectively, including Licensed Improvement IP, the "Company Improvement IP"), and

(vi) Know-How developed or Controlled by the Company or its Affiliates or Subsidiaries during the Term that is directed to any aspect of LNP Technology or GalNAc Technology, including data and results relating to LNP or GalNAc components or formulations (the Intellectual Property provided in the foregoing clauses (i)-(vi), "Company Intellectual Property").

(c) Section 5.1(b) is not intended to limit the ability of the Company to assign or transfer any of its rights, title or interest in the Company Intellectual Property to a Third Party or Affiliate at the Company's discretion as is consistent with the terms of this Agreement.

(d) Arbutus shall, and shall cause its Affiliates to, execute and deliver such additional documents, instruments, conveyances and assurances and take such further actions as may be reasonably required to ensure that all right, title, and interest in the Company Improvement IP is effectively transferred to and held by the Company.

(e) Consistent with the terms set forth in Section 5.1(a) - (d) above:

(i) inventorship of Intellectual Property conceived, reduced to practice or otherwise created in the performance of activities conducted under this Agreement shall be determined by the inventorship laws of the United States;

(ii) unless otherwise agreed to in writing by the Parties, all data, results and inventions generated, conceived, reduced to practice or otherwise created jointly by
employees, consultants, or contractors of Arbutus and by employees, consultants, or contractors of the Company, if any, shall be solely owned by the Company ("Joint IP"); and

(iii) Arbutus shall, and shall cause its Affiliates to, assign all right, title and interest in the Joint IP to the Company. For example, any right, title, and interest obtained by Arbutus through employee, consultant or contractor agreements and/or assignment documents from inventors of Joint IP shall be assigned to the Company; and all necessary documents to perfect such assignment shall be timely executed by Arbutus; and

(iv) the Company shall grant license(s) to Arbutus for Joint IP consistent with Section 2.2.

(f) Except as otherwise expressly provided in this Agreement, under no circumstances shall a Party, as a result of this Agreement, obtain any ownership interest or other right, title or interest in or to any other Intellectual Property or Confidential Information of the other Party, whether by implication, estoppel or otherwise, including any items Controlled or developed by the other Party, or delivered by the other Party, at any time pursuant to this Agreement.

5.2 Prosecution and Maintenance of Patents.

(a) The Company shall have the sole right and responsibility at its sole cost and expense with input from Arbutus, to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings and any similar patent office proceedings in the Territory and all appeals of any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory for the Arbutus Patents (subject to Section 5.2(b), in the case of the Royalty Patents) and Patents Covering Joint IP (if any), exclusive of the Arbutus Controlled Patent. Prosecution rights and obligations for the Arbutus Controlled Patent are set forth in Section 5.2(d). The Company shall diligently prosecute the Arbutus Patents (subject to Section 5.2(b), in the case of the Royalty Patents) and Patents Covering Joint IP claims in the broadest manner most reasonably possible, subject to applicable laws in the Territory and the efforts of the Company to Research, Develop, Manufacture and Commercialize the Product(s) and Arbutus to Research, Develop, Manufacture and Commercialize the Arbutus Licensed Product(s). The Company shall notify Arbutus of all material developments and all significant actions to be taken in connection with prosecuting and maintaining the Arbutus Patents and Patents Covering Joint IP and provide Arbutus with copies of all material filings, submissions,

communications, correspondence or responses to be made to, or received from, the patent authorities with respect to such Arbutus Patents (subject to Section 5.2(b), in the case of the Royalty Patents) and Patents Covering Joint IP, with sufficient time to allow for review and comment by Arbutus. Arbutus shall offer its comments or proposals, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals. Notwithstanding the above, the Company shall have the final decision making authority with respect to the Arbutus Patent claim(s) (subject to Section 5.2(b), in the case of the Royalty Patents); provided, however, if the claims of an Arbutus Patent or Patent Covering Joint IP substantially Cover an Arbutus Licensed Product, the Company shall

make reasonable efforts to reach an agreement with Arbutus on the prosecution strategy. In the event that the Company desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any of the Arbutus Patents or Patents Covering Joint IP, the Company shall provide reasonable prior written notice to Arbutus of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Patents with the applicable patent office) and Arbutus shall have the right, but not the obligation, to assume, at its sole cost and expense, responsibility for the prosecution and maintenance thereof.

(b) Notwithstanding the provisions of Section 5.2(a) above, a certain subset of the Arbutus Patents shall be subject to the following:

(i) The Parties agree that the following Arbutus Patents shall be subject to the terms of this Section 5.2(b) (hereafter the "Royalty Patents"): (A) [***]; (B) [***]; (C) [***]; (D) [***]; (E) [***]; (F) [***]; and (G) all patents and patent applications claiming benefit of priority of any of the patents described in clauses (A) through (F) above.

(ii) Rights and responsibilities for prosecution and maintenance of the Royalty Patents (but not the defense of the Royalty Patents in an IPR, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory or appeals of any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory, which shall be governed by Section 5.2(a)(iii) below) shall be subject to the following:

(1) The Company shall have the right and responsibility at its sole cost and expense with input from Arbutus, to file, prosecute, maintain or abandon patent protection, in the Territory for the Royalty Patents. The Company (or the Company's authorized attorneys, agents or representatives) shall proactively communicate to Arbutus any action and/or proposed strategy related to filing, prosecuting, or abandoning patent protection in the Territory for any patent or application that is a Royalty Patent (collectively, the "contemplated actions"). Arbutus shall have the right to propose contemplated actions to the Company and the Company shall consider in good faith, and shall not unreasonably reject, any such proposed contemplated action.

(2) Arbutus shall notify the Company if any such contemplated action related to a Royalty Patent, or the failure to pursue any contemplated action proposed by

Arbutus related to a Royalty Patent, could reasonably be considered to put the Patisiran royalty in jeopardy. Arbutus shall offer its comments or proposals with respect to any contemplated action, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals. The Company shall make commercially reasonable efforts to work collaboratively with Arbutus to develop a mutually agreeable strategy for how to proceed with the contemplated action and prior to taking or failing to take any contemplated action that Arbutus determines could have a material impact on Arbutus' interest, the Company shall provide to Arbutus prior notice and a reasonable opportunity to comment on such

contemplated action. In keeping with the above, the Company shall have the final decision making authority with respect to any contemplated actions for the Royalty Patents.

(3) In the event that the Company desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any of the Royalty Patent, the Company shall provide reasonable prior written notice to Arbutus of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Patents with the applicable patent office) and Arbutus shall have the right, but not the obligation, to assume, at its sole cost and expense, responsibility for the prosecution and maintenance thereof.

(iii) Notwithstanding the provisions of Sections 5.2(a), 5.2(b)(i) and 5.2(b)(ii) above and with the exception of patent office proceedings under Section 5.2(b)(iv), Arbutus shall have the right and responsibility, at its sole cost and expense, to prosecute and maintain: (A) the pending Inter Partes Reviews ("IPRs") for [***] and [***]; (B) all other IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory that arise with respect to any Royalty Patents (if any); (C) all appeals of any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory with respect to the Royalty Patents; and (D) (except for challenges to validity or enforceability of the Royalty Patents arising in response to a Third Party Infringement Action brought by or threatened by the Company) all other challenges to the validity or enforceability of the Royalty Patents in any other administrative, judicial or arbitral proceeding (collectively "Royalty Patent Challenges"). Arbutus shall select legal counsel to participate in such Royalty Patent Challenge, *provided* that, Arbutus shall use reasonable efforts to select legal counsel that the Parties mutually agree upon. Arbutus shall provide the Company with copies of all official actions, material filings, or responses received from, or to be made to, the patent authorities with respect to any Royalty Patent Challenge, in sufficient time to allow for review and comment by the Company. The Company shall offer its comments or proposals, if any, promptly, and Arbutus shall not unreasonably reject any such comments and proposals. Arbutus shall work collaboratively with the Company to develop a mutually agreeable strategy for prosecuting and defending any Royalty Patent Challenge. Notwithstanding the above, Arbutus shall have final decision-making authority on Royalty Patent Challenges, provided that, Arbutus shall obtain the Company's prior, written approval (not to be unreasonably withheld, conditioned or

delayed) before (1) narrowing by amendment or cancelling any claims of any Royalty Patent or [***]; (2) agreeing to enter into any settlement agreement with respect to any Royalty Patent Challenge; (3) expressly dedicating any subject matter of any Royalty Patent or [***] to the public (including terminal disclaimers); (4) expressly agreeing to or proposing any claim construction of any Royalty Patent or [***]; (5) creating any claim estoppels by express disclaimer of claim scope with respect to any Royalty Patent or [***]; (6) agreeing to an adverse judgment with respect to a Royalty Patent Challenge; (7) filing a reissue or ex parte reexamination of any Royalty Patent or [***]; or (8) attempting to provoke an interference or derivation proceeding of any Royalty Patent or [***]; and further provided that, Arbutus

shall seek review and input from the Company regarding characterizing any claims or disclosure of any Arbutus Patent. In the event that Arbutus makes a determination that any relevant Royalty Patent Challenge is not reasonably expected to have any effect upon Arbutus' rights to the Patisiran royalties, Arbutus shall transfer final decision-making authority with respect to such Royalty Patent Challenge to the Company.

(iv) The Company shall have final decision-making authority with respect to any IPRs, post-grant review, opposition proceedings, administrative proceedings, or any similar patent office proceedings challenging the validity or enforceability of a Royalty Patent that arises in response to a Third Party Infringement Action initiated or threatened by the Company, provided that, in the course of any such patent office proceedings, the Company shall be obligated to comply with all the requirements of consultation and cooperation imposed by Section 5.2(b)(iii) upon Arbutus with respect to the Company, *mutatis mutandis*.

(v) In the event that Arbutus desires to abandon, withdraw or otherwise discontinue any Royalty Patent Challenge or discontinue defending the validity or enforceability of any Royalty Patent involved in a Royalty Patent Challenge, Arbutus shall provide reasonable prior written notice to the Company of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Royalty Patent Challenge) and the Company shall have the right, but not the obligation, to assume, at its expense, responsibility for the prosecution and maintenance thereof. If either Party desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any Royalty Patent, such Party shall provide reasonable prior written notice to the other Party of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Patents with the applicable patent office) and the other Party shall have the right, but not the obligation, to assume, at its expense, responsibility for the prosecution and maintenance thereof.

(vi) If Patisiran development and/or commercialization is discontinued such that Arbutus determines that there is no Patisiran royalty in the Territory, the Company shall have the sole right and responsibility at its sole cost and expense, to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings and any similar patent office proceedings in such Territory and to appeal any decisions rendered with respect to any such IPRs, post-grant review,

opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory for all of the Royalty Patents under Section 5.2(a) without the limitations of Section 5.2(b).

(c) The Parties hereby agree as to Arbutus Patents (including the Royalty Patents) and Patents Covering Joint IP:

(i) to make its employees, agents and consultants reasonably available to the other Party (or the other Party's authorized attorneys, agents or representatives), to the extent reasonably necessary to enable such Party to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings, and any similar proceedings as contemplated by Sections 5.2(a) and 5.2(b);

(ii) to cooperate, if necessary and appropriate, with the other Party in gaining patent term extensions whenever applicable to patent rights; and

(iii) to endeavor in good faith to coordinate its efforts wherever possible or reasonable to minimize or avoid interference with the prosecution and maintenance of patent applications that Cover a Product(s) or Arbutus Licensed Product(s).

(d) Arbutus shall have the sole right and responsibility at its sole cost and expense to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings, and any similar proceedings in the Territory for the Arbutus Controlled Patent. Arbutus shall notify the Company of all material developments and all significant actions to be taken in connection with prosecuting and maintaining the Arbutus Controlled Patent and provide the Company with copies of all material filings, submissions, communications, or responses to be made to the patent authorities with respect to the Arbutus Controlled Patent in sufficient time to allow for review and comment by the Company. The Company shall offer its comments or proposals, if any, promptly, and Arbutus shall not unreasonably reject any such comments and proposals. Notwithstanding the above, Arbutus shall have the final decision making authority. In the event that Arbutus desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any of the Arbutus Controlled Patent, Arbutus shall provide reasonable prior written notice to the Company of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Patents with the applicable patent office) and the Company shall have the right, but not the obligation, to assume, at its expense, responsibility for the prosecution and maintenance thereof.

(e) The Company shall have the sole right and responsibility, in its sole discretion and at its sole cost and expense, to file, prosecute, maintain or abandon patent protection in the Territory for any Patent that is part of the Company Background IP, Company Improvement IP, and After Acquired Intellectual Property Controlled by the Company exclusive of Joint IP, which is covered by Section 5.2(a) (subject to the terms of any Third Party agreement, if applicable), including patent term extensions and defending opposition, reexamination, post-grant review, inter partes review, or opposition proceedings, and any similar patent office proceedings.

(f) Notwithstanding the foregoing, (i) Arbutus shall not file a patent application that includes any claim(s) that Cover Company Improvement IP and/or that Covers a Company Product; and (ii) the Company shall not file a patent application that includes any claim(s) that Covers an HBV Payload or claims to treating HBV, in each case without the other Party's prior written consent.

(g) Upon reasonable request by Arbutus, the Company will timely provide an up-to-date written report showing all Arbutus Patents licensed to and being prosecuted or maintained by the Company. The report will include at least the title, application serial number, filing date, country, and status for each licensed Arbutus Patent that is being prosecuted or maintained by the Company. Upon reasonable request by the Company, Arbutus will timely provide an up-to-date written report showing all Royalty Patents or Arbutus Controlled Patents being prosecuted or controlled by Arbutus (including any Patents involved in Inter Partes Review). The report will include at least the title, application serial number, filing date, country, and status for each Royalty Patent and Arbutus Controlled Patent that is being prosecuted or maintained by Arbutus.

5.3 Third-Party Infringement of Arbutus Patents and Joint Patents.

(a) Each Party shall use reasonable efforts to promptly report in writing to the other Party during the Term any known or suspected commercially relevant infringement by a Third Party of any of the Arbutus Patents and/or Joint IP Patents by a Third Party as such infringement relates to the Research, Development, Manufacture or Commercialization of a Product or an Arbutus Licensed Product ("Infringement Action") of which such Party becomes aware and provide the other Party with all evidence in its possession supporting or relating to such infringement.

(b) The Company shall have the right to initiate and maintain an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Joint IP Patents and/or Arbutus Patents (including the Royalty Patents) by a Third Party as such infringement relates to the Research, Development, Manufacture, or Commercialization of a Product, or to take such other actions as the Company, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements, all at the Company's sole cost and expense, as applicable.

(c) Arbutus shall have the right to initiate and maintain an infringement or other appropriate suit with respect to infringements or suspected infringements of any of the Arbutus Patents (including the Royalty Patents) or Arbutus Controlled Patent by a Third Party as such infringement relates to the Research, Development, Manufacture, or Commercialization of an Arbutus Licensed Product, or to take such other actions as Arbutus, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements, all at Arbutus' sole cost and expense, as applicable.

(d) Each Party shall (i) notify the other Party promptly after initiating any such Infringement Action, (ii) consult closely with such other Party regarding all aspects of such Infringement Action, and (iii) permit such other Party to have an attorney of its own choosing participate in such Infringement Action (at the other Party's own cost), with the understanding

that the Party initiating such Infringement Action will have the final decision making authority. If a Party elects not to initiate, pursue or maintain any such Infringement Action, such Party shall provide the other Party with prompt written notice of the same and, thereafter, with the written consent of the Party electing not to initiate, pursue or maintain the Infringement Action, such other Party shall have the right, but not the obligation, to initiate, pursue or maintain any Infringement Action that such other Party deems appropriate with respect to such infringements or suspected infringements, all at such other Party's sole cost and expense. Thereafter, such other Party shall consult closely with such Party regarding all aspects of such Infringement Action and permit such Party to have an attorney of its own choosing participate in such Infringement Action. Neither Party shall enter into any settlement or compromise in connection with an Infringement Action that would materially eliminate, diminish, or otherwise modify any right, title, or interest of the
other Party in any such Patents or that would require any payments, concessions, or otherwise bind such other Party, without such other Party's prior written consent, which consent shall not be unreasonably withheld, delayed or conditioned.

(e) Upon the request of the enforcing Party, the other Party shall cooperate with the enforcing Party in any Infringement Action by joining as a party if necessary or required by Applicable Laws.

(f) Arbutus shall be entitled to retain any proceeds from any Infringement Action that it initiates pursuant to Section 5.3(c). The Parties shall share in the proceeds from any Infringement Action under Section 5.3(b), including settlements thereof (the "Proceeds"), as follows:

(i) First, for the costs and expenses, including legal fees, that are incurred by either Party as part of, or in preparation for, the Infringement Action, and

(ii) The remainder of the Proceeds shall be treated as Net Sales, with Arbutus receiving Royalties on such remainder of the Proceeds in accordance with Article III and the Company receiving the rest of the remainder of the Proceeds. To avoid any doubt, this Section 5.3(f) does not apply to any proceeds from any Infringement Action relating solely to Company Intellectual Property.

(g) Notwithstanding anything to the contrary contained in this Section 5.3 or elsewhere in this Agreement, the Company hereby agrees that it shall not at any time after the Effective Date directly or indirectly (through any Affiliate, Sublicensee, customer, assignee or agent or otherwise) initiate an infringement or other similar suit with respect to infringements or suspected infringements of any of the Arbutus Patents, Joint IP Patents, or Patents Covering Licensed Improvement IP by Alnylam or any of its successors or assigns in respect of Patisiran.

5.4 Defense of Claims Brought by Third Parties. Each Party shall promptly notify the other Party if it becomes aware of any claim that the Company's actual use, sale or practice of a Product or Arbutus's actual use, sale or practice of an Arbutus Product in connection with its exercise of its license under Sections 2.1 and 2.2, respectively, infringes, misappropriates, or otherwise violates the Intellectual Property rights of any Third Party.

(a) Subject to Article VII, Section 5.2 and Section 5.3, (i) the Company shall have the sole right and responsibility at its sole cost and expense to defend itself against claims brought against the Company by Third Parties relating to any Products or the Licensed Intellectual Property in the Territory (including, but not limited to any Third Party claim of infringement of Third Party patents or claims of invalidity or unenforceability of any Arbutus Patents (including Royalty Patents) or Patents Covering Joint IP), (ii) the Company shall notify Arbutus of all material developments and all significant actions to be taken in connection with defending any Products or Licensed Intellectual Property, and (iii) Arbutus shall have the opportunity to offer its comments or proposals, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals, provided, the Company shall have the final decision making authority in such defenses.

(b) Subject to Article VII, Section 5.2 and Section 5.3, (i) Arbutus shall have the sole right and responsibility at its sole cost and expense to defend itself against claims brought against Arbutus by Third Parties relating to any Arbutus Licensed Products or the Arbutus Controlled Patent (including, but not limited to any Third Party claim of infringement of Third Party patents or claims of invalidity or unenforceability of any the Arbutus Controlled Patent), (ii) Arbutus shall notify the Company of all material developments and all significant actions to be taken in connection with defending any Arbutus Licensed Products or Arbutus Controlled Patent, and (iii) the Company shall have the opportunity to offer its comments or proposals, if any, promptly, and Arbutus shall not unreasonably reject any such comments and proposals, provided, Arbutus shall have the final decision making authority in such defenses.

ARTICLE VI - CONFIDENTIAL INFORMATION AND PUBLICITY

6.1 Non-Disclosure of Confidential Information. Each Party agrees that, for itself and its Affiliates, until the tenth (10^{th}) anniversary of the termination or expiration of this Agreement, a Receiving Party shall maintain all Confidential Information of the Disclosing Party in strict confidence and shall not disclose Confidential Information to any Third Party without the prior written consent of the Disclosing Party, except for disclosures expressly permitted below.

6.2 Exceptions. The obligations in this Article VI shall not apply with respect to any portion of the Confidential Information that the Receiving Party can show by competent documented proof: (a) was known to the Receiving Party or its Affiliates, without any obligation to keep it confidential or any restriction on its use, prior to disclosure by the Disclosing Party; (b) is subsequently disclosed to the Receiving Party or its Affiliates by a Third Party lawfully in possession thereof and without any obligation to keep it confidential or any restriction on its use; (c) is or otherwise becomes generally available to the public or enters the public domain, either before or after it is disclosed to the Receiving Party, and such public availability is not the result, directly or indirectly, of any fault of, or improper taking, use or disclosure by, the Receiving Party or its Affiliates or anyone working in concert or participation with the Receiving Party or its Affiliates; or (d) has been independently developed by employees or contractors of the Receiving Party or its Affiliates without the aid, application or use of Confidential Information of the Disclosing Party. Notwithstanding the foregoing, (i) specific Confidential Information disclosed by a Disclosing Party shall not be deemed to be within any exceptions set forth in (a), (b), or (c) above merely because it is embraced by more general information to which one or

more of those exceptions may apply, (ii) no combination of information shall be deemed to be within any such exceptions unless the combination itself and its principle of operation are within the public domain and (iii) disclosure of Confidential Information to Regulatory Authorities shall not constitute a public disclosure, unless such information is made available to the public by the Regulatory Authority (i.e., it shall remain Confidential Information after such disclosure). Even though Confidential Information may be within one of the exceptions described in the preceding sentence, the Receiving Party shall not disclose to Third Parties that the excepted Confidential Information was received from the Disclosing Party.

6.3 Permitted Uses; Protection. Confidential Information of a Disclosing Party may be used by the Receiving Party in the performance of its obligations under this Agreement. Confidential Information that is relevant to Licensed Intellectual Property may be used by the Company subject to and in accordance with the provisions of this Agreement, to the extent applicable to the Company's license to Licensed Intellectual Property, including the Research, Development, Commercialization and Manufacture of a Product. Each Receiving Party shall take steps to maintain the confidentiality of the Disclosing Party's Confidential Information that are consistent with the steps it takes to maintain the confidentiality of its own Confidential Information of a similar value, but in no event less than commercially reasonable steps; *provided*, *however*, that nothing in this Agreement shall be deemed to eliminate, restrict, or otherwise limit the Company's license to use such Confidential Information in accordance with the terms and conditions of this Agreement.

6.4 Permitted Disclosures. The Receiving Party may disclose Confidential Information belonging to the Disclosing Party to the extent (and only to the extent) such disclosure is reasonably necessary in the following instances: (a) by either Party to comply with non-patent Applicable Laws (including any securities Applicable Laws or the rules of a securities exchange in a relevant jurisdiction) and with judicial process, if such disclosure is subject to an order of the court, or with written consent of the Disclosing Party; *provided*, *however*, that, where legally permissible, (i) the Receiving Party shall notify the Disclosing Party of the Receiving Party's intent to make any disclosure sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information to be disclosed, including seeking protective orders or injunctive relief, and (ii) consistent with Applicable Laws, the Disclosing Party shall have the right to suggest reasonable changes to the disclosure to protect its interests, and the Receiving Party shall not unreasonably refuse to include such changes in its disclosure; (b) by the Company, its Affiliates, or its Sublicensees, as necessary in connection with the Development, Manufacture or Commercialization of Product that use or employ Licensed Intellectual Property, including labeling requirements and disclosures in connection with obtaining Marketing Authorization Approvals, so long as the Research, Development, Manufacture or Commercialization of Product has been and is performed in a manner that complies with the terms and conditions of the Company's license to such Licensed Intellectual Property and reasonable steps are taken to maintain the confidentiality of such Confidential Information even when disclosed for such purposes; (c) by either Party for customary discussions and other disclosures with and to Affiliates or Roivant Sciences Ltd. or its Affiliates, current or prospective investors, Sublicensees, collaborative partners, acquirers, merger partners, or providers of financing and their advisors, provided that such parties are bound by enforceable

obligations of confidentiality consistent with and at least as protective as this Article VI; and (d) as provided in Section 6.6.

6.5 Press Release. Neither Party shall issue a press release or public announcement relating to the other Party or the collaboration activities undertaken pursuant this Agreement without the prior written approval of the other Party, which approval shall not be unreasonably withheld, delayed or conditioned; provided, however, that either Party may issue a press release or public announcement as required by Applicable Laws, subject to Section 6.4(a). Except as otherwise provided herein, each Party agrees not to use the name, trademark, service mark, or design registered to the other Party or its Affiliates in any publicity, promotional, or advertising material, without prior written approval of the other Party, which approval shall not be unreasonably withheld, delayed or conditioned.

6.6 Securities Filings. If either Party proposes to file with the Securities and Exchange Commission, or the securities regulators of any state or other jurisdiction, a registration statement or any other disclosure document which describes or refers to this Agreement under the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, or any other applicable securities law, the Party shall notify the other Party of such intention and shall provide such other Party with a copy of relevant portions of the proposed filing not less than ten (10) Business Days (or such other period as is reasonable under the circumstances) prior to such filing (and any revisions to such portions of the proposed filing a reasonable time prior to the filing thereof), including any exhibits thereto relating to the Agreement, and shall use reasonable efforts to obtain confidential treatment of any information concerning the Agreement that such other Party requests be kept confidential, and shall only disclose Confidential Information which it is advised by counsel is legally required to be disclosed. No such notice shall be required under this Section 6.6 if the substance of the description of or reference to this Agreement contained in the proposed filing has been included in any previous filing made by the either Party hereunder or otherwise approved in writing by the other Party.

6.7 Terms of this Agreement. Except as otherwise specifically set forth in this Article VI, without the prior consent of the other Party, neither Party shall disclose any terms or conditions of this Agreement (including any schedule or exhibit hereto) to any Third Party nor make any statement to the public regarding the execution or any other aspect of the subject matter of this Agreement (including the Development or Commercialization status of Products), except: (a) to the extent such disclosure is required by Applicable Laws or stock exchange rules or regulations and, to the extent practical, the other Party is provided with the opportunity sufficiently in advance of disclosure to review such information and seek confidential treatment thereof; (b) for customary discussions and other disclosures with and to Affiliates or Roivant Sciences Ltd. or its Affiliates, current or prospective investors, lenders, Sublicensees, collaborative partners, acquirers, merger partners, or providers of financing and their advisors; or (c) either Party may use the text of a statement previously approved for public dissemination by the other Party. With respect to any disclosures made pursuant to subsection (b) above, each such Third Party recipient of Confidential Information shall be subject to obligations of confidentiality and non-use with respect to such Confidential Information substantially similar to the obligations of confidentiality and non-use of the Receiving Party pursuant to this Article VI.

ARTICLE VII - INDEMNIFICATION

7.1 Arbutus Indemnification. Arbutus shall indemnify and defend the Company and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Company Indemnitees") against and shall hold each of them harmless from any and all losses, costs, damages, fees or expenses ("Losses") actually incurred or suffered by a Company Indemnitee to the extent arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by a Third Party based on: (a) any breach of any covenant by Arbutus under this Agreement; (b) Arbutus', its Affiliates' or its Sublicensees' gross negligence, willful misconduct or violation of Applicable Laws; or (c) product recall, products' liability, infringement claims or similar claims based on the Research, Development, Manufacture or Commercialization of an Arbutus Licensed Product. The foregoing indemnification shall not apply to the extent that any Losses are due to the Company's, its Affiliates' or its Sublicensees' gross negligence or willful misconduct or violation of Applicable Laws or are subject to the Company's indemnification obligations pursuant to Section 7.2.

7.2 Company Indemnification. The Company shall indemnify and defend Arbutus and its Affiliates, and their respective agents, directors, officers, employees, representatives, successors and permitted assigns (the "Arbutus Indemnitees") against and shall hold each of them harmless from any and all Losses actually incurred or suffered by an Arbutus Indemnitee to the extent arising out of or in connection with any claim, suit, demand, investigation or proceeding brought by a Third Party based on: (a) any breach of any covenant by the Company under this Agreement; (b) the Company's, its Affiliates' or its Sublicensees' gross negligence, willful misconduct or violation of Applicable Laws; or (c) product recall, products' liability, infringement claims or similar claims based on the Research, Development, Manufacture or Commercialization of a Product. The foregoing indemnification obligations shall not apply to the extent that any Losses are due to Arbutus', its Affiliates' or its Sublicensees' gross negligence or willful misconduct or violation of Applicable Laws or are subject to Arbutus' indemnification obligations pursuant to Section 7.1.

7.3 Tender of Defense; Counsel. Any Person seeking indemnification under this Article VII (the "Indemnified Party") agrees to give prompt notice in writing to the other Party (the "Indemnifying Party") of the assertion of any claim or the commencement of any action by any Third Party (a "Third Party Claim") in respect of which indemnity may be sought under this Article VII. Such notice shall set forth in reasonable detail such Third Party Claim and the basis for indemnification (taking into account the information then available to the Indemnified Party). The failure to so notify the Indemnifying Party shall not relieve the Indemnifying Party of its indemnification and hold harmless obligations hereunder, except to the extent such failure shall have materially and adversely prejudiced the Indemnifying Party. Except in the case of a Third Party Claim that is of a type governed by the provisions of Section 5.2 or Section 5.3 (in which case the provisions set forth therein shall govern the selection of the party entitled to control and conduct of the defense of such Third Party Claim), the Indemnifying Party shall be entitled to control and appoint lead counsel reasonably satisfactory to the Indemnified Party for such defense by written notice to the Indemnified Party within twenty (20) days after the Indemnifying Party has received notice of the Third Party Claim, in each case at its own expense; provided, however, that the Indemnifying Party must use commercially reasonable

efforts to conduct the defense of the Third Party Claim in a manner designed to protect the rights of the Indemnified Parties, and otherwise conduct such defense actively and diligently, thereafter in order to preserve its rights in this regard. The Indemnifying Party shall not be entitled to assume or maintain control of the defense of any Third Party Claim and shall pay the fees and expenses of one counsel retained by the Indemnified Party if: (a) the Third Party Claim relates to or arises in connection with any criminal proceeding, action, indictment or allegation; (b) the Third Party Claim seeks an injunction or equitable relief against an Indemnified Party or any of its Affiliates; or (c) the Indemnifying Party, as reasonably and in good faith determined by the Indemnified Party's counsel, has failed or is failing to prosecute or defend vigorously the Third Party Claim. Each Indemnified Party shall obtain the prior written consent of the Indemnifying Party, such consent not to be unreasonably withheld, delayed or conditioned, before entering into any settlement of a Third Party Claim. Notwithstanding the foregoing, the Indemnifying Party shall not be entitled to enter into or approve any settlement of a Third Party Claim without the consent of the Indemnified Party (which may be withheld in its sole discretion), if the settlement (i) does not expressly unconditionally release all applicable Indemnified Parties and their Affiliates from all Losses with respect to such Third Party Claim, (ii) imposes injunctive or other equitable relief against the Indemnified Party or any of its Affiliates, (iii) involves any admission of criminal or similar liability, or (iv) involves any monetary damages that may not be fully covered by the Indemnifying Party. In the event that the Indemnifying Party fails to assume the defense of the Third Party Claim in accordance with this Section 7.3, (1) the Indemnified Party may defend against the Third Party Claim in any manner it reasonably may deem appropriate, and (2) the Indemnifying Party shall remain responsible for any Losses of the Indemnified Party as a result of such Third Party Claim. In circumstances where the Indemnifying Party is controlling the defense of a Third Party Claim in accordance with this Section 7.3, the Indemnified Party shall be entitled to participate in the defense of any Third Party Claim and to employ separate counsel of its choice for such purpose, in which case the fees and expenses of such separate counsel shall be borne by such Indemnified Party. Notwithstanding anything herein to the contrary, in circumstances where there is a conflict of interest that would reasonably make it inappropriate under applicable standards of professional conduct to have common counsel for the Indemnifying Party and the Indemnified Party, the Indemnified Party shall be entitled to employ separate counsel, that is reasonably acceptable to the Indemnifying Party, and the Indemnifying Party shall pay the reasonable fees and expenses of such separate counsel. Each Party shall cooperate, and cause their respective Affiliates to cooperate in all reasonable respects, in the defense or prosecution of any Third Party Claim and shall furnish or cause to be furnished such records, information and testimony, and attend such conferences, discovery proceedings, hearings, trials or appeals, as may be reasonably requested in connection therewith, all at the expense of the Indemnifying Party.

ARTICLE VIII - TERM AND TERMINATION

8.1 Term. The term of this Agreement shall begin on the Effective Date and, unless terminated earlier as provided herein, shall continue until the last to expire Royalty Payment Term (the "Term"). Following expiry of the Royalty Payment Term in respect of any Product or country, the Company and its Affiliates shall have fully paid-up licenses described in Section 3.3.

8.2 Termination for Material Breach. If either Party commits a material breach of any of its obligations under this Agreement, and such breach or default continues without cure for a period of ninety (90) days after delivery by the other Party of written notice reasonably detailing such breach or default, then the other Party shall have the right to terminate this Agreement, with immediate effect, by giving written notice to the breaching Party. The Parties shall retain all rights and remedies (at law or in equity) in respect of any breach hereof. Notwithstanding anything to the contrary in this Section 8.2, if the allegedly breaching Party disputes in good faith the existence or materiality of such breach and provides notice to the other Party of such dispute within the ninety (90) day cure period, such 90-day period will be tolled until such dispute can no longer be maintained in good faith, the resolution of which shall proceed as described in Section 9.7(b).

8.3 Challenges of Arbutus Patents. If the Company or any of its Affiliates or Sublicensees directly or indirectly and voluntarily commences or participates in any Challenge of any of the Arbutus Patents, Arbutus shall have the right to give notice to the Company (which notice must be given, if at all, within ninety (90) days after Arbutus' Chief Executive Officer or General Counsel first learns of the foregoing) that the licenses granted by Arbutus to the Company hereunder to such Arbutus Patent(s) shall terminate ninety (90) days following the Company's receipt of such notice, and, unless the Company or its Affiliates or Sublicensees, as applicable, withdraw or cause to be withdrawn all such Challenge(s) within such ninety (90)-day period, such licenses to such Arbutus Patent shall so terminate; provided that, if such action, proceeding or assertion is made by a Sublicensee, the license shall only terminate with respect to the sublicense granted to such Sublicensee; *provided further* that, if such Challenge is brought by a Sublicensee, Arbutus may not so terminate this Agreement if the Company has terminated all sublicenses granted to such Sublicensee hereunder within ninety (90) days after the Company has received written notice from Arbutus of such Challenge. For the purpose of this Section, "Challenge" means any challenge to the validity or enforceability of the applicable Arbutus Patent, including by (a) filing a declaratory judgment action in which the applicable Arbutus Patent is alleged to be invalid or unenforceable, (b) becoming party to an interference with the applicable Arbutus Patent pursuant to 35 U.S.C. §135 or (c) filing or commencing any reexamination, opposition, cancellation, nullity or similar proceedings against the applicable Arbutus Patent, or petitioning for any form of administrative or judicial (or arbitration) review of the applicable Arbutus Patent, including post-grant review, inter partes review, or opposition proceedings; provided, however, that the term Challenge shall not include arguments, or any other statements or allegations, made by or on behalf of the Company, its Affiliate, or its Sublicensee that (i) distinguish the inventions claimed in patents or patent applications owned or controlled (except by virtue of this Agreement) by the Company, its Affiliate, or its Sublicensee from those claimed in the Arbutus Patents (A) in the ordinary course of ex parte prosecution of such patents or patent applications owned or controlled by the Company, its Affiliate, or its Sublicensee, including any reissue or reexamination patents or patent applications or (B) in inter partes or post grant review proceedings, oppositions, nullity proceedings, reissue proceedings, reexamination proceedings, and any other similar proceedings before the U.S. Patent & Trademark Office or other agency or tribunal in any jurisdiction, or in any arbitration or litigation, wherein such patents or patent applications owned or controlled by the Company, its Affiliate, or its Sublicensee have been challenged; or (ii) are made in connection with a response to a claim or allegation that the Company, its Affiliate, or its Sublicensee, or any of their

respective direct or indirect customers infringes or may infringe any Patents Controlled or enforceable by Arbutus, its Affiliates, or any of their respective successors or assigns. Neither the Company's, its Affiliate's, a Sublicensee's, or any of their employees' participating in or appearing in any such action, proceeding or claim as a result of receiving a subpoena or other court order requiring such participation or appearance shall give rise to a right for Arbutus to terminate as set forth in this Section 8.3.

8.4 Rights in Bankruptcy. Each Party (the "Insolvent Party") shall promptly notify the other Party (the "Solvent Party") in writing upon the initiation of any proceeding in bankruptcy, reorganization, dissolution, liquidation or arrangement for the appointment of a receiver or trustee to take possession of the assets of the Insolvent Party or similar proceeding under law for release of creditors by or against the Insolvent Party or if the Insolvent Party shall make a general assignment for the benefit of its creditors. To the extent permitted by Applicable Laws, if the applicable circumstances described above shall have continued for ninety (90) days undismissed, unstayed, unbonded and undischarged, the Solvent Party may terminate this Agreement upon written notice to the Insolvent Party at any time. If Arbutus is the Insolvent Party, the rights and remedies granted to the Company (as the Solvent Party) pursuant to this Section 8.4 shall be in addition to, and not in lieu of, the Company's rights and remedies under Section 8.6.

8.5 Consequences of Expiration; Survival. Expiration of this Agreement shall not relieve the Parties of any obligation accruing prior to or upon such expiration, and the provisions of Section 2.6, Section 2.7, Section 2.8, the second sentence of 4.3(a), the second sentence of 4.3(b), Sections 5.1, 8.3, 8.5, 8.6, 9.2–9.4, 9.6-9.15 and Article I (Definitions), Article VI

(Confidential Information and Publicity) (for the term set forth in Section 6.1), and Article VII (Indemnification) shall survive any expiration or termination of this Agreement.

8.6 Remedies. The Parties acknowledge and agree that, in the event of a breach or a threatened breach by either Party of this Agreement for which it shall have no adequate remedy at law, the other Party may suffer irreparable damage and, accordingly, may be entitled to injunctive and other equitable remedies to prevent or restrain such breach or threatened breach, in addition to any other remedy they might have at law or at equity. In the event of a breach or threatened breach by a Party of any such provision, the other Party shall be authorized and entitled to seek from any court of competent jurisdiction injunctive relief, whether preliminary or permanent, arising from such breach, which rights shall be cumulative and in addition to any other rights or remedies to which the other Party may be entitled in law or equity.

ARTICLE IX - MISCELLANEOUS

9.1 Disclaimer. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTY OR CONDITIONS OF ANY KIND, EITHER EXPRESS OR IMPLIED, TO THE OTHER PARTY WITH RESPECT TO ANY INTELLECTUAL PROPERTY, PRODUCTS, GOODS, RIGHTS OR OTHER SUBJECT MATTER OF THIS AGREEMENT AND HEREBY DISCLAIMS ALL IMPLIED CONDITIONS, REPRESENTATIONS, AND WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR VALIDITY OF PATENTS WITH RESPECT TO ANY AND ALL OF THE FOREGOING. EACH PARTY HEREBY

DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT THE DEVELOPMENT, MANUFACTURE OR COMMERCIALIZATION OF ANY PRODUCT PURSUANT TO THIS AGREEMENT SHALL BE SUCCESSFUL OR THAT ANY PARTICULAR SALES LEVEL WITH RESPECT TO ANY SUCH PRODUCT SHALL BE ACHIEVED.

9.2 Force Majeure. A Party shall neither be held liable or responsible to any other Party, nor be deemed to have defaulted under or breached this Agreement, for failure or delay in fulfilling or performing any term of this Agreement to the extent, and for so long as, such failure or delay is caused by or results from causes beyond the reasonable control of the affected Party, including fire, floods, embargoes, power shortage or failure, acts of war (whether war be declared or not), insurrections, riots, terrorism, civil commotions, strikes, lockouts or other labor disturbances, acts of God or any acts, omissions or delays in acting by any Governmental Authority or any other Party, and such affected Party promptly begins performing under this Agreement once such causes have been removed.

9.3 Consequential Damages. NO PARTY SHALL BE LIABLE TO ANY OTHER PARTY WITH RESPECT TO THIS AGREEMENT, AND THE ACTIVITIES CONTEMPLATED HEREBY, FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR SIMILAR DAMAGES, WHETHER FORESEEABLE OR UNFORESEEABLE AND REGARDLESS OF THE CAUSE OF ACTION FROM WHICH THEY ARISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OCCURRING. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS SECTION 9.3 IS INTENDED TO OR SHALL LIMIT OR RESTRICT THE INDEMNIFICATION RIGHTS OF

A PARTY OR DAMAGES AVAILABLE FOR A PARTY'S BREACH OF CONFIDENTIALITY OBLIGATIONS IN ARTICLE VI.

9.4 Assignment; Change of Control. Subject to Section 2.6, either Party may assign or transfer any of its rights and obligations hereunder without the prior written consent of the other Party; *provided*, *however*, that (i) the assigning Party shall provide the other Party with written notice of such assignment or transfer as soon as reasonably practical, in any event at least one week prior to, such assignment or transfer (or such shorter period as the Parties may agree), (ii) such assignment or transfer shall not relieve the assigning Party of its obligations hereunder, and (iii) neither Party shall, without the other Party's prior written consent, which will not be unreasonably withheld, assign any of its rights and/or obligations herein to a Competitor of the other Party who thereafter could thereby gain access to Confidential Information belonging to the other Party. This Agreement shall be binding upon and inure to the benefit of the Parties and their permitted successors and assigns.

9.5 Notices.

Notices to the Company shall be addressed to:

Genevant Sciences Ltd.
Attn:

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

Sterne, Kessler, Goldstein & Fox PLLC
1100 New York Ave NW
Washington, DC 20005
Attention: Jeremiah B. Frueauf and Bonnie Nannenga-Combs
Facsimile: (202) 371-2540

Notices to Arbutus shall be addressed to:

Arbutus Biopharma Corporation
100-8900 Glenlyon Parkway
Burnaby, B.C.
Canada V5J 5J8
Attention: President & CEO
Facsimile: (604) 630-5103

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

Orrick, Herrington & Sutcliffe LLP
51 West 52nd Street
New York, NY 10019
Attention: King Milling and Peter Rooney
Facsimile: (212) 506-5151

Any Party may change their address by giving notice to the other Parties in the manner provided in this Section 9.5. Any notice required or provided for by the terms of this Agreement shall be in writing and shall be (a) sent by certified mail, return receipt requested, postage prepaid, (b) sent via a reputable international express courier service, or (c) sent by facsimile transmission, with a copy by regular mail. The effective date of the notice shall be the actual date of receipt by the receiving party.

9.6 Independent Contractors. It is understood and agreed that the relationship between the Parties is that of independent contractors and that nothing in this Agreement shall be construed as authorization for either Party to act as the agent for the other Party.

9.7 Governing Law; Dispute Resolution.

(a) This Agreement shall be governed and interpreted in accordance with the substantive laws of the State of New York, excluding its conflicts of laws principles.

(b) The Parties recognize that a bona fide dispute as to certain matters may from time to time arise during the Term that relate to a Party's rights or obligations hereunder. In the event of the occurrence of any such dispute, the Parties shall first have such dispute referred to their respective executives designated below for attempted resolution by good faith negotiations within sixty (60) days after such notice is received. If the matter is not resolved within such sixty (60) days, either Party shall thereafter have the right to pursue any and all other remedies available at law or in equity, subject to this Section 9.7.

(c) The Parties consent to the exclusive jurisdiction of the Federal courts and the State courts of the State of New York, in each case, located in the borough of Manhattan, City of New York for any action referenced in Section 9.7(b). THE PARTIES HEREBY IRREVOCABLY WAIVE, AND AGREE TO CAUSE THEIR RESPECTIVE AFFILIATES TO WAIVE, THE RIGHT TO TRIAL BY JURY IN SUCH ACTIONS.

9.8 Severability. In the event that any provision of this Agreement is held by a court of competent jurisdiction to be unenforceable because it is invalid or in conflict with any law of the relevant jurisdiction, the validity of the remaining provisions shall not be affected and the rights and obligations of the Parties shall be construed and enforced as if the Agreement did not contain the particular provisions held to be unenforceable, provided that the Parties, shall negotiate in good faith a modification of this Agreement with a view to revising this Agreement in a manner that reflects, as closely as is reasonably practicable, the commercial terms of this Agreement as originally signed.

9.9 No Implied Waivers. The waiver by any Party of a breach or default of any provision of this Agreement by any other Party shall not be construed as a waiver of any succeeding breach of the same or any other provision, nor shall any delay or omission on the part of any Party to exercise or avail itself of any right, power or privilege that it has or may have hereunder operate as a waiver of any right, power or privilege by such Party.

9.10 Headings. The headings of articles and sections contained in this Agreement are intended solely for convenience and ease of reference and do not constitute any part of this Agreement, or have any effect on its interpretation or construction.

9.11 Entire Agreement; Amendment. This Agreement (along with the attachments), together with the Contribution Agreement, contains the entire understanding of the Parties with respect to the subject matter hereof and thereof and supersede and replace any and all previous or contemporaneous arrangements and understandings, whether oral or written, between the Parties with respect to the subject matter hereof and thereof, excluding the Mutual Non-Disclosure Agreement entered into by Arbutus and the Company on January 5, 2017, which shall survive with respect to any Confidential Information disclosed thereunder prior to the Effective Date. This Agreement (including the attachments hereto) may be amended only by a writing signed by each of the Parties.

9.12 Waiver of Rule of Construction. Each Party has had the opportunity to consult with counsel in connection with the review, drafting and negotiation of this Agreement. Accordingly, the rule of construction that any ambiguity in this Agreement shall be construed against the drafting party shall not apply.

9.13 No Third-Party Beneficiaries. Except as expressly contemplated herein, no Third Party, including any employee of either Party, shall have or acquire any rights by reason of this Agreement.

9.14 Further Assurances. Each Party shall provide such further documents or instruments required by the other Party as may be reasonably necessary or desirable to give effect to the purpose of this Agreement and carry out its provisions.

9.15 Performance by Affiliates. Either Party may use one or more of its Affiliates to perform its obligations and duties hereunder, and Affiliates of a Party are expressly granted certain rights herein; *provided* that each such Affiliate shall be bound by the corresponding obligations of such Party and the relevant Party shall remain liable hereunder for the prompt payment and performance of all their respective obligations hereunder.

9.16 Counterparts. This Agreement may be executed in any number of counterparts in original or by facsimile or PDF copy, each of which shall be deemed an original, and all of which together shall constitute one and the same instrument.

[*Signature Page Follows*]

IN WITNESS WHEREOF, authorized representatives of the Company and Arbutus have executed and delivered this Agreement effective as of the Effective Date.

GENEVANT SCIENCES LTD.

By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Mark J. Murray
Name: Mark J. Murray
Title: President and Chief Executive Officer

Portions of this exhibit indicated by bracketed asterisks have been omitted because they are not material and would cause competitive harm to Arbutus Biopharma Corporation if publicly disclosed.

Execution Copy

FIRST AMENDMENT TO CROSS LICENSE AGREEMENT

This FIRST AMENDMENT TO CROSS LICENSE AGREEMENT, dated as of June 27, 2018 (this "**Amendment**"), is entered into by and among Genevant Sciences Ltd., a Bermuda exempted limited company (the "**Company**"); Genevant Sciences GmbH, a limited liability company organized under the laws of Switzerland and a wholly owned indirect subsidiary of Company; and Arbutus Biopharma Corporation, a British Columbia corporation ("**Arbutus**").

Arbutus and the Company are sometimes referred to in this Amendment collectively as the "Parties" and individually as a "Party." Defined terms used but not otherwise defined herein shall have the meanings ascribed to such terms in the Agreement (as defined below).

WHEREAS, the Company and Arbutus previously entered into that certain Cross License Agreement, dated as of April 11, 2018 (the "**Agreement**");

WHEREAS, the Agreement is in the process of being assigned from the Company to Genevant Sciences GmbH, who shall assume all rights and obligations under the Agreement and the First Amendment upon completion of such assignment; and

WHEREAS, the Parties desire to amend certain portions of the Agreement as set forth below and in compliance with Section 9.10 of the Agreement.

NOW, THEREFORE, in consideration of the premises, the mutual covenants and agreements herein set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Amendments to Section 1.1.

(a) Section 1.1 of the Agreement is hereby amended by adding the following definitions:

(i) After "Arbutus Patents", add the following paragraph:

"'Bona Fide Collaboration' and 'Bona Fide Collaboration Products' are defined in Section 3.2(b)(iii)."

(ii) After "Marketing Authorization Approval", add the following paragraph:

"Naked Sublicense' and 'Naked Sublicense Products' are defined in Section 3.2(b)(iii)."

(iii) After "Royalty Term", add the following paragraph:

"'Royalty-Related Receipts' is defined in Section 3.2(b)(iii)."

2. Amendment to Section 3.2.

Section 3.2 of the Agreement is hereby deleted and replaced in its entirety to read as follows:

"3.2 Royalty Payments. As additional consideration of the grant of the license in Section 2.1, during the Royalty Payment Term for any approved and commercialized Product Covered by one or more Valid Claims of an Arbutus Patent, the Company shall pay to Arbutus the following amounts:

(a) a royalty ("Royalty") as follows:

(i) an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are less than [***],

(ii) an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are equal to or greater than [***] and less than [***], and

(iii) an amount equal to [***] ([***]) of aggregate Net Sales of Products in the Territory to the extent that such Net Sales are equal to or greater than [***]; or

(b) in respect of Naked Sublicense Products and Bona Fide Collaboration Products, an amount equal to the lesser of the Royalties set forth in Section 3.2(a)(i)-(iii) and:

(i) in the case of Naked Sublicense Products, twenty percent (20%) of Royalty Related Receipts, and

(ii) in the case of Bona Fide Collaboration Products, [***] ([***]) of Royalty-Related Receipts.

(iii) For purposes of this Section 3.2(b):

'Bona Fide Collaboration' means a collaboration between the Company or any of its Subsidiaries and one or more Third Parties involving Research, Development, Manufacture and/or Commercialization of one or more Products and established under a written agreement in which (a) the scope of the licenses granted, and financial or other commitments of value, are of material value to the Company and its Subsidiaries, and (b) the Company or any of its Subsidiaries undertakes and performs substantial, mutual Research, Development, Manufacturing and/or Commercialization

activity in collaboration with such Third Party. For purposes of clarity, it is understood and agreed that no collaboration in which all or substantially all of the Company's contributions or anticipated contributions are or will be in the form of the grant by the Company of sublicenses to the Licensed Intellectual Property will be considered a Bona Fide Collaboration.

'Bona Fide Collaboration Products' means Products that are Researched, Developed, Manufactured, and/or Commercialized pursuant to a Bona Fide Collaboration.

'Naked Sublicense' means a transaction in which all or substantially all of the Company's and its Subsidiaries' contributions or anticipated contributions are or will be in the form of the grant by the Company of sublicenses to the Licensed Intellectual Property.

'Naked Sublicense Products' means Products that are Researched, Developed, Manufactured, and/or Commercialized by a Third Party pursuant to a Naked Sublicense.

'Royalty-Related Receipts' means the amounts received by the Company or its Subsidiaries pursuant to a Naked Sublicense or Bona Fide Collaboration, either (i) in the form of royalties, shared profits, co-promotion revenues or alliance revenues in respect of sales or other dispositions of any Naked Sublicense Product or Bona Fide Collaboration Product, as the case may be, or (ii) if the Company books sales of Product, the Net Sales by the Company and its Subsidiaries in respect of such Product. For further clarity, Royalty-Related Receipts shall be considered Royalties for all purposes of this Agreement other than Section 3.2(a) and this Section 3.2(b).

(c) Following expiry of the Royalty Payment Term in respect of any Product or country (i) the licenses granted to the Company with respect to such Product and country become fully paid-up, sublicensable (subject to Section 2.3), royalty-free, exclusive, transferable, perpetual and irrevocable licenses and (ii) the obligation of the Company to pay any Royalty with respect to sales of Products in such country shall terminate. Without limiting the definition of the Royalty Payment Term, it shall be deemed to expire upon the expiration of all Valid Claims of Patents within the Licensed Intellectual Property that exist in such country. Except as specifically provided in this Section 3.2, the Royalties due and payable under this Section 3.2 shall not be subject to any reduction or offset."

4. Miscellaneous. The provisions of Article IX of the Agreement shall apply to this Amendment *mutatis mutandis*.

5. Effectiveness. This Amendment shall be deemed effective as of the date hereof. Except as expressly amended hereby, the Agreement shall remain in full force and effect and shall be

otherwise unaffected hereby. In the event any provision of this Amendment shall in any way conflict with the provisions of the Agreement, this Amendment shall control.

[*Remainder of page intentionally blank; signature pages follow*]

Execution Copy

IN WITNESS WHEREOF, the Parties have caused this Amendment to be duly executed on their own behalf or by their respective officers thereunto duly authorized, all as of the date first above written.

GENEVANT SCIENCES LTD.
By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

GENEVANT SCIENCES GmbH
By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

By: /s/ Sascha Bucher
Name: Sascha Bucher
Title: Head of Global Transactions

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Mark J. Murray
Name: Mark J. Murray
Title: President and CEO

Execution Copy
Date of June 27, 2018 inserted by:

/s/ Constantine Linnik
Name: Constantine Linnik
Title: General Counsel, Genevant Sciences, Inc.

Portions of this exhibit indicated by bracketed asterisks have been omitted because they are not material and would cause competitive harm to Arbutus Biopharma Corporation if publicly disclosed.

SECOND AMENDMENT TO CROSS LICENSE AGREEMENT

This SECOND AMENDMENT TO CROSS LICENSE AGREEMENT, dated as of June 27 2018 (this "**Amendment**"), is entered into by and among Genevant Sciences Ltd., a Bermuda exempted limited company (the "**Company**"); Genevant Sciences GmbH, a limited liability company organized under the laws of Switzerland and a wholly owned indirect subsidiary of Company; and Arbutus Biopharma Corporation, a British Columbia corporation ("**Arbutus**"). Arbutus and the Company are sometimes referred to in this Amendment collectively as the "Parties" and individually as a "Party." Defined terms used but not otherwise defined herein shall have the meanings ascribed to such terms in the Agreement (as defined below).

WHEREAS, the Company and Arbutus previously entered into that certain Cross License Agreement, dated as of April 11, 2018, as amended pursuant to the First Amendment thereto, dated as of the date hereof (as so amended, the "**Agreement**"); and

WHEREAS, the Parties desire to amend certain portions of the Agreement as set forth below and in compliance with Section 9.10 of the Agreement.

NOW, THEREFORE, in consideration of the premises, the mutual covenants and agreements herein set forth and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

1. Amendments to Section 1.1.

(a) Section 1.1 of the Agreement is hereby amended by adding the following definitions:

(i) After "Arbutus Patents", add the following paragraph:

"Arbutus Royalty Patents" is defined in Section 5.2(b)(i).

(ii) After "Company Indemnitees" add the following paragraph:

"Company Royalty Patents" is defined in Section 5.2(b)(i).

(iii) After "Marketing Authorization Approval" add the following paragraph:

[***].

2. Amendments to Section 5.2

(i) Section 5.2(b) of the Agreement is hereby deleted and replaced in its entirety to read as follows:

"(b) Notwithstanding the provisions of Section 5.2(a) above, a certain subset of the Arbutus Patents shall be subject to the following:

(i) The Parties agree that the following Arbutus Patents shall be subject to the terms of this Section 5.2(b) (hereafter the "Royalty Patents"): (A) [***]; (B) [***]; (C) [***]; (D) [***]; (E) [***]; (F) [***]; and (G) all patents and patent applications claiming benefit of priority of any of the patents described in clauses (A) through (F) above. 'Arbutus Royalty Patents' means the Patents described in clause (A) of the definition of Royalty Patents above, and all patents and applications claiming benefit of priority of any Patent described in the aforesaid clause (A). 'Company Royalty Patents' means the Patents described in clauses (B), (C), (D), (E), and (F) of the definition of Royalty Patents above, and all patents and applications claiming benefit of priority thereof.

(ii) Rights and responsibilities for prosecution and maintenance of the Royalty Patents shall be subject to the following:

(1) The Company shall have the right and responsibility at its sole cost and expense with input from Arbutus, to file, prosecute, maintain or abandon patent protection, in the Territory for the Company Royalty Patents. The Company (or the Company's authorized attorneys, agents or representatives) shall proactively communicate to Arbutus any action and/or proposed strategy related to filing, prosecuting, or abandoning patent protection in the Territory for any patent or application that is a Company Royalty Patent (collectively, the "Company Contemplated Actions"). Arbutus shall have the right to propose Company Contemplated Actions to the Company and the Company shall consider in good faith, and shall not unreasonably reject any such proposed Company Contemplated Action proposed by Arbutus.

(2) Arbutus shall have the right and responsibility at its sole cost and expense with input from the Company, to file, prosecute, maintain or abandon patent protection in the Territory for the Arbutus Royalty Patents.

(3) Arbutus shall notify the Company if (i) any Company Contemplated Action related to a Company Royalty Patent, or (ii) the failure to pursue any Company Contemplated Action proposed by Arbutus related to a Company Royalty Patent, could reasonably

be considered to put the Patisiran royalty in jeopardy. Arbutus shall offer its comments or proposals with respect to any Company Contemplated Action, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals. The Company shall make commercially reasonable efforts to work collaboratively with Arbutus to develop a mutually agreeable strategy for how to proceed with the Company Contemplated Action and prior to taking or failing to take any Company Contemplated Action that Arbutus determines could have a material impact on Arbutus' interest, the Company shall provide to Arbutus prior notice and a reasonable opportunity to comment on such Company Contemplated Action. In keeping with the above, the Company shall have the final decision making authority with respect to any Company Contemplated actions for the Company Royalty Patents.

(4) Arbutus (or Arbutus' authorized attorneys, agents or representatives) shall proactively communicate to Company any action and/or proposed strategy related to filing, prosecuting, or abandoning patent protection in the Territory for any patent or application that is an Arbutus Royalty Patent (collectively, the "Arbutus Contemplated Actions"). Company shall have the right to propose Arbutus Contemplated Actions to Arbutus and Arbutus shall consider in good faith, and shall not unreasonably reject any such proposed Arbutus Contemplated Action proposed by Company.

(5) The Company shall offer its comments or proposals with respect to any Arbutus Contemplated Action, if any, promptly, and Arbutus shall not unreasonably reject any such comments and proposals. Arbutus shall make commercially reasonable efforts to work collaboratively with the Company to develop a mutually agreeable strategy for how to proceed with the Arbutus Contemplated Actions and prior to taking or failing to take any Arbutus Contemplated Action that the Company determines could have a material impact on the Company' interest, Arbutus shall provide to the Company prior notice and a reasonable opportunity to comment on such Arbutus Contemplated Action. In keeping with the above, Arbutus shall have the final decision making authority with respect to any Arbutus Contemplated Actions for the Arbutus Royalty Patents.

(6) In the event that the Company desires to abandon, withdraw or otherwise discontinue the maintenance or prosecution of any of the Company Royalty Patents, the Company shall provide reasonable

prior written notice to Arbutus of such intention (which notice shall, in any event, be given no later than thirty (30) days prior to the next deadline for any action that may be taken with respect to such Patents with the applicable patent office) and Arbutus shall have the right, but not the obligation, to assume, at its sole cost and expense, responsibility for the prosecution and maintenance thereof. (iii) Notwithstanding the provisions of Sections 5.2(a), 5.2(b)(i) and 5.2(b)(ii) above and with the exception of patent office proceedings under Sections 5.2(b)(iv) and (v), Arbutus shall have the right and responsibility, at its sole cost and expense, to prosecute and maintain: (A) all IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory that arise with respect to any Arbutus Royalty Patents (if any); (B) all appeals of any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory with respect to the Arbutus Royalty Patents; and (C) (all other challenges to the validity or enforceability of the Arbutus Royalty Patents in any other administrative, judicial or arbitral proceeding (collectively "Arbutus Royalty Patent Challenges"). Arbutus shall select legal counsel to participate in such Arbutus Royalty Patent Challenge, provided that, Arbutus shall use reasonable efforts to select legal counsel that the Parties mutually agree upon. Arbutus shall provide the Company with copies of all official actions, material filings, or responses received from, or to be made to, the patent authorities with respect to any Arbutus Royalty Patent Challenge, in sufficient time to allow for review and comment by the Company. The Company shall offer its comments or proposals, if any, promptly, and Arbutus shall not unreasonably reject any such comments and proposals. Arbutus shall work collaboratively with the Company to develop a mutually agreeable strategy for prosecuting and defending any Arbutus Royalty Patent Challenge. Notwithstanding the above, Arbutus shall have final decision-making authority on Arbutus Royalty Patent Challenges.

(iv) Notwithstanding the provisions of Sections 5.2(a), 5.2(b)(i) through 5.2(b)(iii) above, the Company shall have the right and responsibility, at its sole cost and expense, to prosecute and maintain: (A) all IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory that arise with respect to any Company Royalty Patents; (B) all appeals of any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory with respect to the Company Royalty Patents; and (C) all

other challenges to the validity or enforceability of the Company Royalty Patents in any other administrative, judicial or arbitral proceeding (collectively "Company Royalty Patent Challenges"). The Company shall select legal counsel to participate in such Company Royalty Patent Challenges, provided that, the Company shall use reasonable efforts to select legal counsel that the Parties mutually agree upon. The Company shall provide Arbutus with copies of all official actions, material filings, or responses received from, or to be made to, the patent authorities with respect to any Company Royalty Patent Challenge, in sufficient time to allow for review and comment by Arbutus. Arbutus shall offer its comments or proposals, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals. The Company shall work collaboratively with Arbutus to develop a mutually agreeable strategy for prosecuting and defending any Company Royalty Patent Challenge. Notwithstanding the above, the Company shall have final decision-making authority on Company Royalty Patent Challenges.

(v) The Company shall have final decision making authority with respect to any IPRs, post-grant, opposition proceedings, administrative proceedings, or any similar patent office proceedings challenging the validity or enforceability of any Company Royalty Patent that arises in response to a Third Party Infringement Action initiated or threatened by the Company, provided that, in the course of any such patent office proceedings, the Company shall be obligated to comply with all the requirements of consultation and cooperation imposed by Section 5.2(b)(iv) above.

(vi) If Patisiran development and/or commercialization is discontinued such that Arbutus determines that there is no Patisiran royalty in the Territory, the Company shall have the sole right and responsibility at its sole cost and expense, to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings and any similar patent office proceedings in such Territory and to appeal any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory for all Royalty Patents under Section 5.2(a) without the limitations of Section 5.2(b)."

3. Amendment to Section 5.3

(i) Section 5.3(b) of the Agreement is hereby deleted and replaced in its entirety to read as follows:

"(b) With the exception of the Arbutus Royalty Patents, the Company shall have the right to initiate and maintain an infringement or other appropriate suit with respect to infringement or suspected infringements of any of the Joint IP Patents and/or Arbutus Patents by a Third Party as such infringement relates to the Research, Development,

Manufacture, or Commercialization of a Product, or take such other actions as the Company, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements, all at the Company's sole cost and expense, as applicable.

4. Miscellaneous. The provisions of Article IX of the Agreement shall apply to this Amendment *mutatis mutandis*.

5. Effectiveness. This Amendment shall be deemed effective as of the date hereof. Except as expressly amended hereby, the Agreement shall remain in full force and effect and shall be and comment by Arbutus. Arbutus shall offer its comments or proposals, if any, promptly, and the Company shall not unreasonably reject any such comments and proposals. The Company shall work collaboratively with Arbutus to develop a mutually agreeable strategy for prosecuting and defending any Company Royalty Patent Challenge. Notwithstanding the above, the Company shall have final decision-making authority on Company Royalty Patent Challenges.

(v) The Company shall have final decision making authority with respect to any IPRs, post-grant, opposition proceedings, administrative proceedings, or any similar patent office proceedings challenging the validity or enforceability of any Company Royalty Patent that arises in response to a Third Party Infringement Action initiated or threatened by the Company, provided that, in the course of any such patent office proceedings, the Company shall be obligated to comply with all the requirements of consultation and cooperation imposed by Section 5.2(b)(iv) above.

(vi) If Patisiran development and/or commercialization is discontinued such that Arbutus determines that there is no Patisiran royalty in the Territory, the Company shall have the sole right and responsibility at its sole cost and expense, to file, prosecute, maintain or abandon patent protection, post-grant review, inter partes review, or opposition proceedings and any similar patent office proceedings in such Territory and to appeal any decisions rendered with respect to any such IPRs, post-grant review, opposition proceedings, administrative proceedings, and any similar patent office proceedings in the Territory for all Royalty Patents under Section 5.2(a) without the limitations of Section 5.2(b)."

3. Amendment to Section 5.3

(i) Section 5.3(b) of the Agreement is hereby deleted and replaced in its entirety to read as follows:

"(b) With the exception of the Arbutus Royalty Patents, the Company shall have the right to initiate and maintain an infringement or other appropriate suit with respect to infringement or suspected infringements of any of the Joint IP Patents and/or Arbutus Patents by a Third Party as such infringement relates to the Research, Development, Manufacture, or Commercialization of a Product, or take such other actions as the Company, in its sole discretion, deems appropriate with respect to such infringements or suspected infringements, all at the Company's sole cost and expense, as applicable.

4. Miscellaneous. The provisions of Article IX of the Agreement shall apply to this Amendment *mutatis mutandis*.

5. Effectiveness. This Amendment shall be deemed effective as of the date hereof. Except as expressly amended hereby, the Agreement shall remain in full force and effect and shall be otherwise unaffected hereby. In the event any provision of this Amendment shall in any way conflict with the provisions of the Agreement, this Amendment shall control.

[*Remainder of page intentionally blank; signature pages follow*]

IN WITNESS WHEREOF, the Parties have caused this Amendment to be duly executed on their own behalf or by their respective officers thereunto duly authorized, all as of the date first above written.

GENEVANT SCIENCES LTD.

By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

By: /s/ Marianne L. Romeo
Name: Marianne L. Romeo
Title: Head, Global Transactions & Risk Management

GENEVANT SCIENCES GmbH

By: /s/ Sascha Bucher
Name: Sascha Bucher
Title: Head of Global Transactions

By: /s/ Sascha Bucher
Name: Sascha Bucher
Title: Head of Global Transactions

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Mark J. Murray
Name: Mark J. Murray
Title: President and CEO

By: /s/ Mark J. Murray
Name: Mark J. Murray
Title: President and CEO

Execution Copy
Date of June 27, 2018 inserted by:

/s/ Constantine Linnik

Name: Constantine Linnik
Title: General Counsel,
Genevant Sciences, Inc.

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 7, 2020

/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 7, 2020

/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, 2020, 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 7, 2020

/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, 2020, 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 7, 2020

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