UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-Q

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

For the quarterly period ended **March 31, 2019**

OR

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

For the Transition Period from to

Commission File Number: **001-34949**

ARBUTUS BIOPHARMA CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

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

701 Veterans Circle, Warminster, PA 18974

(Address of Principal Executive Offices and Zip Code)

604-419-3200

(Registrant's Telephone Number, Including Area Code)

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

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

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

Large accelerated filer [ ]	Accelerated filer [X]	Non-accelerated filer [ ]	Smaller reporting company [X]	Emerging growth company [ ]

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

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

Yes [ ] No [X]

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, no par value	ABUS	The Nasdaq Stock Market LLC

As of April 30, 2019, the registrant had 56,850,172 common shares, no par value, outstanding.

ARBUTUS BIOPHARMA CORP.

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ITEM 1. FINANCIAL STATEMENTS (UNAUDITED)

ARBUTUS BIOPHARMA CORPORATION

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

(Prepared in accordance with US GAAP)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents (note 3)	**$ 83,969**	$ 36,942
Short-term investments (note 3)	**26,621**	87,675
Accounts receivable	**923**	1,431
Investment tax credits receivable	**291**	389
Prepaid expenses and other assets	**682**	2,792
Total current assets	**112,486**	129,229
Investment in Genevant (note 4)	**17,675**	22,224
Property and equipment, net of accumulated depreciation ($7,405) (2018-($6,896))	**9,667**	10,145
Right of use asset (note 8)	**3,081**	—
Intangible assets (note 5)	**43,836**	43,836
Goodwill (note 5)	**22,471**	22,471
Total assets	**$ 209,216**	$ 227,905
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable and accrued liabilities (note 6)	**$ 6,828**	$ 9,429
Site consolidation accrual (note 7)	**982**	1,331
Liability-classified options (note 3)	**414**	479
Lease liability, current (note 8)	**599**	—
Total current liabilities	**8,823**	11,239
Deferred rent and inducements, non-current	**—**	645
Contingent consideration (notes 3 and 11)	**3,251**	3,126
Lease liability, non-current (note 8)	**3,272**	—
Deferred tax liability	**12,661**	12,661
Total liabilities	**28,007**	27,671
Stockholders' equity:		
Preferred shares (note 9)		
Authorized - 1,164,000 with no par value		
Issued and outstanding: 1,164,000 (December 31, 2018 - 1,164,000)	**128,851**	126,136
Common shares		
Authorized - unlimited number with no par value		
Issued and outstanding: 56,255,816 (December 31, 2018 - 55,518,800)	**882,143**	879,405
Additional paid-in capital	**49,594**	48,084
Deficit	**(831,187)**	(805,221)
Accumulated other comprehensive loss	**(48,192)**	(48,170)
Total stockholders' equity	**181,209**	200,234
Total liabilities and stockholders' equity	**$ 209,216**	$ 227,905

Nature of business and future operations (note 1)
Contingencies and commitments (note 11)
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See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Operations
(Unaudited)

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

	Three months ended March 31,	
	2019	2018
Revenue (note 10)	**$ 679**	$ 1,436
Expenses		
Research, development, collaborations and contracts	**14,712**	13,949
General and administrative	**4,412**	3,669
Depreciation	**509**	602
Site consolidation (note 7)	**117**	1,621
Total expenses	**19,750**	19,841
Loss from operations	**(19,071)**	(18,405)
Other income (loss)		
Interest income	**600**	758
Interest expense	**(12)**	(104)
Foreign exchange gain (loss)	**8**	(526)
Equity investment (loss) (note 4)	**(4,651)**	—
Decrease (increase) in fair value of contingent consideration (notes 3 and 10)	**(125)**	848
Total other income (loss)	**(4,180)**	976
Net loss	**$ (23,251)**	$ (17,429)
Items applicable to preferred shares:		
Accrual of coupon on convertible preferred shares	**(2,715)**	(2,336)
Net loss attributable to common shares	**$ (25,966)**	$ (19,765)
Net loss attributable to common shareholders, per share (note 2)		
Basic and diluted	**$ (0.47)**	$ (0.36)
Weighted average number of common shares		
Basic and diluted	**55,740,121**	55,071,964

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Comprehensive Loss
(Unaudited)

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

	Three months ended March 31,	
	2019	2018
Net loss	**$ (23,251)**	$ (17,429)
Other comprehensive loss:		
Share of other comprehensive loss of equity method investment (note 4)	**(22)**	—
Comprehensive loss	**$ (23,273)**	$ (17,429)

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

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

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

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

See accompanying notes to the condensed consolidated financial statements.

ARBUTUS BIOPHARMA CORPORATION

Condensed Consolidated Statements of Cash Flow
(Unaudited)

(Expressed in thousands of U.S. dollars)

(Prepared in accordance with US GAAP)

	Three months ended March 31,	
	2019	2018
OPERATING ACTIVITIES		
Net loss for the period	**$ (23,251)**	$ (17,429)
Items not involving cash:		
Depreciation of property and equipment	**509**	602
Gain on sale of property and equipment	**(9)**	—
Stock-based compensation expense	**1,522**	955
Unrealized foreign exchange (gains) losses	**(38)**	565
Change in fair value of contingent consideration	**125**	(848)
Equity investment loss	**4,651**	—
Net change in non-cash operating items:		
Accounts receivable	**508**	(317)
Investment tax credits receivable	**98**	(2)
Prepaid expenses and other assets	**2,110**	687
Other assets	**167**	—
Accounts payable and accrued liabilities	**(2,746)**	(4,187)
Deferred revenue	**—**	(1,022)
Site consolidation accrual	**(139)**	1,029
Other liabilities	**(87)**	—
Net cash used in operating activities	**(16,580)**	(19,967)
INVESTING ACTIVITIES		
Acquisition of short-term investments	**—**	(75,418)
Disposition of short-term investments	**61,055**	—
Proceeds from sale of property and equipment	**9**	—
Acquisition of property and equipment	**(31)**	(248)
Net cash provided by (used) in investing activities	**61,033**	(75,666)
FINANCING ACTIVITIES		
Promissory note repayment	**—**	(12,001)
Issuance of common shares pursuant to the Open Market Sale Agreement	**2,248**	66,265
Issuance of common shares pursuant to exercise of options	**288**	103
Net cash provided by financing activities	**2,536**	54,367
Effect of foreign exchange rate changes on cash and cash equivalents	**38**	(565)
Increase (Decrease) in cash, cash equivalents, and restricted investment	**47,027**	(41,831)
Cash, cash equivalents, and restricted investment, beginning of period	**36,942**	54,292
Cash, cash equivalents, and restricted investment, end of period	**$ 83,969**	$ 12,461
Supplemental cash flow information		
Non-cash transactions:		
Preferred shares dividends accrued (note 9)	**$ 2,715**	$ 2,336

See accompanying notes to the condensed consolidated financial statements.

1. Nature of business and future operations

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

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

2. Significant accounting policies

Basis of presentation

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

Principles of consolidation

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

Income or loss per share

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

Net loss attributable to common shareholders per share is calculated based on the weighted average number of common shares outstanding. Diluted net loss attributable to common shareholders per share does not differ from basic net loss attributable to common shareholders per share since the effect of the Company’s stock options was anti-dilutive. During the three months

ended March 31, 2019, potential common shares of approximately 26 million (three months ended March 31, 2018 – approximately 22 million), consisting of the as-if converted number of Preferred Shares and outstanding stock options, were excluded from the calculation of net loss per common share because their inclusion would be anti-dilutive.

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

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

	Three months ended March 31, 2019		Three months ended March 31, 2018	
Numerator:	**Common Shares**	**Preferred Shares**	**Common Shares**	**Preferred Shares**
Allocation of distributable earnings	$ —	$ 2,715	$ —	$ 2,336
Allocation of undistributed loss	(25,966)	—	(19,765)	—
Allocation of income (loss) attributed to shareholders	$ (25,966)	$ 2,715	$ (19,765)	$ 2,336
Denominator:				
Weighted average number of shares - basic and diluted	55,740,121	1,164,000	55,071,964	1,075,467
Basic and diluted net income (loss) attributable to shareholders per share	$ (0.47)	$ 2.33	$ (0.36)	$ 2.17

Equity method investment

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

Revenue recognition

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

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

In contracts where the Company has more than one performance obligation to provide its customer with goods or services, each performance obligation is evaluated to determine whether it is distinct based on whether (i) the customer can benefit from the good or service either on its own or together with other resources that are readily available and (ii) the good or service is separately identifiable from other promises in the contract. The consideration under the contract is then allocated between the distinct performance obligations based on their respective relative stand-alone selling prices. The estimated stand-alone selling

price of each deliverable reflects the Company's best estimate of what the selling price would be if the deliverable was regularly sold on a stand-alone basis and is determined by reference to market rates for the good or service when sold to others or by using an adjusted market assessment approach if the selling price on a stand-alone basis is not available.

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

Recent accounting pronouncements

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

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

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

3. Fair value of financial instruments

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

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

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

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

	Level 1	Level 2	Level 3	March 31, 2019
Assets				
Cash and cash equivalents	$ 83,969	—	—	$ 83,969
Short-term investments	26,621	—	—	26,621
Total	$ 110,590	$ —	$ —	$ 110,590
Liabilities				
Liability-classified options	—	—	$ 414	$ 414
Contingent consideration	—	—	3,251	3,251
Total	$ —	$ —	$ 3,665	$ 3,665

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

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

	Liability at beginning of the period	Fair value of liability-classified options exercised in the period	Decrease in fair value of liability	Liability at end of the period
Three months ended March 31, 2018	$ 1,239	$ —	$ (51)	$ 1,188
Three months ended March 31, 2019	$ 479	$ —	$ (65)	$ 414

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

	Liability at beginning of the period	Increase (decrease) in fair value of Contingent Consideration	Liability at end of the period
Three months ended March 31, 2018	$ 10,424	$ (848)	$ 9,576
Three months ended March 31, 2019	$ 3,126	$ 125	$ 3,251

4. Equity method investment

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

Under the terms of the agreement, Roivant contributed $37.5 million in seed capital to Genevant. The Company retained all rights to its LNP and conjugate delivery platforms for HBV, and is entitled to a tiered low single-digit royalty from Genevant on future sales of products enabled by the delivery platforms licensed to Genevant. The Company also retained the entirety of its royalty entitlement on the commercialization of Alnylam Pharmaceuticals Inc.'s ("Alnylam") Onpattro™ (Patisiran/ALN-TTR02).

As of March 31, 2019, the Company held an equity interest of approximately 40% of the common equity of Genevant and accounts for its interest in Genevant using the equity method. The carrying value of the Company's interest in Genevant as of March 31, 2019 was $17.7 million. The basis difference between the Company's carrying value in Genevant and the Company's share of Genevant's net assets is attributed primarily to indefinite-lived in-process research and development ("IPR&D") (the delivery technology transferred to Genevant). For the three months ended March 31, 2019, the Company recorded equity investment losses of $4.7 million for its proportionate share of Genevant's net loss, recorded on a one-quarter lag basis.

5. Intangible assets and goodwill

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

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

6. Accounts payable and accrued liabilities

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

	March 31, 2019	December 31, 2018
Trade accounts payable	**$ 2,344**	$ 3,192
Research and development accruals	**3,220**	2,716
Professional fee accruals	**491**	871
Payroll accruals	**773**	2,341
Other accrued liabilities	**—**	309
Total accounts payable and accrued liabilities	**$ 6,828**	$ 9,429

7. Site consolidation

In 2018, the Company substantially completed a site consolidation and organizational restructuring to align its HBV business in Warminster, PA, including a reduction of its global workforce by approximately 35% and closure of its Burnaby facility. The Company estimates that the total expenses to complete the site consolidation will be approximately $5.3 million, of which $4.9 million has been incurred as of March 31, 2019. Included in the site consolidation plan was the payment of one-time employee termination benefits, employee relocation costs, and site closure costs. The Company ceased using its Burnaby facility as of June 30, 2018 and recognized the remaining committed cost, less sublease income under contract, in site consolidation expenses in 2018.

Site consolidation expenses were as follows, in thousands:

	Three months ended March 31,	
	2019	**2018**
Employee severance and relocation	**$ 77**	$ 1,621
Facility and other expenses	**40**	—
Total site consolidation expenses	**$ 117**	$ 1,621

Site consolidation activity was as follows, in thousands:

	Employee severance and relocation	**Facility and other expenses**	**Total**
Site consolidation accrual as of December 31, 2018	$ 697	$ 634	$ 1,331
Additional accruals	77	40	117
Payments and adjustments	(205)	(261)	(466)
Site consolidation accrual as of March 31, 2019	**$ 569**	**$ 413**	**$ 982**

8. Leases

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

The Company adopted the new lease standard (Topic 842) on January 1, 2019 using the modified retrospective basis applied at the effective date of the new standard and elected to utilize a package of practical expedients. Leases with an initial term of 12 months or less are not recorded on the balance sheet. The Company determines if an arrangement is a lease at inception. Right-of-use assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent the Company's obligation to make lease payments arising from the lease. Operating lease right-of-use assets and lease liabilities are recognized based on the present value of lease payments over the lease term. The leases do not provide an implicit rate so, in determining the present value of lease payments, the Company utilized its incremental borrowing rate, which was 9.0% for the 701 Veterans Circle lease, 7.6% for the 626 Jacksonville Rd. lease and 5.0% for the Burnaby lease. The Company recognizes lease expense on a straight-line basis over the remaining lease term.

During the three months ended March 31, 2019, the Company incurred total operating lease expenses of $0.4 million, which included lease expenses associated with fixed lease payments of $0.3 million, and variable payments associated with common area maintenance and similar expenses of $0.1 million. For the period ended March 31, 2018, the straight-line fixed expense for leases was $0.3 million. Sublease income for the three months ended March 31, 2019 was $0.1 million (nil in 2018).

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

	As of March 31, 2019
Weighted average remaining lease term	**7.2**
Weighted average discount rate	**8.7%**

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

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

	Three months ended March 31,	
	2019	**2018**
Cash paid for amounts included in the measurement of lease liabilities	**$ 312**	$ —
Right-of-use assets obtained in exchange for lease obligations	**$ 3,248**	$ —

Maturities of lease liabilities were as follows, in thousands:

	As of March 31, 2019
April through December 2019	$ 745
2020	657
2021	677
2022	581
2023	598
Thereafter	2,038
Total Lease Payments	$ 5,296
Less: interest	(1,425)
Present value of lease payments	**$ 3,871**

9. Stockholders' equity and stock-based compensation

Open Market Sale Agreement

In December 2018, the Company entered into an Open Market Sale Agreement ("Sale Agreement") with Jefferies LLC, under which it may issue and sell common shares, from time to time, for an aggregate sales price of up to $50.0 million. The Company did not sell any shares under the Sale Agreement during 2018. For the three months ended March 31, 2019, the Company issued 614,401 common shares pursuant to the Sale Agreement, resulting in gross proceeds of approximately $2.7 million.

Series A participating convertible preferred shares

In October 2017, the Company entered into a subscription agreement with Roivant for the sale of 1,164,000 Preferred Shares to Roivant for gross proceeds of $116.4 million. The Preferred Shares are non-voting and are convertible into common shares at an initial conversion price of $7.13 per share. The purchase price for the Preferred Shares plus an amount equal to 8.75% per annum, compounded annually, will be subject to mandatory conversion into approximately 23 million common shares on October 16, 2021 (subject to limited exceptions in the event of certain fundamental corporate transactions relating to Arbutus' capital structure or assets, which would permit earlier conversion at Roivant's option). After conversion of the Preferred Shares into common shares, based on the number of common shares outstanding on March 31, 2019, Roivant would hold approximately 49% of the Company's common shares. Roivant agreed to a four year lock-up period for this investment and its existing holdings in the Company. Roivant also agreed to a four year standstill whereby Roivant will not acquire greater than 49.99% of the Company's common shares or securities convertible into common shares. The initial investment of $50.0 million closed in October 2017, and the remaining amount of $66.4 million closed in January 2018 following regulatory and shareholder approvals.

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

10. Collaborations, contracts and licensing agreements

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

In 2012, the Company entered into a license agreement with Alnylam that entitles Alnylam to develop and commercialize products with the Company's LNP technology. Alnylam's Onpattro™ program, which represents the most clinically advanced application of LNP technology, was approved by the U.S. Food and Drug Administration ("FDA") and the European Medicines Agency ("EMA") during the third quarter of 2018 and was launched immediately upon approval in the US. The Company is entitled to tiered low to mid single-digit royalty payments on net sales of Onpattro™ and received its first royalty payment in the fourth quarter of 2018.

Revenue for the three months ended March 31, 2019 consists primarily of royalties on net sales of Alnylam's Onpattro™, as well as royalties on net sales of Spectrum Pharmaceuticals, Inc.'s ("Spectrum") Marqibo® and services provided to Gritstone Oncology, Inc. ("Gritstone"). Revenue for the three months ended March 31, 2018 consisted primarily of revenue earned under our license agreement with Gritsone, including the earned portion of an upfront license fee and services provided to Gritstone.

11. 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 $7,179,000 (C$9,256,000). As at March 31, 2019, a cumulative contribution of $2,773,000 (C$3,668,000) had been received and the Company does not expect any further funding under this agreement. 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-siRNA 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 from Spectrum for licensing Marqibo®. For the three months ended March 31, 2019, the Company earned royalties on Marqibo® sales in the amount of $31,000 (three months ended March 31, 2018 – $22,000) resulting in $1,000 being recorded by the Company as royalty payable to TPC (March 31, 2018 -$1,000). The cumulative amount paid or accrued as of March 31, 2019 was $26,000, therefore the remaining contingent amount due to TPC is $2,747,000 (C$3,668,000).

Arbitration with the University of British Columbia

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

On November 10, 2014, UBC filed a notice of arbitration against the Company and on January 16, 2015, filed a Statement of Claim, which alleges entitlement to $3,500,000 in allegedly unpaid royalties based on publicly available information, and an unspecified amount based on non-public information. UBC also seeks interest and costs, including legal fees. The Company filed its Statement of Defense to UBC's Statement of Claims, as well as a Counterclaim involving a patent application that the Company alleges UBC wrongly licensed to a third party. The proceedings have been divided into three phases, with the first hearing taking place in June 2017. In the first phase, the arbitrator determined which agreements are sublicense agreements within UBC's claim. Also in the first phase, UBC updated its alleged entitlement from $3,500,000 originally claimed to seek $10,900,000 in alleged unpaid royalties, plus interest arising from payments as early as 2008. No finding was made as to whether any licensing fees are due to UBC under these agreements; this was the subject of the second phase of arbitration that took place from April 10, 2019 to April 16, 2019. The decision for this phase of the arbitration is expected in the second half of 2019. The arbitrator also held in the first phase of the arbitration that the patent application that is the subject of the Counterclaim was not required to be licensed to Arbutus. A schedule for the third phase of the arbitration has not yet been set.

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

License Agreements between Enantigen and Blumberg and Drexel

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

Under the stock purchase agreement, Arbutus Inc. agreed to pay up to a total of $21,000,000 to Enantigen’s selling shareholders upon the achievement of specified development and regulatory milestones for (a) the first two products that contain either a capsid compound or an HBV surface antigen compound that is covered by a patent acquired under this agreement, or (b) a capsid compound from an agreed upon list of compounds. The amount paid could be up to an additional $102.5 million in sales performance milestones in connection with the sale of the first commercialized product by Arbutus Inc. for the treatment of HBV, regardless of whether such product is based upon assets acquired under this agreement, and a low single-digit royalty on net sales of such first commercialized HBV product, up to a maximum royalty payment of $1.0 million that, if paid, would be offset against Arbutus Inc.'s milestone payment obligations. The contingent consideration for this acquisition is a financial liability and measured at its fair value at each reporting period, with any changes in fair value from the previous reporting period recorded in the statement of operations and comprehensive loss (see note 2).

Under the stock purchase agreement, Enantigen must also fulfill its obligations as they relate to the three patent license agreements with The Baruch S. Blumberg Institute ("Blumberg") and Drexel University ("Drexel"). Pursuant to each patent license agreement, Enantigen is obligated to pay Blumberg and Drexel up to approximately $500,000 in development and regulatory milestones per licensed product, royalties in the low single-digits, and a percentage of revenue it receives from its sub-licensees.

The Baruch S. Blumberg Institute and Drexel University

In February 2014, Arbutus Inc. entered into a license agreement with Blumberg and Drexel that granted an exclusive (except as to certain know-how and subject to retained non-commercial research rights), worldwide, sub-licensable license to three different compound series: cccDNA formation inhibitors, capsid assembly inhibitors and hepatocellular carcinoma inhibitors. During 2018, the Company returned rights to the cccDNA formation inhibitors and hepatocellular carcinoma inhibitors to Blumberg.

In partial consideration for this license, Arbutus Inc. paid a license initiation fee of $150,000 and issued warrants to Blumberg and Drexel. The warrants were subsequently exercised in 2014. Under this license agreement, Arbutus Inc. also agreed to pay

up to $3,500,000 in development and regulatory milestones per licensed compound series, up to $92,500,000 in sales performance milestones per licensed product, and royalties in the mid-single digits based upon the proportionate net sales of licensed products in any commercialized combination. The Company is obligated to pay Blumberg and Drexel a double-digit percentage of all amounts received from the sub-licensees, subject to customary exclusions.

In November 2014, Arbutus Inc. entered into an additional license agreement with Blumberg and Drexel pursuant to which it received an exclusive (subject to retained non-commercial research rights), worldwide, sub-licensable license under specified patents and know-how controlled by Blumberg and Drexel covering epigenetic modifiers of cccDNA and stimulator of interferon genes ("STING") agonists. During 2018, the Company returned rights to the epigenetic modifiers of cccDNA and STING agonists to Blumberg. In consideration for these exclusive licenses, Arbutus Inc. made an upfront payment of $50,000.

Research Collaboration and Funding Agreement with Blumberg

In October 2014, Arbutus Inc. acquired all of the outstanding shares of Enantigen pursuant to a stock purchase agreement. Through this transaction, Arbutus Inc. acquired a HBV surface antigen secretion inhibitor program and a capsid assembly inhibitor program. Under the stock purchase agreement, the Company agreed to pay up to a total of $1,000,000 per year of research funding for three years, renewable at the Company's option for an additional three years, for Blumberg to conduct research projects in HBV and liver cancer. Blumberg has exclusivity obligations to the Company with respect to HBV research funded under the agreement. In addition, the Company has the right to match any third party offer to fund HBV research that falls outside the scope of the research being funded under the agreement. Blumberg has granted the Company the right to obtain an exclusive, royalty-bearing, worldwide license to any intellectual property generated by any funded research project. If the Company elects to exercise the right to obtain such a license, it will have a specified period of time to negotiate and enter into a mutually agreeable license agreement with Blumberg. This license agreement will include the following pre-negotiated upfront, milestone, and royalty payments: an upfront payment in the amount of $100,000; up to $8,100,000 upon the achievement of specified development and regulatory milestones; up to $92,500,000 upon the achievement of specified commercialization milestones; and royalties at a low-single to mid-single digit rates based upon the proportionate net sales of licensed products from any commercialized combination.

In June 2016, the Company entered into an amended and restated research collaboration and funding agreement with Blumberg, primarily to: (i) increase the annual funding amount to Blumberg from $1,000,000 to $1,100,000; (ii) extend the initial term through to October 29, 2018; (iii) provide an option for the Company to extend the term past October 29, 2018 for two additional one year terms; and (iv) expand our exclusive license under the agreement to include the sole and exclusive right to obtain and exclusive, royalty-bearing, worldwide, and all-fields license under Blumberg's rights in certain other inventions described in the agreement. The amended agreement expired in October 2018, at the end of its initial term.

In November 2018, the Company entered into a new two-year master services agreement with Blumberg that expires in November 2020. The new agreement replaces all rights and obligations of the prior research collaboration and funding agreements, as amended. Under the new agreement, Blumberg will perform specific research activities based upon statements of work and the Company will no longer provide a fixed amount of funding to Blumberg. As of March 31, 2019, the Company has executed statements of work with Blumberg for an aggregate cost of $750,000 under this new agreement. Intellectual property that is generated during the research activities is the Company's exclusive property and all financial obligations for it to utilize the intellectual property are satisfied in the upfront cost of the research activities. Under the terms of the new agreement, the Company retains all rights to any inventions arising from performance of the agreement and no license is granted to Blumberg and Drexel, nor are milestones for said inventions due to Blumberg and Drexel.

12. Related Party Transactions

During the three months ended March 31, 2019, the Company purchased certain research and development services from Genevant. These services are billed at agreed hourly rates and reflective of market rates for such services. The total cost of these services was $33,000 and $0 for the three months ended March 31, 2019 and 2018, respectively, and are included in the Condensed Consolidated Statements of Operations under research, development, collaborations and contracts expenses.

Conversely, Genevant purchased certain administrative and transitional services from the Company during the three months ended March 31, 2019 totaling $164,000, which was netted against research and development expenses in the Condensed Consolidated Statements of Operations. In addition, Genevant has a sublease for 17,900 square feet in the Company's Burnaby facility. Sublease income from Genevant for the three months ended March 31, 2019 of $62,000 was netted against site consolidation costs and lease liability (see notes 7 and 8).

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

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

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

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

- our strategy, future operations, pre-clinical research, pre-clinical studies, clinical trials, prospects and the plans of management;
- the discovery, development and commercialization of a cure for chronic hepatitis B infection, a disease of the liver caused by the hepatitis B virus ("HBV");
- our beliefs and development path and strategy to achieve a cure for HBV;
- obtaining necessary regulatory approvals;
- obtaining adequate financing through a combination of financing activities and operations;
- using the results from our HBV studies to adaptively design additional clinical trials to test the efficacy of the combination therapy and the duration of the result in patients;
- the payment of one-time employee termination benefits, employee relocation costs, and site closure costs, totaling approximately $5.3 million related to the site consolidation and organizational restructuring to align our HBV business in Warminster, PA;
- the expected timing of and amount for payments related to Enantigen Therapeutics, Inc.'s ("Enantigen") transaction and its programs;
- the potential of our drug candidates to improve upon the standard of care and contribute to a curative combination treatment regimen;
- the potential for our royalty entitlement on Onpattro™ (Patisiran) to provide an active royalty stream or to be otherwise monetized in full or part;
- developing a suite of products that intervene at different points in the viral life cycle, with the potential to reactivate the host immune system;
- using pre-clinical results to adaptively design clinical trials for additional cohorts of patients, testing the combination and the duration of therapy;
- selecting combination therapy regimens and treatment durations to conduct Phase 3 clinical trials intended to ultimately support regulatory filings for marketing approval;
- expanding our HBV drug candidate pipeline through internal development, acquisitions and in-licenses;
- the potential of our assets, including our ownership stake in Genevant Sciences Ltd. (Genevant") and our royalty entitlement on Onpattro, to provide significant non-dilutive capital;
- our expectations for top-line data from an interim analysis of the Phase 1a/1b clinical trial of AB-506 in July 2019 and our intention to present more detailed information on the trial at an upcoming scientific conference toward the end of 2019;
- our expectation to make a decision regarding AB-452 clinical development in early 2020;
- our expectation to initiate a Phase 2a dose-finding and long term safety trial of AB-506 late in the second half of 2019;
- the trajectory for inclusion of AB-506 in a multi-drug combination regimen with AB-729 in 2020;
- our goal to have a second generation HBV RNA destabilizer candidate nominated by the end of 2019;
- payments from the Gritstone Oncology, Inc. ("Gritstone") licensing agreement;
- the expectation for organizational changes to result in increased efficiency, a more flexible variable cost structure, and additional preservation of our cash reserves;
- the belief that current legal proceedings will not have a material adverse effect on our consolidated results of operations, cash flows, or financial condition;

- the expected return from strategic alliances, licensing agreements, and research collaborations;
- statements with respect to revenue and expense fluctuation and guidance;
- the sufficiency of our cash and cash equivalents to extend into 2020;
- obtaining funding to maintain and advance our business from a variety of sources including public or private equity or debt financing, collaborative arrangements with pharmaceutical companies and government grants and contracts;
- on-going arbitration and litigation proceedings; and
- the amount and timing of potential funding,

as well as other statements relating to our future operations, financial performance or financial condition, prospects or other future events. Forward-looking statements appear primarily in the sections of this Form 10-Q entitled “Part I, Item 1- Financial Statements (Unaudited),” “Part I, Item 2-Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Part I, Item 3-Quantitative and Qualitative Disclosures About Market Risk.”

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

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

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

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

OVERVIEW

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

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

In addition to our drug pipeline focused on HBV, we have additional assets that have the potential to provide value to our company. The first is our royalty entitlement on Onpattro™ (Patisiran), a drug developed by Alnylam Pharmaceutical, Inc. ("Alnylam") that incorporates our lipid nanoparticle delivery ("LNP") technology and was approved by the U.S. Food and Drug Administration ("FDA") and the European Medicines Agency ("EMA") during the third quarter of 2018. This royalty entitlement has the potential to provide an active royalty stream or to be otherwise monetized in full or in part. The second is our approximate 40% equity ownership interest in Genevant, a newly created company to which we have licensed our LNP platform and conjugate delivery platform (the "Delivery Platforms") for all applications except HBV. These additional assets have the potential to provide significant non-dilutive capital to fund development of our HBV pipeline.

Strategy

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

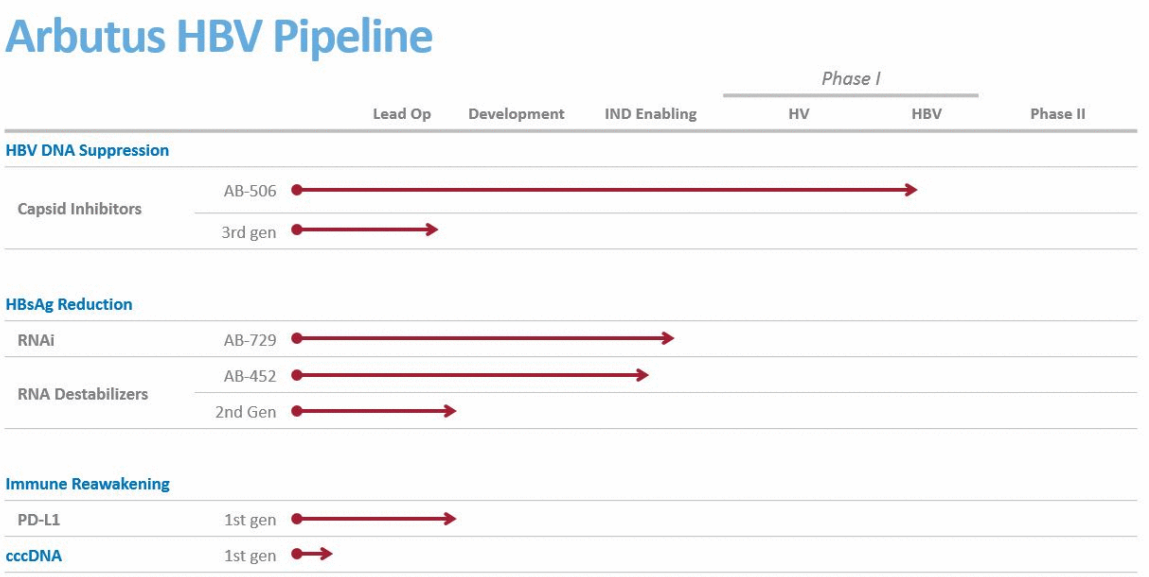
- developing a pipeline of proprietary therapeutic agents that target multiple elements of the HBV viral lifecycle, the most important of which we believe are HBV replication, hepatitis B surface antigen ("HBsAg") expression and immune reactivation; and
- identifying an effective combination of complementary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

Our primary focus is to:

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

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

Our HBV product pipeline consists of the following programs:



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

Agents for Combination Therapy

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

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

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

HBV Suppression

Capsid Inhibitors (AB-506 & AB-423)

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

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

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

We received regulatory approval of our CTA for AB-506 in the second quarter of 2018. During the third quarter of 2018, AB-506 progressed through the healthy volunteer portion of a multi-component phase 1a/1b clinical trial in which it was demonstrated to be generally safe and well-tolerated after dosing. In October 2018, AB-506 began the multiple dose, 28-day Phase 1b clinical trial in chronically infected HBV patients, where it is being evaluated alone at two dose levels and may be studied in combination with an NA. Top-line results of an interim analysis from the Phase 1a/1b clinical trial are expected in July 2019. We expect to disclose top-line information on clinical safety in healthy volunteers and safety and efficacy data in chronically infected HBV patients at two dose levels. We intend to present more detailed information on the trial at an upcoming scientific conference towards the end of 2019. We also plan to initiate a Phase 2a dose-finding and long-term safety trial of AB-506 with an NA late in the second half of 2019 to support the use of AB-506 in future combination registration trials.

HBsAg Reduction

RNAi Agents

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

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

GalNAc RNAi (AB-729)

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

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

We successfully completed IND-enabling studies for AB-729 in support of the single ascending dosing portion of a Phase 1a/1b clinical trial, which we filed as part of a CTA. On May 3, 2019, a regulatory authority requested that we complete our ongoing three and six month toxicology studies before commencing the single ascending portion of the Phase 1a/1b clinical trial, which was planned to initiate in the second quarter of 2019. As a result of this request, initiation of the trial will be delayed. We will explore options to accelerate its initiation based on the currently available toxicology study duration and provide further updates once we know when the trial will be initiated.

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

HBV RNA Destabilizer (AB-452)

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

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

In October 2018, we announced the emergence of nonclinical safety findings in the AB-452 RNA destabilizer program. Given the nature of these observations and the novel mechanism of action of this drug, we felt a sufficient amount of time must be allocated to understanding these findings and their implications before deciding whether to advance AB-452 into clinical trials. We have been evaluating AB-452 in a series of in vitro and in vivo studies to further characterize the compound, its mechanism of action, safety and pharmacokinetic profile. Following careful assessment of the nonclinical safety findings that led to pausing the entry of AB-452 into human clinical studies, we have concluded that the nonclinical safety study resulted in several confounding observations which included clinical observations with no histological correlation, a lack of dose response regarding some key findings and an unexplained vehicle effect. Because of these confounding observations, we have determined that repeating the 90-day preclinical safety study in two species is appropriate before making a go/no-go decision. We expect that the results of this study will allow us to make that decision early in 2020. We remain committed to the development of oral RNA destabilizers that have shown compelling anti-viral effects in multiple HBV pre-clinical models. While we work to fully understand the nature of the AB-452 pre-clinical findings, we are also continuing to advance back-up compounds with distinct chemical scaffolds into the lead optimization stage, with a goal of having a potential novel candidate nominated by the end of 2019.

Research Programs

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

Strategic Alliances and Licensing Agreements

Onpattro® (Patisiran/ALN-TTR02)

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

Genevant Sciences

In April 2018, we entered into an agreement with Roivant Sciences Ltd. ("Roivant"), our largest shareholder, to launch Genevant, a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by our LNP and ligand conjugate delivery technologies. We have licensed exclusive rights to our Delivery

Platforms to Genevant for RNA-based applications outside of HBV. Genevant plans to develop products in-house and pursue industry partnerships to build a diverse pipeline of therapeutics across multiple modalities, including RNAi, mRNA, and gene editing.

Under the terms of the agreement, Roivant contributed $37.5 million in transaction-related seed capital to Genevant, consisting of an initial $22.5 million investment and a subsequent investment of $15 million at a pre-determined, stepped-up valuation. We retain all rights to our Delivery Platforms for HBV, and are entitled to a tiered low single-digit royalty from Genevant on future sales of products enabled by the delivery platforms licensed to Genevant. We also retained the entirety of our royalty entitlement on the commercialization of Alnylam's Onpattro. As of March 31, 2019, we held an equity interest in Genevant of approximately 40%.

CRITICAL ACCOUNTING POLICIES AND SIGNIFICANT JUDGEMENTS AND ESTIMATES

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

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

RECENT ACCOUNTING PRONOUNCEMENTS

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

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

RESULTS OF OPERATIONS

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

	Three Months Ended March 31,	
	2019	**2018**
Total revenue	**$ 679**	$ 1,436
Operating expenses	**19,750**	19,841
Loss from operations	**(19,071)**	(18,405)
Net income (loss)	**$ (23,251)**	$ (17,429)
Net income (loss) attributable to common shares	**(25,966)**	(19,765)
Basic and diluted loss per common share	**(0.47)**	(0.36)

Revenue

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

Revenue decreased $0.8 million for the three months ended March 31, 2019 as compared to the three months ended March 31, 2018. Revenue for the three months ended March 31, 2019 consisted primarily of royalties from sales of Alnylam's Onpattro™, as well as royalties from Spectrum Pharmaceuticals, Inc.'s Marqibo® and services provided to Gritstone. During the third quarter of 2018, Alnylam's Onpattro™, which utilizes our LNP technology, was approved by the FDA and the EMA. We retain full rights to low to mid single-digit royalties on global sales of Onpattro™. Revenue for the three months ended March 31, 2018 consisted primarily of revenue earned under our license agreement with Gritsone, including the earned portion of an upfront license fee and services provided to Gritstone.

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

	Three months ended March 31,			
	2019	**% of Total**	2018	% of Total
Research and development	**$ 14,712**	**74%**	$ 13,949	70%
General and administrative	**4,412**	**22%**	3,669	18%
Depreciation and amortization	**509**	**3%**	602	3%
Site consolidation	**117**	**1%**	1,621	9%
Total operating expenses	**$ 19,750**		$ 19,841	

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 increased $0.8 million in the three months ended March 31, 2019 as compared to the three months ended March 31, 2018 as our pipeline expands and advances into clinical trials. Research and development expenses for the three months ended March 31, 2019 included: (i) enrollment of the 28-day HBV patient portion of our Phase 1a/1b clinical trial for our lead capsid inhibitor (AB-506); (ii) IND/CTA enabling pre-clinical studies for our RNAi agent (AB-729); and (iii) in vitro and in vivo studies to further characterize our HBV RNA destabilizer (AB-452), including the compound itself, its mechanism of action and pharmacokinetic profile.

A significant portion of our research, development, collaborations and contracts expenses are not tracked by project as they benefit multiple projects or our technology platform and because our most-advanced programs are not yet in late-stage clinical development. However, our collaboration agreements contain cost-sharing arrangements pursuant to which certain costs incurred under the project are reimbursed. Costs reimbursed under collaborations typically include certain direct external costs and hourly or full-time equivalent labor rates for the actual time worked on the project. As a result, although a significant portion of our research, development, collaborations and contracts expenses are not tracked on a project-by-project basis, we do, however, track direct external costs attributable to, and the actual time our employees worked on our collaborations.

General and administrative

General and administrative expenses increased $0.7 million in the three months ended March 31, 2019 as compared to the three months ended March 31, 2018 due primarily to an increase in non-cash stock-based compensation expense.

Site consolidation

In February 2018, we announced a site consolidation and organizational restructuring to better align our HBV business in Warminster, PA, by reducing our global workforce and closing our Burnaby, Canada facility. Most of the employee-related site consolidation expenses were expensed ratably over the period that employees provided services, which was substantially completed by June 30, 2018. We expect total site consolidation expenses to be approximately $5.3 million, of which approximately $4.9 million has been incurred as of March 31, 2019.

Other income (loss)

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

	Three Months Ended March 31,	
	2019	2018
Interest income	**$ 600**	$ 758
Interest expense	**(12)**	(104)
Foreign exchange gain (loss)	**8**	(526)
Equity investment loss	**(4,651)**	—
Decrease (increase) in fair value of contingent consideration	**(125)**	848
Total other income (loss)	**$ (4,180)**	$ 976

Interest income

The decrease in interest income for the three months ended March 31, 2019 compared to the three months ended March 31, 2108 is due primarily to a lower average cash balance, partially offset by higher interest rates.

Foreign exchange gains (losses)

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

Equity investment losses

In 2018, together with Roivant, we launched Genevant, a company focused on the discovery, development, and commercialization of a broad range of RNA-based therapeutics enabled by our LNP Delivery Technologies. We account for our 40% ownership interest in Genevant using the equity method of accounting. For the three months ended March 31, 2019, we recorded $4.7 million of equity investment losses, reflecting our proportionate share of Genevant's net loss on a one-quarter lag basis.

Decrease (increase) in fair value of contingent consideration

Contingent consideration is a liability we assumed from our acquisition of Arbutus, Inc. in March 2015. In general, increases in the fair value of the contingent consideration are related to the progress of our programs as they get closer to triggering contingent payments. The fair value of contingent consideration did not change significantly during the three months ended March 31, 2019. The $0.8 million increase in contingent consideration for the three months ended March 31, 2018 was due primarily to a recalibration of the estimated timing of future development milestones being achieved, resulting in a reduction in the estimated fair value of the liability.

LIQUIDITY AND CAPITAL RESOURCES

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

	Three Months Ended March 31,	
	2019	2018
Net income loss for the period	**$ (23,251)**	$ (17,429)
Adjustments to reconcile net loss to net cash provided by operating activities	**6,760**	1,274
Changes in operating assets and liabilities	**(89)**	(3,812)
Net cash used in operating activities	**(16,580)**	(19,967)
Net cash provided by (used in) investing activities	**61,033**	(75,666)
Net cash provided by financing activities	**2,536**	54,367
Effect of foreign exchange rate changes on cash & cash equivalents	**38**	(565)
Net (decrease) increase in cash, cash equivalents, and restricted cash	**47,027**	(41,831)
Cash, cash equivalents, and restricted cash, beginning of period	**36,942**	54,292
Cash, cash equivalents, and restricted cash, end of period	**$ 83,969**	$ 12,461

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, interest income on funds available for investment, and government contracts, grants and tax credits.

For the three months ended March 31, 2019, operating activities used $16.6 million in cash as compared to $20.0 million of cash used in the three months ended March 31, 2018. The decrease in net cash used in operating activities is due primarily to lower cash outflows related to lower accounts payable and accrued liabilities at December 31, 2018 as compared to December 31, 2017 and receipt of an $0.8 million milestone payment from Alnylam during the three months ended March 31, 2019 for development milestones related to FDA approval and the first commercial sale of Onpattro™.

For the three months ended March 31, 2019, investing activities increased cash by $61.0 million as certain short-term investments matured. For the three months ended March 31, 2018, investing activities included investment of the proceeds from the second tranche of the Series A participating convertible preferred shares (the "Preferred Shares") financing in short-term investments.

For the three months ended March 31, 2019, financing activities increased cash by $2.5 million due primarily to net proceeds from the sale of common shares pursuant to our Open Market Sale Agreement (the "Sale Agreement") with Jefferies LLC and proceeds from the exercise of stock options. For the three months ended March 31, 2018, financing activities included $66.3 million of net proceeds from the second tranche of the Preferred Shares financing, offset by repayment of a $12.0 million promissory note with a bank.

Sources of Liquidity

As of March 31, 2019, we had cash and cash equivalents of $84.0 million and short-term investments of $26.6 million, totaling $110.6 million. We had no outstanding debt at March 31, 2019.

In December 2018, we entered into the Sale Agreement, under which we may issue and sell common shares, from time to time, for an aggregate sales price of up to $50.0 million. We did not sell any shares under the Sale Agreement in 2018. For the three months ended March 31, 2019, the Company issued 614,401 common shares pursuant to the Sale Agreement, resulting in gross proceeds of approximately $2.7 million.

We have two potential sources of significant non-dilutive capital to help fund development of our HBV pipeline. The first is our approximate 40% equity ownership interest in Genevant, a recently created company to which we have licensed our Delivery Platforms for all applications except HBV. Secondly, we retain a royalty entitlement on Onpattro™ (Patisiran), a drug developed by Alnylam that incorporates our LNP technology and was approved by the FDA and EMA during the third quarter

of 2018. This royalty entitlement has the potential to provide an active royalty stream or to be otherwise monetized in full or in part.

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

Cash requirements

At March 31, 2019, we held an aggregate of $110.6 million in cash, cash equivalents and short-term investments, which we believe is sufficient to fund operations into 2020. We believe we have sufficient cash resources to fund our operations for at least the next 12 months. In the future, substantial additional funds will be required to continue with the active development of our pipeline products and technologies. In particular, our funding needs may vary depending on a number of factors including:

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

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

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

OFF-BALANCE SHEET ARRANGEMENTS

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

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

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

ITEM 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of March 31, 2019. The term “disclosure controls and procedures”, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate, to allow timely decisions regarding required disclosure, particularly during the period in which this Quarterly Report on Form 10-Q was being prepared. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their desired objectives, and our management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on the evaluation of our disclosure controls and procedures as of March 31, 2019, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rules 13a–15(f) and 15d–15(f) under the Exchange Act) during the three months ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

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

ITEM 1A. RISK FACTORS

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

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

None.

ITEM 3. DEFAULTS UPON SENIOR SECURITIES

None.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

ITEM 5. OTHER INFORMATION

None.

ITEM 6. EXHIBITS

EXHIBIT INDEX

Number	Description
3.1	Notice of Articles and Articles of 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).
10.1*	Koert VandenEnden Termination and Severance Agreement
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 March 31, 2019, formatted in XBRL (eXtensible Business Reporting Language): (i) Condensed Consolidated Balance Sheets; (ii) Condensed Consolidated Statements of Operations; (iii) Condensed Consolidated Statements of Comprehensive Loss; (iv) Condensed Consolidated Statements of Stockholders' Equity; (v) Condensed Consolidated Statements of Cash Flows; and (vi) Notes to Condensed Consolidated Financial Statements

* Filed herewith.

** Furnished herewith.

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 May 6, 2019.

ARBUTUS BIOPHARMA CORPORATION

By: /s/ Mark Murray

Mark Murray

President and Chief Executive Officer

Without Prejudice
Private & Confidential

March 22, 2019

Koert VandenEnden
3436 W 7th Ave
Vancouver, BC V6R 1W1

Re: Termination and Severance Agreement

Further to our recent discussions, set out below are the terms we have agreed upon regarding the ending of your employment with Arbutus Biopharma Corporation (the "Company"). Please review the letter and enclosure carefully and seek any advice you deem appropriate.

1. Your last day of work will be March 31, 2019 (the "Termination Date"). You will receive any earned but unpaid Base Salary, and three (3) accrued and unused vacation time as of this date.

2. Subject to you executing and returning the attached Release within fourteen (14) days of the Termination Date, you will be provided with (1) a lump sum payment in the amount of CAD$43,538, less required deductions, this payment represents eight (8) weeks of your Base Salary plus (2) you will be paid CAD$21,225, less required deductions, which represents payment of a pro-rated bonus based on the your days worked with the Company during the Termination Year; (3) a lump-sum in the amount of CAD$56,660, less required deductions, this payment represents 20% of your annual base salary; and (4) an acceleration of all stock options such that they are all vested on the agreed exit date and an extension of the exercise period for all stock options to twelve (12) months after your initial consulting contract terminates unless exercised by you (collectively, (1), (2), (3) and (4) are the "Severance"), subject to applicable tax withholding, provided that you satisfy the Conditions (as defined herein) within the Deadline (as defined herein). The Severance will be paid in a lump sum within ten (10) business days following the last day of the Deadline, assuming the Release (as defined herein) is in effect and no longer revocable.

3. Except as noted in paragraphs 1 and 2 of this letter, no other payments will be provided to you and no perquisites or benefits of any nature or kind will be provided or continued.

4. **Release**

   The payments and other terms described above are in full satisfaction of all matters and claims related to your employment with the Company and as such we will require you to sign a release in favour of the Company. A copy of the Release is enclosed.

5. **Consulting**

   Following your Termination Date, you will enter in to a consulting agreement with the Company, the principal terms of which will be that you will provide transitional business management services to the Company for a period of six (6) months. A formal consulting agreement will be provided to you in due course.

Per recent Compensation Committee approval, any options granted to you will expire twelve (12) months after the initial consulting contract terminates unless exercised by you.

6. **Confidentiality, Non-Competition and Non-Solicitation**

We take this opportunity to remind you of your on-going obligations to the Company regarding Confidentiality, Non-Competition and Non-Solicitation as set out in your Employment Agreement. By signing this letter and accepting the payments referred to above, you acknowledge and agree that you are bound by these obligations.

Notwithstanding anything in this letter, the attached General Release or the Confidentiality, Non-Competition and Non-Solicitation as set out in your Employment Agreement (collectively, the "Agreements"), nothing in the Agreements prohibits you from reporting possible violations of United States federal law or regulation to any United States governmental agency or entity, including but not limited to the Department of Justice, the Securities and Exchange Commission, the Congress, and any agency Inspector General, or making other disclosures that are protected under the whistleblower provisions of United States federal law or regulation without prior authorization from or any notice to the Company.

I trust the above terms are an accurate reflection of our agreement. To confirm your acceptance and to allow us to process the payment and expeditiously address the other matters, I ask that you sign (in the presence of a witness) and return to me the enclosed Release no later than 14 days from the Termination Date. Your signature will constitute a binding agreement between you and the Company.

Koert, thank you for your service to the Company and best wishes in your future endeavours.

Yours truly,

Mark Murray,
President and Chief Executive Officer

/encls

GENERAL RELEASE

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

Executive agrees that he will not make any derogatory statements, either oral or written, or otherwise disparage any of the Company's Parties or their products, employees, services, work and/or employment.

The Company agrees that it will not make any derogatory statements, either oral or written, or otherwise disparage any of the Executive's Parties.

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

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

[Signature Page Follows]

IN WITNESS WHEREOF I have hereunto set my hand this _____ day of _____ 2019.

SIGNED, SEALED and DELIVERED by Koert VandenEnden in the presence of:

_
Koert VandenEnden

_
Signature

_
Name

_
Address

_

_
Occupation

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, Mark Murray, 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: May 6, 2019

/s/ Mark Murray
Name: Mark Murray
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: May 6, 2019

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

Exhibit 32.1

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

AS ADOPTED PURSUANT TO SECTION 906

OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Arbutus Biopharma Corporation (the "Company") for the quarter ended March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I Mark Murray, 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: May 6, 2019

/s/ Mark Murray
Name: Mark Murray
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 March 31, 2019, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I David Hastings, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of my knowledge:

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

Date: May 6, 2019

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