UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 10-Q

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

For the quarterly period ended September 30, 2019

OR

	TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF
	1934
	For the transition period from to
	Commission File Number: 001-38869
_	

HOOKIPA PHARMA INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware (State or other jurisdiction of incorporation or organization) 81-5395687 (I.R.S. Employer Identification No.)

350 Fifth Avenue, 72nd Floor, Suite 7240 New York, New York (Address of principal executive offices)

10118 (Zip Code)

Registrant's telephone number, including area code: +43 1 890 63 60 Securities registered pursuant to Section 12(b) of the Act:

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock	HOOK	The Nasdaq Global Select Market

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 \boxtimes No \square

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 (\S 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes \boxtimes No \square

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

Large accelerated filer		Accelerated filer	
Non-accelerated filer	\boxtimes	Small reporting company	X
Emerging growth Company	\boxtimes		

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. \boxtimes

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes $\ \square$ No $\ \boxtimes$

As of November 12, 2019, the registrant had 21,588,756 shares of common stock and 3,819,732 shares of Class A common stock outstanding, each \$0.0001 par value per share.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements which are made pursuant to the safe harbor provisions of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements may be identified by such forward-looking terminology as "may," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. Our forward-looking statements are based on a series of expectations, assumptions, estimates and projections about our company, are not guarantees of future results or performance and involve substantial risks and uncertainty. We may not actually achieve the plans, intentions or expectations disclosed in these forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in these forward-looking statements. Our business and our forward-looking statements involve substantial known and unknown risks and uncertainties, including the risks and uncertainties inherent in our statements regarding:

- the success, cost and timing of our product development activities and clinical trials;
- the timing, scope or likelihood of regulatory filings and approvals, including timing of Investigational New Drug Application and Biological Licensing Application filings for our current and future product candidates, and final U.S. Food and Drug Administration, European Medicines Agency or other foreign regulatory authority approval of our current and future product candidates;
- our ability to develop and advance our current product candidates and programs into, and successfully complete, clinical studies;
- · our manufacturing, commercialization and marketing capabilities and strategy;
- the potential benefits of and our ability to maintain our collaboration with Gilead Sciences, Inc., and establish or maintain future collaborations or strategic relationships or obtain additional funding;
- the rate and degree of market acceptance and clinical utility of our current and future product candidates;
- · our intellectual property position, including the scope of protection we are able to establish and maintain for intellectual property rights covering our VaxWave and TheraT technologies and the product candidates based on these technologies, the validity of intellectual property rights held by third parties, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;
- future agreements with third parties in connection with the commercialization of our product candidates and any other approved product;
- · regulatory developments in the United States and foreign countries;
- competitive companies, technologies and our industry and the success of competing therapies that are or may become available;
- · our ability to attract and retain key scientific or management personnel;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;
- the accuracy of our estimates of our annual total addressable market, future revenue, expenses, capital requirements and needs for additional financing;
- · our expectations about market trends; and

· our expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012, as amended.

All of our forward-looking statements are as of the date of this Quarterly Report on Form 10-Q only. In each case, actual results may differ materially from such forward-looking information. We can give no assurance that such expectations or forward-looking statements will prove to be correct. An occurrence of or any material adverse change in one or more of the risk factors or risks and uncertainties referred to in this Quarterly Report on Form 10-Q or included in our other public disclosures or our other periodic reports or other documents or filings filed with or furnished to the Securities and Exchange Commission could materially and adversely affect our business, prospects, financial condition and results of operations. Except as required by law, we do not undertake or plan to update or revise any such forward-looking statements to reflect actual results, changes in plans, assumptions, estimates or projections or other circumstances affecting such forward-looking statements occurring after the date of this Quarterly Report on Form 10-Q, even if such results, changes or circumstances make it clear that any forward-looking information will not be realized. Any public statements or disclosures by us following this Quarterly Report on Form 10-Q that modify or impact any of the forward-looking statements contained in this Quarterly Report on Form 10-Q will be deemed to modify or supersede such statements in this Quarterly Report on Form 10-Q.

Investors and others should note that we announce material financial information to our investors using our investor relations website (https://ir.hookipapharma.com/), SEC filings, press releases, public conference calls and webcasts. We use these channels, as well as social media, to communicate with our members and the public about our company, our services and other issues. It is possible that the information we post on social media could be deemed to be material information. Therefore, we encourage investors, the media, and others interested in our company to review the information we post on the U.S. social media channels listed on our investor relations website.

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PART I—FINANCIAL INFORMATION

Item 1. Financial Statements.

HOOKIPA PHARMA INC.

CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(In thousands, except share amounts)

	Sep	tember 30, 2019	De	2018
Assets				
Current assets:				
Cash and cash equivalents	\$	123,690	\$	48.580
Accounts receivable		1,266	•	4,919
Prepaid expenses and other current assets		11,430		8,812
Total current assets		136,386		62,311
Non-current assets:		150,500		02,511
Restricted cash		320		_
Property and equipment, net		4.607		4,337
Operating lease assets		8.127		.,557
Other non-current assets		2,597		1,603
Total non-current assets	-	15.651	_	5.940
Total non-current assets		13,031	_	3,740
Total assets	\$	152,037	\$	68,251
			_	
Liabilities, Redeemable Convertible Preferred Stock and Stockholders' Equity (Deficit)				
Current liabilities				
Accounts payable	\$	3,488	\$	3,656
Deferred revenues		4,239		6,619
Accrued expenses and other current liabilities		5,227		4,420
Total current liabilities		12,954		14,695
Non-current liabilities				
Loans payable, non-current		4,766		4,392
Operating lease liabilities, non-current		5,558		_
Deferred revenues, non-current		377		1,663
Other non-current liabilities		2,625		3,102
Total non-current liabilities		13,326		9,157
Total liabilities		26,280		23,852
				- ,
Commitments and contingencies (Note 11)				
Redeemable convertible preferred stock (series A, B, C and D), \$0.0001 par value; 0 and 1,323,506 shares authorized, issued and outstanding at September 30, 2019 and December 31, 2018, respectively; aggregate				
liquidation preference of \$0.0 million and \$99.7 million at September 30, 2019 and December 31, 2018, respectively				104,774
respectively		_		104,774
Stockholders' equity (deficit):				
Common stock, \$0.0001 par value; 100,000,000 and 18,454,860 shares authorized at September 30, 2019 and				
December 31, 2018, respectively; 21,588,756 shares and 1,006,595 shares issued and outstanding at				
September 30, 2019 and December 31, 2018, respectively		3		0
Class A common stock, \$0.0001 par value; 3,900,000 and 0 shares authorized at September 30, 2019 and		3		U
December 31, 2018, respectively; 3,819,732 and 0 shares issued and outstanding at September 30, 2019 and				
December 31, 2018, respectively		0		
Undesignated preferred stock, \$0.0001 par value; 10,000,000 shares and 0 shares authorized at September 30,		U		
2019 and December 31, 2018, respectively; 0 shares issued and outstanding at September 30, 2019 and December				
31, 2018				
Additional paid-in capital		223,448		3.327
Accumulated other comprehensive loss		(4,919)		(3,720)
Accumulated deficit		(92,775)		(59,982)
Total stockholders' equity (deficit)	_	125,757	_	(60,375)
Total Stockholders equity (deficit)	_	143,131	_	(00,373)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	\$	152,037	\$	68,251

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

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS (UNAUDITED)

(In thousands, except share and per share amounts)

	Thr	ee months end	ed Sep		Ni	ine months ende	d Sep	
	2019			2018	_	2019		2018
Revenue from collaboration and licensing	\$	2,038	\$	1,900	\$	8,324	\$	2,549
Operating expenses:								
Research and development		(11,025)		(6,170)		(35,133)		(17,350)
General and administrative		(4,589)		(1,282)		(11,051)		(4,175)
Total operating expenses		(15,614)		(7,452)		(46,184)		(21,525)
Loss from operations		(13,576)		(5,552)		(37,860)		(18,976)
Other income (expense):								
Grant income	\$	1,258	\$	1,762	\$	3,994	\$	5,217
Interest income		565		_		1,140		0
Interest expense		(227)		(194)		(650)		(578)
Other income and expenses, net		604		33		692		19
Total other income, net		2,200		1,601		5,176	_	4,658
Net loss before tax		(11,376)		(3,951)		(32,684)		(14,318)
Income tax expense		(9)	_	(2)	_	(109)		(27)
Net loss		(11,385)		(3,953)		(32,793)		(14,345)
Other comprehensive loss:								
Foreign currency translation loss, net of tax		(763)		(243)		(1,198)		(1,722)
Comprehensive loss	\$	(12,148)	\$	(4,196)	\$	(33,991)	\$	(16,067)
Net loss per share — basic and diluted	\$	(0.45)	\$	(4.34)	\$	(2.14)	\$	(15.73)
Weighted average common shares outstanding — basic and diluted	2	5,408,488		911,777		15,308,071		911,777

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

CONDENSED CONSOLIDATED STATEMENTS OF REDEEMABLE CONVERTIBLE PREFERRED STOCK AND STOCKHOLDERS' DEFICIT (UNAUDITED)

(In thousands, except share amounts)

		ertible ed Stock	Commo	Common Stock	on Stock Class A Co	ommon Stock	Additional Paid-In	Accumulated Other Comprehensive	Accumulated	Total Stockholders'
	Shares	Amount	Shares	Amount	Shares	Amount	Capital	Income (Loss)	Deficit	Equity (Deficit)
Balance as of										
December 31, 2018	1,323,506	\$ 104,774	1,006,595	s —	_	\$ —	\$ 3,327	\$ (3,720)	\$ (59,982)	\$ (60,375)
Issuance of Series D preferred										
stock, net of issuance costs of \$158	257,000	37,274								
Foreign currency translation	237,000	37,274	_							_
adjustment, net of tax	_	_	_	_	_	_	_	(736)	_	(736)
Stock-based compensation	_	_	_	_	_	_	383	(730)	_	383
Net loss	_	_	_	_	_	_	_	_	(9,329)	(9,329)
Balance as of March 31,										
2019	1,580,506	\$ 142,048	1,006,595	<u>s — </u>		<u>\$</u>	\$ 3,710	\$ (4,456)	\$ (69,311)	\$ (70,057)
Issuance of common stock										
upon initial public offering at										
\$14.00 per share for cash, net			6 000 000	1			74.614			74.615
of issuance costs of \$9,386 Conversion of Series A, B, C	_	_	6,000,000	1	_	_	74,614	_	_	74,615
and D preferred stock into										
common stock upon initial										
public offering	(1,580,506)	(142,048)	14,582,161	2	3,819,732	_	142,046	_	_	142,048
Foreign currency translation	(1,200,200)	(112,010)	11,502,101		5,017,752		1.2,0.0			1.2,0.0
adjustment, net of tax	_	_	_	_	_	_	_	300	_	300
Stock-based compensation	_	_	_	_	_	_	1,206	_	_	1,206
Net loss									(12,079)	(12,079)
Balance as of June 30, 2019		<u>\$</u>	21,588,756	\$ 3	3,819,732	<u>\$</u>	\$ 221,576	\$ (4,156)	\$ (81,390)	\$ 136,033
Foreign currency translation										
adjustment, net of tax	_	_	_	_	_	_		(763)	_	(763)
Stock-based compensation			_			_	1,872			1,872
Net loss									(11,385)	(11,385)
Balance as of September 30, 2019		<u> </u>	21,588,756	\$ 3	3,819,732	<u> </u>	\$ 223,448	\$ (4,919)	\$ (92,775)	\$ 125,757

	Conv Preferi	 	Comm	on St	Commo ock	n Stock Class A Co	mm	on Stock		ditional aid-In		ccumulated Other mprehensive	Ac	cumulated	Sto	Total
	Shares	Amount	Shares	A	mount	Shares	_	Amount	C	apital	In	come (Loss)		Deficit	Equ	ity (Deficit)
Balances as of December 31, 2017	1,323,506	\$ 104,774	911,777	\$	_	_	\$	_	\$	2,451	\$	(1,362)	\$	(43,745)	\$	(42,656)
Foreign currency translation adjustment, net of tax	_	_	_		_	_		_		_		1,539		_		1,539
Stock-based compensation	_	_	_		_	_		_		206		_		_		206
Net loss														(4,573)		(4,573)
Balance as of March 31, 2018	1,323,506	\$ 104,774	911,777	\$			\$		\$	2,657	\$	177	\$	(48,318)	\$	(45,484)
Foreign currency translation adjustment, net of tax	_	_	_		_	_		_		_		(3,018)		_		(3,018)
Stock-based compensation	_	_	_		_	_		_		206		_		_		206
Net loss														(5,819)		(5,819)
Balance as of June 30, 2018	1,323,506	\$ 104,774	911,777	\$			\$		\$	2,863	\$	(2,841)	\$	(54,137)	\$	(54,115)
Foreign currency translation adjustment, net of tax		_	_					_		_		(243)		_		(243)
Stock-based compensation	_	_	_		_	_		_		205		_		_		205
Net loss		_	_		_					_				(3,953)		(3,953)
Balance as of September 30, 2018	1,323,506	\$ 104,774	911,777	\$			\$		\$	3,068	\$	(3,084)	\$	(58,090)	\$	(58,106)

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

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

(In thousands)

	Niı	ne months endo	ed Sep	<u>2018</u>
			-	
Operating activities:				
Net loss	\$	(32,793)	\$	(14,345)
Adjustments to reconcile net loss to net cash used in operating activities:				
Stock-based compensation expense		3,461		617
Depreciation expense		2,171		462
Other non-cash items		51		(1)
Changes in operating assets and liabilities:				
Accounts receivable		1,499		(613)
Prepaid expenses and other current assets		(4,439)		(3,584)
Other non-current assets		582		(15)
Accounts payable		1,645		(447)
Deferred revenues		(3,365)		8,638
Accrued expenses and other liabilities		(1,750)		666
Net cash used in operating activities		(32,938)		(8,622)
Investing activities:				
Purchases of property and equipment	_	(953)	_	(1,900)
Net cash used in investing activities	_	(953)	_	(1,900)
Financing activities:				
Payments related to finance leases		(1,383)		_
Proceeds from issuance of redeemable convertible preferred stock, net of issuance costs		37,274		6,439
Proceeds from issuance of common stock, net of issuance costs		74,743		
Proceeds from borrowings		<u> </u>		428
Net cash provided by financing activities		110,634		6,867
Notice that the second		76.742		(2.655)
Net increase (decrease) in cash, cash equivalents and restricted cash		76,743		(3,655)
Cash, cash equivalents and restricted cash at beginning of period		48,580		61,362
Effect of exchange rate changes on cash, cash equivalents and restricted cash		(1,313)		(1,915)
Cash, cash equivalents and restricted cash at end of period	\$	124,010	\$	55,792
Supplemental disclosure of cash flow information:				
Cash paid for interest	\$	(32)	\$	(39)
Cash paid for income taxes	\$	(109)	\$	(26)

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

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

1. Nature of the business and organization

HOOKIPA Pharma Inc. ("HOOKIPA" or the "Company") is a clinical stage biopharmaceutical company developing a new class of immunotherapeutics targeting infectious diseases and cancers based on its proprietary arenavirus platform that is designed to reprogram the body's immune system.

The Company was incorporated under the name of Hookipa Biotech, Inc. under the laws of the State of Delaware in February 2017 as a fully-owned subsidiary of Hookipa Biotech AG. In June 2018, the Company changed its name from Hookipa Biotech, Inc. to HOOKIPA Pharma Inc. and in order to effectuate the change of the jurisdiction of incorporation, the Company acquired all of the shares of Hookipa Biotech AG, now Hookipa Biotech GmbH. HOOKIPA is headquartered in New York, with European research and preclinical development operations headquartered in Vienna, Austria. In April 2019, the Company closed its initial public offering ("IPO") and its common stock started trading on the Nasdaq Global Select Market under the ticker symbol "HOOK".

The Company is subject to risks and uncertainties common to early-stage companies in the biotechnology industry, including, but not limited to, development by competitors of new technological innovations, dependence on key personnel, protection of proprietary technology, compliance with government regulations, the ability to establish clinical- and commercial-scale manufacturing processes and the ability to secure additional capital to fund operations. Product candidates currently under development will require significant additional research and development efforts, including extensive preclinical and clinical testing and regulatory approval prior to commercialization. These efforts require significant amounts of additional capital, adequate personnel and infrastructure and extensive compliance-reporting capabilities and may not ultimately lead to a marketing approval and commercialization of a product. Even if the Company's drug development efforts are successful, it is uncertain if and when the Company will realize significant revenue from product sales.

2. Summary of significant accounting policies

Basis of presentation

The Company's condensed consolidated financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America ("GAAP"). The accompanying condensed consolidated financial statements include the accounts of the Company and its wholly owned subsidiary. All intercompany accounts and transactions have been eliminated in consolidation.

The accompanying condensed consolidated balance sheets as of September 30, 2019, the condensed consolidated statements of operations and comprehensive loss for the three and nine months ended September 30, 2019 and 2018, the condensed consolidated statement of redeemable convertible preferred stock and stockholders' deficit for the three and nine months ended September 30, 2019 and 2018 and the condensed consolidated statements of cash flows for the nine months ended September 30, 2019 and 2018 are unaudited.

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited annual consolidated financial statements, except for the accounting of lease agreements that have been reported in accordance with ASC 842 and, in the opinion of management, reflect all adjustments, which include only normal recurring adjustments, necessary for the fair statement for interim reporting. Certain information and footnote disclosures typically included in annual financial statements prepared in accordance with GAAP have been condensed or omitted. Accordingly, these unaudited interim condensed consolidated financial statements should be read in conjunction with the Company's consolidated financial statements as of and for the year ended December 31, 2018, which are included in the Company's prospectus related to the Company's IPO, filed April 19, 2019 (File No. 333-230451) with the Securities and Exchange Commission ("SEC"), pursuant to Rule 424 (b) under the Securities Act of 1933, as amended. The results for any interim period are not necessarily indicative of results for any future period.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

Stock split

On April 5, 2019, the Company effected a 11.643-for-one stock split of its issued and outstanding shares of common stock. The par value of the common stock was not adjusted as a result of the split. All issued and outstanding share and per share amounts of common stock and options included in the accompanying condensed consolidated financial statements have been adjusted to reflect this stock split for all periods presented. The conversion ratios for each series of the Company's redeemable convertible preferred stock (see Note 8) have been adjusted proportionally.

Going concern

Since inception, the Company's activities have consisted primarily of performing research and development to advance its technologies. The Company is still in the development phase and has not been marketing its technologies to date. Through September 30, 2019, the Company has funded its operations with proceeds from sales of common stock in the IPO, sales of redeemable convertible preferred stock, collaboration and licensing agreements, grants and borrowings under various agreements with foreign public funding agencies. Since inception, the Company has incurred recurring losses, including net losses of \$32.8 million and \$14.3 million for the nine months ended September 30, 2019 and 2018, respectively. As of September 30, 2019, the Company had an accumulated deficit of \$92.8 million. The Company expects to continue to generate operating losses in the foreseeable future. As of November 12, 2019, the filing date of this Quarterly Report on Form 10-Q, the Company expected that its cash and cash equivalents would be sufficient to fund its operating expenses, capital expenditure requirements and debt service payments through at least 12 months from the issuance date of the condensed consolidated financial statements.

The Company will seek additional funding in order to reach its development and commercialization objectives. The Company will seek funds through further equity financings, debt financings, collaborations, strategic alliances and marketing, distribution or licensing arrangements. The Company may not be able to obtain financing on acceptable terms, or at all, and the Company may not be able to enter into collaborations or other arrangements. The terms of any financing may adversely affect the holdings or the rights of the Company's stockholders. If the Company is unable to obtain funding, the Company could be forced to delay, reduce or eliminate some or all of its research and development programs, product portfolio expansion or commercialization efforts, which could adversely affect its business prospects.

The accompanying condensed consolidated financial statements have been prepared assuming that the Company will continue as a going concern, which contemplates the realization of assets and the settlement of liabilities and commitments in the normal course of business. The condensed consolidated financial statements do not reflect any adjustments relating to the recoverability and classification of assets or the amounts and classification of liabilities that might be necessary if the Company is unable to continue as a going concern.

Use of estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue, income and expenses during the reporting periods. Significant estimates and assumptions reflected in these condensed consolidated financial statements include, but are not limited to, the recognition of revenue and income, the accrual of research and development expenses, the valuation of common and preferred stock, the valuation of stock-based awards and the valuation of liabilities. The Company bases its estimates on historical experience, known trends and other market-specific or other relevant factors that it believes to be reasonable under the circumstances. On an ongoing basis, management evaluates its estimates as there are changes in circumstances, facts and experience. Actual results may differ from those estimates or assumptions.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

Concentrations of credit risk and of significant suppliers

Financial instruments that potentially expose the Company to concentrations of credit risk consist primarily of cash, cash equivalents and short-term bank deposits held with banks in excess of publicly insured limits. The net proceeds from the Company's offerings in the nine months ended September 30, 2019 have been deposited in interest-bearing bank accounts with investment grade US financial institutions and have been partially invested in a money market fund. The money market fund, held in U.S. dollar, is primarily invested in U.S. and foreign short-term debt obligations. As of December 31, 2018 and September 30, 2019, the Company's cash and cash equivalents included smaller amounts of cash balances held in accounts with European banks at our Austrian subsidiary, partially in euros. The Company does not believe that it is subject to unusual credit risk beyond the normal credit risk associated with commercial banking relationships.

The Company relies, and expects to continue to rely, on a small number of vendors to manufacture supplies and raw materials for its development programs. These programs could be adversely affected by a significant interruption in these manufacturing services or the availability of raw materials.

Cash equivalents

The Company considers all highly liquid investments with maturities of three months or less at the date of purchase to be cash equivalents. As of September 30, 2019 cash equivalents consisted of money market funds. As of December 31, 2018, the Company had no cash equivalents.

Deferred offering costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred offering costs in prepaid expenses and other current assets until such financings are consummated. After consummation of an equity financing, these costs are recorded in stockholders' equity as a reduction of the additional paid-in capital generated as a result of the offering. Should the in-process equity financing be abandoned, the deferred offering costs would be expensed immediately as a charge to operating expenses in the condensed consolidated statements of operations and comprehensive loss. Total offering costs of \$9.4 million recorded in stockholders' equity in the nine month ended September 30, 2019 included \$1.4 million of cost incurred in previous periods, which were initially recorded as deferred offering costs as of December 31, 2018.

Fair value measurements

Certain assets and liabilities are carried at fair value under GAAP. Fair value is defined as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. Financial assets and liabilities carried at fair value are to be classified and disclosed in one of the following three levels of the fair value hierarchy, of which the first two are considered observable and the last is considered unobservable:

- · Level 1 Quoted prices in active markets for identical assets or liabilities.
- · Level 2 Observable inputs (other than Level 1 quoted prices), such as quoted prices in active markets for similar assets or liabilities, quoted prices in markets that are not active for identical or similar assets or liabilities, or other inputs that are observable or can be corroborated by observable market data.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

 Level 3 - Unobservable inputs that are supported by little or no market activity and that are significant to determining the fair value of the assets or liabilities, including pricing models, discounted cash flow methodologies and similar techniques.

The Company's cash equivalents are carried at fair value, determined according to the fair value hierarchy described above (see Note 4).

Property and equipment

Property and equipment are stated at cost less accumulated depreciation and amortization. Depreciation and amortization expense is recognized using the straight-line method over the estimated useful life of each asset as follows:

	Estimated useful life
Leasehold improvements (1)	5 years
Laboratory equipment	3 - 10 years
Furniture and fixtures	3 - 10 years
Computer equipment and software	3 - 4 years

⁽¹⁾ In the course of the application of ASC 842, the economic useful lives of the leasehold improvements were adjusted to the lease terms.

Costs for capital assets not yet placed into service are capitalized as construction-in-progress and depreciated once placed into service. Expenditures for repairs and maintenance are charged to expense as incurred.

Redeemable convertible preferred stock

Upon the closing of the Company's IPO on April 23, 2019, the Company's outstanding redeemable convertible preferred stock automatically converted into shares of common stock or Class A common stock. Prior to the conversion, the Company has applied the guidance in ASC 480-10-S99-3A, SEC Staff Announcement: Classification and Measurement of Redeemable Securities and had therefore classified the Series A, Series B, Series C and Series D redeemable convertible preferred stock as mezzanine equity. The redeemable convertible preferred stock was recorded outside of stockholders' equity because, in the event of certain deemed liquidation events considered not solely within the Company's control, such as a merger, acquisition and sale of all or substantially all of the Company's assets, the convertible preferred stock would have become redeemable at the option of the holders. In the event of a change of control of the Company, proceeds received from the sale of such shares would have been distributed in accordance with the liquidation preferences set forth in the Company's Preferred Stock agreements. The Company has determined not to adjust the carrying values of the redeemable convertible preferred stock to the liquidation preferences of such shares because of the uncertainty of whether or when such an event would occur.

Recent accounting pronouncements

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board ("FASB") or other standard setting bodies that the Company adopts as of the specified effective date.

Adopted as of current period

In February 2016, the FASB issued ASU No. 2016-02, *Leases* (Topic 842) ("ASU 2016-02"), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e., lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

This classification will determine whether cost of the lease is recognized based on an effective interest method or on a straight-line basis over the term of the lease. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification.

The FASB subsequently issued the following amendments to ASU 2016-02 that have the same effective date and transition date: ASU No. 2018-01, Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842, ASU No. 2018-10, Codification Improvements to Topic 842, Leases, ASU No. 2018-11, Leases (Topic 842): Targeted Improvements, ASU No. 2018-20, Narrow-Scope Improvement for Lessors, and ASU No. 2019-01, Leases (Topic 842): Codification Improvements. The Company adopted these amendments with ASU 2016-02 (collectively, the new leasing standards) effective January 1, 2019. The new leasing standards were adopted using the modified retrospective transition approach, as of January 1, 2019, with no restatement of prior periods or cumulative adjustment to retained earnings. Upon adoption, the Company elected the package of transition practical expedients, which allowed the Company to carry forward prior conclusions related to whether any expired or existing contracts are or contain leases, the lease classification for any expired or existing leases and initial direct costs for existing leases. The Company also elected the practical expedient to not reassess certain land easements, elected to use hindsight in determining the lease term and made an accounting policy election to not recognize leases with an initial term of 12 months or less within the condensed consolidated balance sheets and to recognize those lease payments on a straight-line basis in the condensed consolidated statements of operations over the lease term. Upon adoption of the new leasing standards an operating lease asset of \$3.3 million and a corresponding operating lease liability of \$3.3 million were recorded in the condensed consolidated balance sheets. The adoption of the new leasing standards did not have an impact on the Company's condensed consolidated statements of operations.

The determination whether an arrangement was qualified as a lease was made at contract inception. Operating lease assets represent the Company's right to use an underlying asset for the lease term and operating lease liabilities represent its obligation to make lease payments arising from the lease. Operating lease assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that the option will be exercised. The Company uses the implicit rate when readily determinable and uses its incremental borrowing rate when the implicit rate is not readily determinable based upon the information available at the commencement date in determining the present value of the lease payments. The incremental borrowing rate is determined using a secured borrowing rate for the same currency and term as the associated lease. The lease payments used to determine operating lease assets may include lease incentives, stated rent increases and escalation clauses linked to rates of inflation when determinable and are recognized as operating lease assets on the condensed consolidated balance sheets. In addition, certain of the Company's arrangements contain lease and non-lease components. The Company elected to generally separate lease payments from non-lease payments but applied an accounting choice to not separate lease payments from certain non-lease payments for its office and laboratory space leases and its car leases. Operating leases are reflected in operating lease assets, in accrued expenses and other current liabilities and in non-current operating lease liabilities in the condensed consolidated balance sheets. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

In July 2017, the FASB issued ASU No. 2017-11, Earnings Per Share (Topic 260), Distinguishing Liabilities from Equity (Topic 480), Derivatives and Hedging (Topic 815) I. Accounting for Certain Financial Instruments with Down Round Features II. Replacement of the Indefinite Deferral for Mandatorily Redeemable Financial Instruments of Certain Nonpublic Entities and Certain Mandatorily Redeemable Noncontrolling Interests with a Scope Exception ("ASU 2018-11"). Part I applies to entities that issue financial instruments such as warrants, convertible debt or convertible preferred stock that contain down-round features. Part II replaces the indefinite deferral for certain mandatorily redeemable noncontrolling interests and mandatorily redeemable financial instruments of nonpublic entities contained within ASC Topic 480 with a scope exception and does not impact the accounting for these mandatorily redeemable instruments. For public entities, this guidance is required to be adopted for annual periods beginning after December 15, 2018, including interim periods within those fiscal years. The Company adopted ASU 2017-11 as of

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

January 1, 2019. The adoption of this ASU did not have a material impact on its consolidated loss from operations or cash flows

Recently Issued Accounting Pronouncements

In November 2018, the FASB issued ASU 2018-18, Clarifying the Interaction Between Topic 808 and Topic 606, which clarifies when transactions between participants in a collaborative arrangement are within the scope of the FASB's revenue standard, Topic 606. This ASU becomes effective for the Company in the year ending December 31, 2020 and early adoption is permitted. The Company is currently assessing the impact that this ASU will have on its consolidated financial statements

In August 2018, the FASB issued ASU 2018-13, Fair Value Measurement (Topic 820): Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement, ("ASU 2018-13"). The new standard removes certain disclosures, modifies certain disclosures and adds additional disclosures related to fair value measurement. The new standard will be effective beginning January 1, 2020 and early adoption is permitted. The Company is currently evaluating the impact that the adoption of ASU 2018-13 will have on its consolidated financial statements.

In August 2018, the FASB issued ASU 2018-15, Intangibles-Goodwill and Other-Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. The amendments in this update align the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The accounting for the service element of a hosting arrangement that is a service contract is not affected by the amendments in this update. The new standard will be effective beginning January 1, 2020 and early adoption is permitted. The amendments in this update should be applied either retrospectively or prospectively to all implementation costs incurred after the date of adoption. The Company is currently evaluating the impact that the adoption of ASU 2018-15 will have on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, Financial Instruments-Credit Losses. The standard modifies the impairment model for most financial assets, including trade accounts receivables and loans, and will require the use of an "expected loss" model for instruments measured at amortized cost. Under this model, entities will be required to estimate the lifetime expected credit loss on such instruments and record an allowance to offset the amortized cost basis of the financial asset, resulting in a net presentation of the amount expected to be collected on the financial asset. The effective date of the standard is for fiscal years beginning after December 15, 2019 with early adoption permitted. In May 2019, the FASB issued ASU 2019-05, Financial Instruments-Credit Losses, to allow entities to irrevocably elect the fair value option for certain financial assets previously measured at amortized cost upon adoption of the new credit losses standard. The new effective dates and transition align with those of ASU 2016-13. The Company is currently evaluating the potential impact of the adoption of these updates on its consolidated financial statements.

3. Collaboration and Licensing Agreements

Gilead Collaboration and License Agreement

In June 2018, the Company has entered into a collaboration and license agreement (the "Gilead Agreement") with Gilead Sciences, Inc. ("Gilead") whereby the parties agreed to collaborate with respect to two preclinical research programs to evaluate potential vaccine products for the treatment, cure, diagnosis or prevention of the hepatitis B virus (HBV) and the human immunodeficiency virus (HIV).

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

Under the Gilead Agreement, the Company granted Gilead an exclusive, royalty-bearing license to the Company's technology platforms. In June 2018, the Company has received a non-refundable \$10.0 million upfront payment from Gilead of which \$1.1 million and \$3.4 million, respectively was recorded as revenue from collaboration and licensing in the three months and nine months ended September 30, 2019 and \$3.6 million was included as a liability in deferred revenues, current and non-current, as of September 30, 2019. Approximately 66% of the upfront payment included in deferred revenue as of September 30, 2019 is expected to be recognized in the remainder of 2019, 32% in 2020 and the remaining 2% in 2021. Gilead is also obligated to make additional payments to the Company upon the achievement of pre-clinical, development and commercial milestones. The development milestones amount to a total of \$280 million. The commercial milestones amount to a total of \$100 million. Additionally, Gilead is obligated to pay royalties on net sales for each program. All payments from Gilead have a 60 days payment term. In addition to the \$1.1 million recognition of the upfront payment, the Company recognized \$0.9 million revenue from cost reimbursements for research and development services in the three months ended September 30, 2019. In the nine months ended September 30, 2019, the Company recognized \$2.9 million revenue from cost reimbursements for research and development services and \$2.0 million in milestone payments. For the three and nine months ended September 30, 2018, revenue from reimbursement of research and development expenses was \$0.7 and \$0.9 million, respectively, and revenue from partial recognition of the upfront payment was \$1.2 million and \$1.6 million, respectively.

Sublicense fees payable to certain licensors of technologies upon the receipt of the non-refundable upfront payment, were capitalized as a contract asset and will be amortized over the period in which the revenue from the triggering payment is recognized. As of September 30, 2019 and December 31, 2018, the contract asset relating to the sublicense payment was \$0.4 million.

4. Fair Value of Financial Assets

The following tables present information about the Company's financial assets measured at fair value on a recurring basis and indicating the level of the fair value hierarchy utilized to determine such fair values (in thousands):

)19 U	sing					
		Level 1		Level 2		Level 3	Total	
Cash equivalents:								
Money market funds	\$	35,000	\$		\$	_	\$	35,000
Total	\$	35,000	\$		\$		\$	35,000

The Company did not have any money market funds as of December 31, 2018.

During the nine months ended September 30, 2019, there were no transfers between Level 1, Level 2 and Level 3.

5. Leases

The Company leases real estate, including office and laboratory space and has entered into various other agreements with respect to assets used in conducting its business. The Company's leases have remaining lease terms

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

ranging from 2 years to 5 years. Some of the lease agreements contain rent holidays and rent escalation clauses that were included in the calculation of the right of use assets and lease liabilities. The Company is required to maintain a cash balance of \$0.3 million to secure a letter of credit associated with a real estate lease. This amount was classified as non-current restricted cash in the consolidated balance sheet as of September 30, 2019.

Certain of the Company's leases qualify as operating leases, and certain of its leases qualify as finance leases. The following table summarizes the presentation in the condensed consolidated balance sheets:

		Sep	tember 30,
	Balance sheet location		2019
Assets			
Operating lease assets	Operating lease assets	\$	8,127
Finance lease assets	Other non-current assets		1,631
Total lease assets			9,758
Liabilities			
Current operating lease liability	Accrued expenses and other current liabilities		1,744
Current finance lease liability	Accrued expenses and other current liabilities		141
Total current lease liabilities			1,885
Non-current operating lease			
liability	Operating lease liabilities, non-current		5,558
Non-current finance lease liability	Other non-current liabilities		382
Total non-current lease liabilities			5,940
Total lease liabilities		\$	7,825

In the nine months ended September 30, 2019 the Company terminated a lease of office space and derecognized the relating right of use asset and the lease liability of \$0.2 million.

The following table summarizes the effect of lease costs in the Company's condensed consolidated statements of operations and comprehensive loss:

	Income statement location	er	months ided er 30, 2019	 months ended ember 30, 2019
	Research and development			
Operating lease expenses	expenses	\$	304	\$ 802
	General and administrative			
	expenses		200	510
Finance lease amortization	Research and development			
expenses	expenses		95	253
	General and administrative			
	expenses		4	10
Interest on finance lease				
liabilities	Interest expenses		2	7
Sublease income	Other income (expense)		(38)	(65)
Net lease expense		\$	567	\$ 1,517

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

The minimum lease payments for the next five years and thereafter are expected to be as follows:

	September 30, 2019				
	Operating lease	Finance lease	Total		
2019 (remaining three months)	\$ 416	\$ 35	\$ 451		
2020	1,780	138	1,918		
2021	1,785	125	1,910		
2022	1,784	118	1,902		
2023	1,773	116	1,889		
2024	127	10	137		
Thereafter	_	_	_		
Total lease payments	7,665	542	8,207		
Less: interest	363	19	382		
Present value of lease liabilities	\$ 7,302	\$ 523	\$ 7,825		

Under the prior lease guidance minimum rental commitments under non-cancelable leases for each of the next five years and total thereafter as of December 31, 2018, were as follows (in thousands):

Year ending December 31	Amount
2019	\$ 520
2020	278
2021	43
2022	43
2023	11
Thereafter	_
Total	\$ 895

These annual minimum lease payments did not include the embedded lease obligations under service agreements, which commenced in the nine months ended September 2019.

The weighted average remaining lease term and weighted average discount rate of operating leases are as follows:

	September 30, 2019
Weighted average remaining lease term in years	4.3
Weighted average discount rate (1)	2.3 %

(1) The majority of the contracts are concluded in euros. The discount rate was determined on a currency-equivalent basis.

The weighted average remaining lease term and weighted average discount rate of finance leases are as follows:

	September 30, 2019
Weighted average remaining lease term in years	4.2
Weighted average discount rate (1)	1.7 %

(1) The contracts are concluded in euros. The discount rate was determined on a currency-equivalent basis.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

The Company subleases certain of its leased real estate that it does not currently utilize to a third party. The sublease has a remaining lease terms of 1.4 years without an option to renew and has been qualified as an operating lease. The Company recognizes sublease income in its condensed consolidated statements of operations and comprehensive loss. The Company continued to account for the head lease as it did before sublease commencement.

Supplemental disclosure of cash flow information related to our operating and finance leases included in cash flows provided by operating activities in our condensed consolidated statements of cash flows is as follows:

	nonths ended nber 30, 2019
Cash paid for amounts included in the measurement of operating lease	
liabilities (1)	\$ 2,148
Cash paid for amounts included in the measurement of finance lease liabilities	
(1)	1,427
Operating lease assets obtained in exchange for lease obligations (2)	5,558
Finance lease assets obtained in exchange for lease obligations (2)	634

⁽¹⁾ The cash paid for amounts included in the measurement of lease liabilities includes upfront payments.

6. Accrued expenses and other current liabilities

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

	September 30, 2019		December 31, 2018	
Consulting fees	\$	433	\$	1,764
Salaries and bonuses		1,733		1,404
Social security contributions		150		121
Unearned grant income (current)		912		833
Operating lease liabilities		1,744		_
Finance lease liabilities		141		_
Other accruals and liabilities		114		298
Total	\$	5,227	\$	4,420

7. Loans payable

As of September 30, 2019 and December 31, 2018, loans payable consisted of the following (in thousands):

	Sep	<u>2019</u>	Dec	2018
Loans from FFG	\$	7,916	\$	8,316
Unamortized debt discount		(3,150)		(3,924)
Total Loans payable, net	\$	4,766	\$	4,392

⁽²⁾ The lease assets reported in the cash flow information exclude upfront payments.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

In connection with the funding agreements with the Austrian Research Promotion Agency, (*Österreichische Forschungs-förderungsgesellschaft*, or "FFG"), the Company has received various loans ("FFG Loans"). The FFG Loans were made on a project-by-project basis. Amounts due under the FFG Loans bear interest at rates ranging from 0.75% to 1.0% per annum and mature at various dates between March 2021 and March 2024. Interest on amounts due under the loans is payable semi-annually in arrears, with all principal and remaining accrued interest due upon maturity.

The FFG Loans bear interest at rates that are below market rates of interest. The Company accounts for the imputed benefit arising from the difference between an estimated market rate of interest and the rate of interest charged by FFG as grant income from FFG. On the date that FFG loan proceeds are received, the Company recognizes the portion of the loan proceeds allocated to grant funding as a discount to the carrying value of the loan and as unearned income, which is recognized as grant income over the term of the funding agreement.

8. Redeemable convertible preferred stock

Redeemable convertible preferred stock

The Company previously issued Series A redeemable convertible preferred stock (the "Series A Preferred Stock"), Series B redeemable convertible preferred stock (the "Series B Preferred Stock"), Series C redeemable convertible preferred stock (the "Series C Preferred Stock") and Series D redeemable convertible preferred stock (the "Series D Preferred Stock"). Upon the closing of the Company's IPO in April 2019, the Company's outstanding redeemable convertible preferred stock automatically converted into shares of common stock or, if elected by the holder, into Class A common stock. Prior to conversion, the Preferred Stock had certain contingent redemption features based upon the occurrence of events that were not solely within the control of the Company and was therefore classified as mezzanine equity.

In December 2017, the Company issued and sold 693,500 shares of Series C Preferred Stock at an average price of \$85.60 per share for gross proceeds of \$59.4 million. An amount of \$6.5 million of the gross proceeds from the issuance of Series C Preferred Stock was received on January 4, 2018. The Company incurred issuance costs in connection with the Series C Preferred Stock of \$0.1 million.

In February 2019, the Company issued and sold 257,000 shares of Series D Preferred Stock at an average price of \$145.65 per share for gross proceeds of \$37.4 million. The Company incurred issuance costs in connection with the Series D Preferred Stock of \$0.2 million.

Upon issuance of each class of Preferred Stock, the Company assessed the embedded conversion and liquidation features of the shares and determined that such features did not require the Company to separately account for these features. The Company also concluded that no beneficial conversion feature existed on the issuance date of each class of Preferred Stock

Upon the closing of the Company's IPO, on April 23, 2019, all 1,580,506 then outstanding shares of Preferred Stock converted into 14,582,161 shares of common stock and 3,819,732 shares of Class A common stock. The related carrying value of \$142.0 million was reclassified to common stock and additional paid-in capital.

As of September 30, 2019, the Company had no shares of Preferred Stock outstanding. The Company is authorized to issue 10,000,000 shares of undesignated preferred stock.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

Prior to the IPO, the shares of Preferred Stock consisted of the following (in thousands, except share amounts):

	Preferred shares authorized	Preferred shares issued and outstanding	Carrying value	Common stock issuable upon conversion
Series A Preferred Stock	137,814	137,814	\$ 0.014	1,604,574
Series B Preferred Stock	492,192	492,192	0.049	5,730,612
Series C Preferred Stock	693,500	693,500	0.069	8,074,447
Series D Preferred Stock	257,000	257,000	0.026	2,992,260
	1,580,506	1,580,506	\$ 0.158	18,401,893

As of December 31, 2018, the outstanding shares of Preferred Stock consisted of the following (in thousands, except share amounts):

	Preferred shares authorized	Preferred shares issued and outstanding	Carrying value	Common stock issuable upon conversion
Series A Preferred Stock	137,814	137,814	\$ 0.014	1,604,574
Series B Preferred Stock	492,192	492,192	0.049	5,730,612
Series C Preferred Stock	693,500	693,500	0.069	8,074,447
	1,323,506	1,323,506	\$ 0.132	15,409,633

Prior to the conversion of the Preferred Stock upon closing of the IPO, the rights, preferences, and privileges of the Preferred Stock were as follows:

Conversion

Each share of Preferred Stock was convertible, at the option of the holder, at any time, and without the payment of additional consideration, into 11.643 fully paid and non-assessable shares of common stock or non-voting Class A common stock as determined by dividing the original issue price paid for such Preferred Shares by the applicable conversion price in effect at the time of conversion.

Liquidation

In the event of any voluntary or involuntary liquidation, dissolution or winding up of the Company or certain deemed liquidation events, the holders of Preferred Shares had a right to receive, certain amounts in preference to any distribution to the holders of common stock.

9. Common stock and Class A common stock

In June 2018 the Company became the reporting entity in a transaction between entities under common control. In the accompanying condensed consolidated financial statements and notes, the common stock is retrospectively presented as if the Company had been the reporting entity for all periods during which the previous reporting entity was under common control.

On April 23, 2019, the Company closed its IPO of 6,000,000 shares of common stock, at an offering price to the public of \$14.00 per share. The Company received net proceeds of \$74.6 million, after deducting \$9.4 million in

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

underwriting discounts and commissions and offering expenses. Upon the closing of the Company's IPO all then outstanding shares of Preferred Stock converted into 14,582,161 shares of common stock and 3,819,732 shares of Class A common stock.

As of December 31, 2018, the Company was authorized to issue 18,454,860 shares of common stock and had 1,006,595 shares of common stock outstanding and issued.

As of September 30, 2019, the Company was authorized to issue 100,000,000 shares of common stock and 3,900,000 shares of Class A common stock and had 21,588,756 shares of common stock and 3,819,732 shares of Class A common stock outstanding and issued.

Holders of common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of Class A common stock are not entitled to vote, except as required by law. Each holder of Class A common stock has the right to convert each share of Class A common stock into one share of common stock at such holder's election.

The holders of common stock and Class A common stock do not have any cumulative voting rights. Subject to any preferential dividend rights of any outstanding preferred stock, holders of common stock and Class A common stock are entitled to receive ratably any dividends declared by the board of directors out of funds legally available for that purpose. Holders of common stock and Class A common stock have no preemptive rights, conversion rights, or other subscription rights or redemption or sinking fund provisions.

In the event of a liquidation, dissolution, or winding up of the Company, holders of common stock and Class A common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities, subject to the preferences that may be applicable to any outstanding shares of preferred stock.

10. Stock-based compensation

2018 Stock Option and Grant Plan

In connection with a transaction between entities under common control by which the Company became the reporting entity in June 2018, the Board of Directors approved the 2018 Stock Option and Grant Plan, by which options granted by the previous reporting entity under the 2016 Stock Option Plan and outstanding at the time of the effectiveness of the transaction were replaced at similar commercial terms. In the accompanying condensed consolidated financial statements and notes, options issued under previous stock option plans and respective compensation expenses are retrospectively presented as if such options had been issued and outstanding under the 2018 Stock Option and Grant Plan for all periods during which the previous reporting entity was under common control.

The exercise price for options granted as a replacement of the 2016 Stock Option Plan is the U.S. dollar equivalent of $\[\in \]$ 0.09, except for 23,286 options granted to an US employee, for which the exercise price is \$2.93 following a repricing of these options in December 2018. For any new options, the exercise price shall not be less than 100% of the fair market value of the common stock on the grant date.

Options granted under the 2018 Stock Option and Grant Plan generally vest over four years, with 25% of the options vesting upon the first anniversary of the grant date and the remaining 75% of the options vesting in 12 equal quarterly installments following the first anniversary of the grant date, provided the option holder continues to have an employment or service relationship with the Company on each vesting date. As of September 30, 2019, 1,520,010 options granted under the 2018 Stock Option and Grant Plan remained outstanding. Any authorization to issue new options under the 2018 Stock Option and Grant Plan was cancelled upon the effectiveness of the 2019 Stock Option and Incentive Plan and no further awards will be granted under the 2018 Plan.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

2019 Stock Option and Incentive Plan

On April 1, 2019, the Company's stockholders approved the 2019 Stock Option and Incentive Plan, which became effective as of the effective date of the registration statement in connection with the Company's IPO. The maximum number of shares of the Company's common stock that may be issued under the Company's 2019 Stock Option and Incentive Plan is 2,608,042, shares which shall be cumulatively increased each year by up to 4.0% of the then outstanding number of shares. Options granted under the 2019 Stock Option and Incentive Plan generally vest over four years, with 25% of the options vesting upon the first anniversary of the grant date and the remaining 75% of the options vesting in 12 equal quarterly installments following the first anniversary of the grant date, provided the option holder continues to have an employment or service relationship with the Company on each vesting date. Options granted to non-executive directors generally vest over a three-year term with 33% of the options vesting upon the first anniversary of the grant date and the remaining 67% of the options vesting in eight equal quarterly installments following the first anniversary of the grant date.

Stock option valuation

The Company estimates the option's fair value on the date of grant using the Black-Scholes option-pricing model. Black-Scholes utilizes assumptions related to expected term, volatility, the risk-free interest rate, the dividend and employee exercise behavior. Forfeitures are accounted for when they occur. Expected volatilities utilized in the Black-Scholes model are based on historical volatilities of a group of comparable companies. The group of representative companies have characteristics similar to the Company, including the stage of product development and focus of the life science industry. Management believes that this represents the most accurate basis for estimating expected future volatilities under the current conditions. The risk-free interest rate is derived from the yields for U.S. Treasuries with a remaining term approximating the expected life of the options. The expected term represents the period of time that the options granted are expected to be outstanding.

The following table summarizes, on a weighted average basis, the assumptions used in the Black-Scholes option-pricing model for estimating the fair value of stock options granted during:

	Three months ended	Three months ended September 30,		September 30,
	2019	2019 2018		2018
Risk-free interest rate	1.93 %	_	2.38 %	_
Expected term (in years)	6.1	_	6.1	_
Expected volatility	79.3 %	_	74.3 %	_
Expected dividends	_			

For the 2019 grants, the Company used the simplified method in developing an estimate of the expected term due to a lack of historical exercise data. In the three and nine months ended September 30, 2018 the Company did not issue any stock options.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

Stock option activity

The following table summarizes the Company's stock option activity since January 1, 2019 (in thousands, except share and per share amounts):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
			(in years)	
Outstanding as of December 31, 2018	1,606,325	\$ 1.95	8.0	\$ 13,466
Granted	1,235,376	13.67		
Exercised	_	_		
Forfeited	(103,867)	6.36		
Outstanding as of September 30, 2019	2,737,834	\$ 7.07	8.3	\$ 9,379
Options exercisable as of September 30, 2019	864,361	\$ 0.13	7.3	\$ 6,367
Options unvested as of September 30, 2019	1,873,473	\$ 10.27	8.8	\$ 3,012

The aggregate intrinsic value of stock options was calculated as the difference between the exercise price of the stock options and the estimated fair value of the Company's common stock for those stock options that had exercise prices lower than the fair value of the Company's common stock. The estimated fair value per common stock used for calculating the intrinsic values as of September 30, 2019 and December 31, 2018, was \$7.50 and \$10.33, respectively.

No cash from option exercise was received in the nine months ended September 30, 2019 and 2018, respectively.

Stock-based compensation

Stock-based compensation expense was classified in the condensed consolidated statements of operations and comprehensive loss as follows (in thousands):

	Thre	e months en 2019	ded September 30, 2018		Nin	e months end	led Sep	otember 30, 2018
Research and development expenses	\$	659	\$	93	\$	1,321	\$	280
General and administrative expenses		1,213		112		2,140		337
	\$	1,872	\$	205	\$	3,461	\$	617

11. Income taxes

Income tax expense during the three and nine months ended September 30, 2018 and 2019 resulted from minimum tax obligations. During the three and nine months ended September 30, 2018 and 2019, the Company recorded no income tax benefits for the net operating losses incurred, due to its uncertainty of realizing a benefit from those items. The Company's losses before income taxes were generated in the United States and Austria. The Company has evaluated the positive and negative evidence bearing upon its ability to realize the deferred tax assets resulting from its net operating loss carryforwards. Management has considered the Company's history of cumulative net losses incurred since inception and its lack of commercialization of any products or generation of any revenue from product sales since

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

inception and has concluded that it is more likely than not that the Company will not realize the benefits of its deferred tax assets. Accordingly, a full valuation allowance has been established against the deferred tax assets as of September 30, 2019 and December 31, 2018. Management reevaluates the positive and negative evidence at each reporting period.

12. Commitments and contingencies

Contract manufacturing arrangements

The Company has entered into arrangements with contract manufacturing organizations ("CMOs") for manufacturing of materials for research and development purposes, including manufacturing of clinical trial materials. These contracts generally provide for non-cancellable obligations or cancellation penalties depending on the time of cancellation. As of September 30, 2019, the Company's total non-cancellable obligations under contracts with CMOs, excluding embedded lease liabilities, were \$16.0 million, of which \$3.1 million relate to 2019 (remaining three months) deliverables, \$10.0 million relate to 2020 deliverables and \$2.9 million relate to 2021 deliverables.

Intellectual property licenses

The Company has entered into certain license agreements under which it is obligated to make milestone payments upon the achievement of certain development and regulatory milestones, to pay royalties on net sales of licensed products, and to pay a percentage of the sublicense fees which the Company receives from its sublicensees.

In the three and nine months ended September 30, 2019, the Company recorded \$0.1 million and \$0.4 million, respectively, in licensing fees from intellectual property licenses as research and development expenses. These amounts mainly related to the upfront payment and milestone payments received by the Company under the Gilead Agreement. The amounts recognized as expenses have been agreed to by the licensors but calculation of sublicensing fees on future payments may be subject to interpretation and may change until agreed to by the receiving party.

Indemnification agreements

In the ordinary course of business, the Company may provide indemnification of varying scope and terms to vendors, lessors, business partners and other parties with respect to certain matters including, but not limited to, losses arising out of breach of such agreements or from intellectual property infringement claims made by third parties. In addition, the Company has entered into indemnification agreements with members of its board of directors and senior management that will require the Company, among other things, to indemnify them against certain liabilities that may arise by reason of their status or service as directors or officers. The maximum potential amount of future payments the Company could be required to make under these indemnification agreements is, in many cases, unlimited. To date, the Company has not incurred any material costs as a result of such indemnifications. The Company is not aware of any claims under indemnification arrangements, and it has not accrued any liabilities related to such obligations in its condensed consolidated financial statements as of September 30, 2019 and December 31, 2018.

Legal proceedings

At each reporting date, the Company evaluates whether or not a potential loss amount or a potential range of loss is probable and reasonably estimable under the provisions of the authoritative guidance that addresses accounting for contingencies. While it is not feasible to predict the outcome of these matters with certainty, and some lawsuits, claims or proceedings may be disposed or decided unfavorably, the Company does not expect that any asserted or un-asserted legal claims or proceedings, individually or in the aggregate, will have a material adverse effect on the Company. The Company expenses the costs related to such legal proceedings as incurred.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED) (continued)

13. Net loss per share

The following table sets forth the computation of the basic and diluted net loss per share attributable to common stockholders (in thousands, except for per share amounts):

	Three months ended September 30,				Nine months ended September 30				
	2019		2018		2019			2018	
Numerator:									
Net loss	\$	(11,385)	\$	(3,953)	\$	(32,793)	\$	(14,345)	
Denominator:									
Weighted-average common shares outstanding, basic									
and diluted	2	5,408,488		911,777		15,308,071		911,777	
Net loss per share, basic and diluted	\$	(0.45)	\$	(4.34)	\$	(2.14)	\$	(15.73)	

Since the Company was in a loss position for all periods presented, basic net loss per share is the same as diluted net loss per share for all periods as the inclusion of all potential common shares (Common Stock and Class A Common Stock) outstanding would have been anti-dilutive. Potentially dilutive securities as of September 30 that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	Three and nine month	s ended September 30,
	2019	2018
Series A Preferred Stock	_	1,604,574
Series B Preferred Stock	<u> </u>	5,730,612
Series C Preferred Stock	_	8,074,447
Series D Preferred Stock		_
Options issued and outstanding	2,737,834	1,428,191
Total	2,737,834	16,837,824

14. Related parties

The Company is party to research and service arrangements with the University of Basel. The Company's Chief Scientific Officer and his spouse are employees of the University of Basel and both involved in providing the services under these arrangements. In the nine months ended September 30, 2019 and 2018, the Company recorded \$0.3 million and \$0.3 million, respectively, in research and development expenses for service fees paid to the University of Basel. The University of Basel is also entitled to receive de minimis royalties on the net sales of any product that is based on a patent created by the Company's Chief Scientific Officer in the course of his consulting services to the Company. In the nine months ended September 30, 2019 and 2018, no royalties were paid pursuant to the terms of this arrangement.

During the nine months ended September 30, 2019, the Company issued 50,670 shares of Series D Preferred Stock for total gross proceeds of \$7.4 million and 1,303,750 shares of common stock for total gross proceeds of \$18.3 million to certain stockholders that were related parties as part of the IPO.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and related notes appearing elsewhere in this Quarterly Report on Form 10-Q and our audited consolidated financial statements and related notes for the year ended December 31, 2018 included in our final prospectus for our initial public offering of our common stock filed with the Securities and Exchange Commission, or the SEC, pursuant to Rule 424(b)(4) of the Securities Act on April 18, 2019, which we refer to as the Prospectus.

Overview

We are a clinical-stage biopharmaceutical company developing a new class of immunotherapeutics targeting infectious diseases and cancers based on our proprietary arenavirus platform that is designed to reprogram the body's immune system. We are using our "off-the-shelf" technologies, VaxWave and TheraT, to elicit directly within patients a powerful and durable response of antigen-specific killer T cells and antibodies, thereby activating essential immune defenses against infectious diseases and cancers. We believe that our technologies can meaningfully leverage this immune defense mechanism for prophylactic and therapeutic purposes by eliciting killer T cell response levels previously not achieved by other published immunotherapy approaches.

Our lead infectious disease product candidate, HB-101, is in a Phase 2 clinical trial in cytomegalovirus-negative patients awaiting kidney transplantation from living cytomegalovirus-positive donors. Our lead oncology product candidates, HB-201 and HB-202, are in development for the treatment of human papillomavirus-positive cancers. We filed an investigational new drug application, or IND, with the U.S. Food and Drug Administration, or the FDA, for HB-201, which became effective following clearance by the FDA. We plan to file an IND, with the FDA for HB-202 in the first half of 2020. We have also entered into a strategic partnership with Gilead Sciences, Inc., or Gilead, to accelerate building a pipeline of additional infectious disease product candidates in a cost efficient manner.

We have funded our operations to date primarily from private placements of our redeemable convertible preferred stock, with aggregate gross proceeds of approximately \$142.5 million, grant funding and loans from an Austrian government agency, and \$14.8 million in upfront and milestone payments from Gilead in connection with a research collaboration and license agreement. On April 23, 2019, we completed an initial public offering of our common stock, or IPO, by issuing 6.0 million shares of our common stock, at \$14.00 per share, for gross proceeds of \$84.0 million, or net proceeds of \$74.6 million

We do not expect to generate revenue from any product candidates that we develop until we obtain regulatory approval for one or more of such product candidates, if at all, and commercialize our products or enter into additional collaboration agreements with third parties. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administrative costs associated with our operations.

All of our product candidates, including our most advanced product candidate, HB-101, will require substantial additional development time and resources before we would be able to apply for and receive regulatory approvals and begin generating revenue from product sales. Before launching our first products, if approved, we plan to establish our own manufacturing facility to minimize or eliminate our reliance on contract manufacturing organizations, or CMOs, which will require substantial capital expenditures and cause additional operating expenses. We currently have no marketing and sales organization and have no experience in marketing products; accordingly, we will incur significant expenses to develop a marketing organization and sales force in advance of generating any commercial product sales. As a result, we will need substantial additional capital to support our operating activities. In addition, we expect to incur additional legal, accounting and other expenses in operating our business, including the additional costs associated with operating as a public company.

We currently anticipate that we will seek to fund our operations through equity or debt financings or other sources, such as government grants and additional collaboration agreements with third parties. Adequate funding may not be available to us on acceptable terms, or at all. If sufficient funds on acceptable terms are not available when

needed, we will be required to significantly reduce our operating expenses and delay, reduce the scope of, or eliminate one or more of our development programs.

We have incurred net losses each year since our inception in 2011, including net losses of \$11.4 million and \$32.8 million for the three and nine months ended September 30, 2019 and \$4.0 million and \$14.3 million for the three and nine months ended September 30, 2018. As of September 30, 2019, we had an accumulated deficit of \$92.8 million and we do not expect positive cash flows from operations in the foreseeable future. We expect to continue to incur net operating losses for at least the next several years as we advance our product candidates through clinical development, seek regulatory approval, prepare for and, if approved, proceed to commercialization, continue our research and development efforts and invest to establish a commercial manufacturing facility.

Components of Our Results of Operations

Revenue from collaboration and licensing

To date, we have not generated any revenue from product sales and do not expect to do so in the near future, if at all. All of our revenue to date has been derived from a research collaboration and license agreement with Gilead.

On June 4, 2018, we entered into a Research Collaboration and License Agreement, or the Collaboration Agreement, with Gilead to evaluate potential vaccine products using or incorporating our TheraT technology and VaxWave technology for the treatment, cure, diagnosis or prevention of hepatitis B virus, or HBV, and the human immunodeficiency virus, or HIV.

Under the Collaboration Agreement, we granted Gilead an exclusive, royalty-bearing license to our technology platform for researching, developing, manufacturing or commercializing products for HIV or HBV. We received a non-refundable \$10.0 million upfront payment upon entering the Collaboration Agreement. Gilead is obligated to reimburse us for our costs, including all benefits, travel, overhead, and any other expenses, relating to performing research and development activities under the Collaboration Agreement. We are also eligible to receive up to \$140.0 million in developmental milestone payments for each of the HBV and HIV programs and up to \$50.0 million in commercialization milestone payments for each of the HBV and HIV programs. Additionally, Gilead is obligated to pay royalties of a high single-digit to low-teens percentage on the worldwide net sales of each HBV product, and royalties of a mid-single-digit to low-teens percentage of worldwide net sales of each HIV product.

We determined that our performance obligations under the terms of the Collaboration Agreement included one combined performance obligation for each of the HBV and HIV research programs, comprised of the transfer of intellectual property rights and providing research and development services. Accordingly, we recognize these amounts as revenue over the performance period of the respective services on a percent of completion basis using total estimated research and development labor hours for each of the performance obligations.

Since entering into the Collaboration Agreement, we have received from Gilead the non-refundable upfront payment of \$10.0 million discussed above and we have recognized \$4.9 million of cost reimbursements for research and development services performed under the Collaboration Agreement. In December 2018, we achieved the first pre-clinical milestone under the HIV program, entitling us to a payment of \$2.8 million from Gilead, which we received in January 2019. In May 2019, we achieved a further pre-clinical milestone under the HBV program, entitling us to an additional milestone payment of \$2.0 million, which we received in July 2019.

Operating Expenses

Our operating expenses since inception have only consisted of research and development costs and general administrative costs.

Research and Development Expenses

Since our inception, we have focused significant resources on our research and development activities, including establishing our arenavirus platform, conducting preclinical studies, developing a manufacturing process, conducting a Phase 1 clinical trial and initiating a Phase 2 clinical trial for HB-101 as well as an IND for HB-201. Research and development activities account for a significant portion of our operating expenses. Research and development costs are expensed as incurred. These costs include:

- salaries, benefits and other related costs, including stock-based compensation, for personnel engaged in research and development functions;
- expenses incurred in connection with the preclinical development of our programs and clinical trials of our product candidates, including under agreements with third parties, such as consultants, contractors, academic institutions and contract research organizations, or CROs;
- the cost of manufacturing drug products for use in clinical trials, including under agreements with third parties, such as CMOs, consultants and contractors;
- · laboratory costs;
- leased facility costs, equipment depreciation and other expenses, which include direct and allocated expenses; and
- intellectual property costs incurred in connection with filing and prosecuting patent applications as well as thirdparty license fees.

The majority of our research and development costs are external costs, which we track on a program-by-program basis. We do not track our internal research and development expenses on a program-by-program basis as they primarily relate to shared costs deployed across multiple projects under development.

We expect our research and development expenses to increase substantially in the future as we advance our existing and future product candidates into and through clinical studies and pursue regulatory approval. The process of conducting the necessary clinical studies to obtain regulatory approval is costly and time-consuming. Clinical studies generally become larger and more costly to conduct as they advance into later stages and, in the future, we will be required to make estimates for expense accruals related to clinical study expenses.

At this time, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the development of any product candidates that we develop from our programs. We are also unable to predict when, if ever, material net cash inflows will commence from sales of product candidates we develop, if at all. This is due to the numerous risks and uncertainties associated with developing product candidates, including the uncertainty of:

- successful completion of preclinical studies and clinical trials;
- sufficiency of our financial and other resources to complete the necessary preclinical studies and clinical trials;
- · acceptance of INDs for our planned clinical trials or future clinical trials;
- · successful enrollment and completion of clinical trials;
- successful data from our clinical program that support an acceptable risk-benefit profile of our product candidates in the intended populations;

- · receipt and maintenance of regulatory and marketing approvals from applicable regulatory authorities;
- scale-up of our manufacturing processes and formulation of our product candidates for later stages of development and commercialization;
- establishing our own manufacturing capabilities or agreements with third-party manufacturers for clinical supply for our clinical trials and commercial manufacturing, if our product candidate is approved;
- · entry into collaborations to further the development of our product candidates;
- · obtaining and maintaining patent and trade secret protection or regulatory exclusivity for our product candidates;
- · successfully launching commercial sales of our product candidates, if and when approved;
- acceptance of the product candidate's benefits and uses, if and when approved, by patients, the medical community
 and third-party payors;
- the prevalence and severity of adverse events experienced with our product candidates;
- maintaining a continued acceptable safety profile of the product candidates following approval;
- · effectively competing with other therapies;
- obtaining and maintaining healthcare coverage and adequate reimbursement from third-party payors; and
- · qualifying for, maintaining, enforcing and defending intellectual property rights and claims.

A change in the outcome of any of these variables with respect to the development of a product candidate could mean a significant change in the costs and timing associated with the development of that product candidate. For example, if the FDA or another regulatory authority were to require us to conduct clinical trials beyond those that we anticipate will be required for the completion of clinical development of a product candidate, or if we experience significant delays in our clinical trials due to patient enrollment or other reasons, we would be required to expend significant additional financial resources and time on the completion of clinical development.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel costs in our executive, finance, business development and administrative functions. Other general and administrative expenses include consulting fees and professional service fees for auditing, tax and legal services, rent expenses related to our offices, depreciation and other costs. We expect our general and administrative expenses to continue to increase in the future as we expand our operating activities and prepare for potential commercialization of our current and future product candidates, increase our headcount and support our operations as a public company, including increased expenses related to legal, accounting, regulatory and tax-related services associated with maintaining compliance with requirements of the Nasdaq Global Select Market and the SEC, directors and officers liability insurance premiums and investor relations activities.

Grant Income

Since inception, we have received grants from an Austrian government agency, either under funding agreements or under research incentive programs. In addition, we have received loans under funding agreements that bear interest at below market interest rate. We account for the grants received as other income and for the imputed benefits arising from the difference between a market rate of interest and the rate of interest as additional grant income, and record interest expense for the loans at a market rate of interest.

Interest Expense

Interest expense results primarily from loans under funding agreements with the Austrian Research Promotion Agency, recorded at a market rate of interest. The difference between interest payments payable pursuant to the loans, which rates are at below market interest rates, and the market interest rate, is accounted for as grant income.

Income Taxes

Income tax expense results from foreign minimum income tax and profit on a legal entity basis. The losses that we have incurred since inception result primary from the losses of our Austrian subsidiary. We have considered that it is more likely than not that we will not realize the benefits of the deferred tax asset, and accordingly, established a full valuation allowance as of September 30, 2019.

Results of Operations

Comparison of Three and Nine months Ended September 30, 2019 and 2018

The following table summarizes our results of operations for the three and nine months ended September 30, 2019 and 2018:

	Three mor	nths ended ber 30,	Nine mon Septem	ths ended ber 30,
	2019	2018	2019	2018
Revenue from collaboration and licensing	\$ 2,038	\$ 1,900	\$ 8,324	\$ 2,549
Operating expenses:				
Research and development	(11,025)	(6,170)	(35,133)	(17,350)
General and administrative	(4,589)	(1,282)	(11,051)	(4,175)
Total operating expenses	(15,614)	(7,452)	(46,184)	(21,525)
Loss from operations	(13,576)	(5,552)	(37,860)	(18,976)
Other income (expense):				
Grant income	1,258	1,762	3,994	5,217
Interest income	565	_	1,140	0
Interest expense	(227)	(194)	(650)	(578)
Other income and expenses, net	604	33	692	19
Total other income (expense), net	2,200	1,601	5,176	4,658
Net loss before tax	(11,376)	(3,951)	(32,684)	(14,318)
Income tax expense	(9)	(2)	(109)	(27)
Net loss	\$ (11,385)	\$ (3,953)	\$ (32,793)	\$ (14,345)

Revenue from collaboration and licensing

Revenue was \$2.0 million and \$8.3 million, for the three and nine months ended September 30, 2019, respectively, and \$1.9 million and \$2.5 million for the three and nine months ended September 30, 2018.

The increase of \$0.1 million for the three months ended September 30, 2019 compared to the three months ended September 30, 2018 was due to higher cost reimbursements received under the Collaboration Agreement with Gilead. For the three months ended September 30, 2019, this revenue included \$0.9 million from reimbursement of research and development expenses and \$1.1 million from partial recognition of revenue related to the upfront payment of \$10.0 million that we received in June 2018. For the three months ended September 30, 2018, revenue from reimbursement of research and development expenses was \$0.7 million and revenue from partial recognition of the upfront payment was \$1.2 million.

The increase of \$5.8 million for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018 was also due to the increase in recognition of revenue under the Collaboration Agreement with Gilead which was entered into in the second quarter of 2018. For the nine months ended September 30, 2019 and 2018

this revenue included \$2.9 million and \$0.9 million, respectively, from reimbursement of research and development expenses, \$3.4 million and \$1.6 million, respectively, from partial recognition of revenue related to the upfront payment, and \$2.0 million and no revenue, respectively, related to the achievement of a research milestones.

Research and Development Expenses

For the three and nine months ended September 30, 2019, our research and development expenses were \$11.0 million and \$35.1 million, respectively, compared to \$6.2 million and \$17.4 million, for the three and nine months ended September 30, 2018.

The primary drivers of the increase of \$4.8 million for the three months ended September 30, 2019 compared to the three months ended September 30, 2018 were an increase in direct research and development expenses by \$3.6 million and an increase in personnel expenses by \$0.9 million. Direct research and development expenses increased primarily due to the expansion of earlier stage programs and the preparation costs of clinical trials for our HB-201 and HB-202 programs. In addition, costs related to our collaboration with Gilead contributed to the increase in direct expenses. Personnel-related research and development expenses increased by \$0.9 million, primarily a result of our increased research and development headcount and an increase in stock compensation expenses. In addition, an increase in facility related costs of \$0.1 million and in other internal costs of \$0.2 million contributed to the overall increase in internal research and development expenses of \$1.2 million for the three months ended September 30, 2019 compared to the three months ended September 30, 2018.

The increase of \$17.8 million for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018 was primarily due to an increase of direct research and development expenses by \$14.4 million. Direct research and development expenses increased primarily due to the preparation costs of clinical trials for our HB-201 and HB-202 programs, the expansion of earlier stage programs and our collaboration with Gilead. Personnel-related research and development expenses increased by \$2.3 million, primarily a result of our increased research and development headcount. In addition, an increase in facility-related costs of \$0.2 million and in other internal costs of \$0.9 million contributed to the overall increase in internal research and development expenses of \$3.4 million for the nine months ended September 30, 2019 compared to the nine months ended September 30, 2018.

	Three months ended September 30,				Nine months en September 30			
		2019	2018		2019			2018
Direct research and development expenses by program:								
HB-101	\$	721	\$	475	\$	3,195	\$	3,685
HB-201/202		3,915		3,184		10,661		5,759
Gilead partnered programs ⁽¹⁾		701		350		2,356		416
Other and earlier-stage programs		2,307		26		9,687		1,665
Sub-total direct expenses		7,644		4,035		25,899		11,525
Internal research and development expenses:								
Personnel related (including stock-based compensation)		2,490		1,583		6,469		4,201
Facility related		403		272		1,132		853
Other internal costs		488		280		1,633		771
Sub-total internal expenses		3,381		2,135		9,234		5,825
Total research and development expenses	\$	11,025	\$	6,170	\$	35,133	\$	17,350

⁽¹⁾ Expenses incurred by us in connection with Gilead partnered programs are reimbursed to us by Gilead and accounted for as revenue.

General and Administrative Expenses

General and administrative expenses for the three months ended September 30, 2019 were \$4.6 million, compared to \$1.3 million for the three months ended September 30, 2018. The increase of \$3.3 million was primarily due to an increase in personnel related expenses of \$2.0 million, an increase in professional and consulting fees of

\$1.0 million and an increase in other general and administrative expenses of \$0.3 million. Personnel-related expenses increased mainly due to an increase in stock compensation expenses, an increase in salaries and the growth in headcount in our general and administrative functions. The increase in professional and consulting fees resulted from an increase in accounting, audit and legal fees as well as costs associated with ongoing business activities and costs to operate as a public company.

General and administrative expenses for the nine months ended September 30, 2019 were \$11.0 million, compared to \$4.2 million for the nine months ended September 30, 2018. The increase of \$6.8 million was primarily due to an increase in personnel-related expenses of \$3.4 million, an increase in professional and consulting fees of \$2.5 million and an increase in other general administrative expenses of \$0.9 million. Personnel related expenses increased mainly due to an increase in stock compensation expenses, an increase in salaries and the growth in headcount in our general and administrative functions. The increase in professional and consulting fees resulted from an increase in accounting, audit and legal fees as well as costs associated with ongoing business activities and costs to operate as a public company.

Grant Income

In the three months ended September 30, 2019 we recorded grant income of \$1.3 million, compared to \$1.8 million in the three months ended September 30, 2018 from grants, research incentives and imputed benefits from below market interest rates on loans from governmental agencies.

In the nine months ended September 30, 2019, we recorded grant income of \$4.0 million, compared to \$5.2 million in the nine months ended September 30, 2018. The decrease of \$1.2 million was primarily due to the expiry of a grant from the Austrian Research Promotion Agency, or FFG, which was partially offset by higher income from other Austrian research and development incentives.

Interest Income and Expense

Interest income was \$0.6 million and \$1.1 million for the three and nine months ended September 30, 2019, compared to no interest income for the three and nine months ended September 30, 2018. The interest income represents interest from cash and cash equivalents held in US dollars resulting from the proceeds from the issuance of Series D Preferred Stock, our IPO, and payments received under our collaboration with Gilead. During the three and nine months ended September 30, 2019 our cash, cash equivalents and restricted cash were mainly held in dollars at US investment grade financial institutions or in money market funds. In addition smaller amounts were held in euros at our Austrian subsidiary which produced no interest income due the low or zero interest rate policy in the European Monetary Union.

Interest expenses for loans from government agencies were \$0.2 million and \$0.7 million for the three and nine months ended September 30, 2019, respectively, compared to \$0.2 million and \$0.6 million for the three and nine months ended September 30, and 2018, respectively. Interest expense was recorded at the market rate of interest, which exceeded the contractual interest.

Liquidity and Capital Resources

Since our inception in 2011, we have funded our operations primarily through private placements of our convertible preferred stock, from grants, research incentives and borrowings under various agreements with public funding agencies, from an upfront payment, milestone payments and reimbursement of research and development expenses pursuant to the Collaboration Agreement with Gilead, and most recently through the proceeds of our IPO.

We have raised gross proceeds of approximately \$142.5 million from the issuance of our convertible preferred stock and \$10.0 million from a non-refundable upfront payment pursuant to the Collaboration Agreement with Gilead. On April 23, 2019, we completed our IPO by issuing 6.0 million shares of our common stock, at \$14.00 per share, for gross proceeds of \$84.0 million, or net proceeds of \$74.6 million. As of September 30, 2019, the principal amount outstanding under loans from government agencies was \$7.9 million and we had cash, cash equivalents and restricted cash of \$124.0 million.

We entered into various funding agreements with the FFG. The loans by FFG, or the FFG Loans, were made on a project-by-project basis and bear interest at rates ranging from 0.75% to 1.0% per annum. In the event that the underlying program research results in a scientific or technical failure, the principal then outstanding under any loan may be forgiven by FFG and converted to non-repayable grant funding on a project-by-project basis. The FFG Loans contain no financial covenants and are not secured by any of our assets.

Because the FFG Loans bear interest at below market rates we account for the imputed benefit arising from the difference between an estimated market rate of interest and the contractual interest rate as grant funding from FFG, which is included in grant income. On the date that FFG Loan proceeds are received, we recognize the portion of the loan proceeds allocated to grant funding as a discount to the carrying value of the loan and as unearned income. As of September 30, 2019, the unamortized debt discount related to FFG Loans was \$3.2 million.

We do not expect positive cash flows from operations in the foreseeable future, if at all. Historically, we have incurred operating losses as a result of ongoing efforts to develop our arenavirus technology platform and our product candidates, including conducting ongoing research and development, preclinical studies, clinical trials, providing general and administrative support for these operations and developing our intellectual property portfolio. We expect to continue to incur net operating losses for at least the next several years as we progress clinical development, seek regulatory approval, prepare for and, if approved, proceed to commercialization of our most advanced product candidates HB-101, HB-201 and HB-202, continue our research and development efforts relating to our other and future product candidates, and invest in our manufacturing capabilities and our own manufacturing facility.

Future Funding Requirements

We have no products approved for commercial sale. To date, we have devoted substantially all of our resources to organizing and staffing our company, business planning, raising capital, undertaking preclinical studies and clinical trials of our product candidates. As a result, we are not profitable and have incurred losses in each period since our inception in 2011. As of September 30, 2019, we had an accumulated deficit of \$92.8 million. We expect to continue to incur significant losses for the foreseeable future. We anticipate that our expenses will increase substantially as we:

- pursue the clinical and preclinical development of our current and future product candidates;
- leverage our technologies to advance product candidates into preclinical and clinical development;
- seek regulatory approvals for product candidates that successfully complete clinical trials, if any;
- attract, hire and retain additional clinical, quality control and scientific personnel;
- establish our manufacturing capabilities through third parties or by ourselves and scale-up manufacturing to provide adequate supply for clinical trials and commercialization;
- expand our operational, financial and management systems and increase personnel, including personnel to support our clinical development, manufacturing and commercialization efforts and our operations as a public company;
- · expand and protect our intellectual property portfolio;
- establish a sales, marketing, medical affairs and distribution infrastructure to commercialize any products for which we may obtain marketing approval and intend to commercialize on our own or jointly;
- · acquire or in-license other product candidates and technologies; and
- · incur additional legal, accounting and other expenses in operating our business, including the additional costs associated with operating as a public company.

Even if we succeed in commercializing one or more of our product candidates, we will continue to incur substantial research and development and other expenditures to develop and market additional product candidates. We may encounter unforeseen expenses, difficulties, complications, delays and other unknown factors that may adversely affect our business. The size of our future net losses will depend, in part, on the rate of future growth of our expenses and our ability to generate revenue. Our prior losses and expected future losses have had and will continue to have an adverse effect on our stockholders' equity and working capital.

We will require substantial additional financing and a failure to obtain this necessary capital could force us to delay, limit, reduce or terminate our product development programs, commercialization efforts or other operations.

Since our inception, we have invested a significant portion of our efforts and financial resources in research and development activities for our VaxWave and TheraT technologies and our product candidates derived from these technologies. Preclinical studies and clinical trials and additional research and development activities will require substantial funds to complete. We believe that we will continue to expend substantial resources for the foreseeable future in connection with the development of our current product candidates and programs as well as any future product candidates we may choose to pursue, as well as the gradual gaining of control over our required manufacturing capabilities and other corporate uses. These expenditures will include costs associated with conducting preclinical studies and clinical trials, obtaining regulatory approvals, and manufacturing and supply, as well as marketing and selling any products approved for sale. In addition, other unanticipated costs may arise. Because the outcome of any preclinical study or clinical trial is highly uncertain, we cannot reasonably estimate the actual amounts necessary to successfully complete the development and commercialization of our current or future product candidates.

Our future capital requirements depend on many factors, including:

- the scope, progress, results and costs of researching and developing our current and future product candidates and programs, and of conducting preclinical studies and clinical trials;
- the number and development requirements of other product candidates that we may pursue, and other indications for our current product candidates that we may pursue;
- the stability, scale and yields of our future manufacturing process as we scale-up production and formulation of our product candidates for later stages of development and commercialization;
- the timing of, and the costs involved in, obtaining regulatory and marketing approvals and developing our ability to
 establish sales and marketing capabilities, if any, for our current and future product candidates we develop if clinical
 trials are successful;
- the success of our collaboration with Gilead;
- our ability to establish and maintain collaborations, strategic licensing or other arrangements and the financial terms of such agreements;
- the cost of commercialization activities for our current and future product candidates that we may develop, whether alone or with a collaborator;
- the costs involved in preparing, filing, prosecuting, maintaining, expanding, defending and enforcing patent claims, including litigation costs and the outcome of such litigation;
- the timing, receipt and amount of sales of, or royalties on, our future products, if any; and
- the emergence of competing oncology and infectious disease therapies and other adverse market developments.

A change in the outcome of any of these or other variables with respect to the development of any of our current and future product candidates could significantly change the costs and timing associated with the development of that product candidate. Furthermore, our operating plans may change in the future, and we will need additional funds to meet operational needs and capital requirements associated with such operating plans.

We do not have any committed external source of funds or other support for our development efforts. Until we can generate sufficient product and royalty revenue to finance our cash requirements, which we may never do, we expect to finance our future cash needs through a combination of public or private equity offerings, debt financings, collaborations, strategic alliances, licensing arrangements and other marketing or distribution arrangements as well as grant funding. Based on our research and development plans, we expect that our existing cash and cash equivalents, will enable us to fund our operating expenses and capital expenditure requirements for at least the next 12 months. These estimates are based on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we expect.

If we raise additional capital through marketing and distribution arrangements or other collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish certain valuable rights to our product candidates, technologies, future revenue streams or research programs or grant licenses on terms that may not be favorable to us. If we raise additional capital through public or private equity offerings, the terms of these securities may include liquidation or other preferences that adversely affect our stockholders' rights. Further, to the extent that we raise additional capital through the sale of common stock or securities convertible or exchangeable into common stock, your ownership interest will be diluted. If we raise additional capital through debt financing, we would be subject to fixed payment obligations and may be subject to covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we are unable to obtain additional funding on favorable terms when needed, we may have to delay, reduce the scope of or terminate one or more of our research and development programs or clinical trials.

Cash Flows

The following table sets forth a summary of the primary sources and uses of cash (in thousands):

	Nine months ended September 3			
		2019		2018
Net cash used in operating activities:	\$	(32,938)	\$	(8,622)
Net cash used in investing activities		(953)		(1,900)
Net cash provided by financing activities		110,634		6,867
Net increase (decrease) in cash and cash equivalents		76,743		(3,655)

Cash Used in Operating Activities

During the nine months ended September 30, 2019, cash used in operating activities was \$32.9 million, which consisted of a net loss of \$32.8 million, adjusted by non-cash charges of \$5.7 million and cash used due to changes in our operating assets and liabilities of \$5.8 million. The non-cash charges consisted primarily of stock-based compensation of \$3.5 million and depreciation and amortization expense of \$2.2 million. The change in our operating assets and liabilities was primarily due to an increase of \$4.4 million in prepaid expenses and other current assets, a decrease of accrued expenses and other current liabilities of \$1.7 million, and a decrease in deferred revenues of \$3.4 million, partially offset by a decrease in accounts receivable of \$1.5 million, an increase of accounts payable of \$1.6 million, and a decrease in other non-current assets of \$0.6 million.

During the nine months ended September 30, 2018, cash used in operating activities was \$8.6 million, which consisted of a net loss of \$14.3 million, adjusted by non-cash charges of \$1.1 million and cash provided by changes in our operating assets and liabilities of \$4.6 million. The change in our operating assets and liabilities was primarily due to an increase in deferred revenues of \$8.6 million mainly driven by the unrecognized portion of the \$10.0 million upfront payment received pursuant to the Collaboration Agreement. The cash effect of this increase was partially offset by an

increase in prepaid expenses and other current assets of \$3.6 million, which was mainly a result of an increase in assets related to future research incentive payments.

Cash Used in Investing Activities

During the nine months ended September 30, 2019, cash used in investing activities was \$1.0 million and resulted from capital expenditures in connection with an expansion of our laboratory and office space and purchase of property and equipment.

During the nine months ended September 30, 2018 cash used in investing activities was \$1.9 million, which resulted from capital expenditures in connection with leasehold improvements to expand our laboratory space and for purchase of property and equipment.

Cash Provided by Financing Activities

During the nine months ended September 30, 2019, cash provided by financing activities was \$110.6 million, which consisted of net proceeds of \$37.3 million from the issuance of shares of our Series D convertible preferred stock in February 2019, and net proceeds of \$74.7 million from our IPO in April 2019, partially offset by an upfront payment for embedded finance lease assets.

During the nine months ended September 30, 2018, cash provided by financing activities was \$6.9 million, which primarily consisted of \$6.4 million in net proceeds from the issuance of shares of our Series C convertible preferred stock in December 2017, and of proceeds from borrowings of \$0.4 million, received under the FFG Loans.

Off-Balance Sheet Arrangements

We did not have during the periods presented and we do not currently have any off-balance sheet arrangements, as defined in the rules and regulations of the SEC.

Contractual Obligations and Commitments

The following table summarizes our contractual obligations as of September 30, 2019 (in thousands):

		Payments Due by Calendar Year						
	Total	Remainder of 2019	2020 - 2021	2022 - 2023	Thereafter			
Lease commitments	\$ 8,20		\$ 3,828	\$ 3,791	\$ 137			
CMO commitments	16,04	0 3,087	12,953	_	_			
Debt obligations	7,91	6 —	2,063	3,541	2,312			
Total	\$ 32,10	\$ 3,538	\$ 18,844	\$ 7,332	\$ 2,449			

The contractual obligations table does not include any potential contingent payments upon the achievement by us of specified clinical, regulatory and commercial events, as applicable, or patent prosecution or royalty payments we may be required to make under license agreements we have entered into because the timing and likelihood of these contingent payments are not known.

We enter into contracts in the normal course of business with CROs for clinical trials, preclinical research studies and testing, manufacturing and other services and products for operating purposes. These contracts generally provide for termination upon notice, and therefore we believe that our non-cancellable obligations under these agreements are not material.

Our IPO provided a change in ownership structure of the Company and, as a consequence, we are in discussions with the Austrian government agency to whom we owe our debt obligations to discuss potential changes to

the repayment schedule of our outstanding loans. The due date of debt obligations may therefore change, depending on the outcome of our discussions with the agency.

Critical Accounting Policies

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which we have prepared in accordance with the rules and regulations of the SEC, and generally accepted accounting principles in the United States, or GAAP. The preparation of these condensed consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements, as well as the reported expenses during the reporting periods. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on 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. Our actual results may differ from these estimates under different assumptions or conditions.

Our critical accounting policies and the methodologies and assumptions we apply under them have not materially changed since our Prospectus, except for our adoption of the new leasing standards which is discussed below.

Leasing

Effective January 1, 2019, we adopted ASU No. 2016-02, Leases (Topic 842) as amended from time to time (the new leasing standards) using the modified retrospective transition approach with no restatement of prior periods or cumulative adjustment to retained earnings. Upon adoption, we elected the package of transition practical expedients, which allowed us to carry forward prior conclusions related to whether any expired or existing contracts are or contain leases, the lease classification for any expired or existing leases and initial direct costs for existing leases. We also elected the practical expedient to not reassess certain land easements and made an accounting policy election to not recognize leases with an initial term of 12 months or less within the condensed consolidated balance sheets and to recognize those lease payments on a straight-line basis in the condensed consolidated statements of operations over the lease term. Upon adoption of the new leasing standards an operating lease asset of \$3.3 million and a corresponding operating lease liability of \$3.3 million were recorded in our condensed consolidated balance sheets. The adoption of the new leasing standards did not have an impact on our condensed consolidated statements of operations.

The determination whether an arrangement was qualified as a lease was made at contract inception. Operating lease assets and liabilities are recognized at the commencement date of the lease based upon the present value of lease payments over the lease term. When determining the lease term, we include options to extend or terminate the lease when it is reasonably certain that the option will be exercised. We use the implicit rate when readily determinable and our incremental borrowing rate when the implicit rate is not readily determinable based upon the information available at the commencement date in determining the present value of the lease payments. The incremental borrowing rate is determined using a secured borrowing rate for the same currency and term as the associated lease. The lease payments used to determine operating lease assets may include lease incentives, stated rent increases and escalation clauses linked to rates of inflation when determinable and are recognized as operating lease assets on the condensed consolidated balance sheets. Certain of our arrangements contain lease and non-lease components. We applied an accounting policy choice to separate or not to separate lease payments for the identified assets from any non-lease payments included in the contract by asset class. Operating leases are reflected in operating lease assets, in accrued expenses and other current liabilities and in non-current operating lease liabilities in our condensed consolidated balance sheets. Lease expense for minimum lease payments is recognized on a straight-line basis over the lease term.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 2 to our condensed consolidated financial statements appearing in this Form 10-Q.

Emerging Growth Company Status and Smaller Reporting Company

As an "emerging growth company," the Jumpstart Our Business Startups Act of 2012 allows us to delay adoption of new or revised accounting standards applicable to public companies until such standards are made applicable to private companies. However, we have irrevocably elected not to avail ourselves of this extended transition period for complying with new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

We are also a "smaller reporting company" meaning that the market value of our stock held by non-affiliates is less than \$700 million and our annual revenue was less than \$100 million during our most recently completed fiscal year. We may continue to be a smaller reporting company if either (i) the market value of our stock held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of our stock held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. For so long as we remain a smaller reporting company, we are permitted and intend to rely on exemptions from certain disclosure and other requirements that are applicable to other public companies that are not smaller reporting companies.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

We are subject to the risk of fluctuations in foreign currency exchange rates, specifically with respect to the euro. Our functional currency is the U.S. dollar and the functional currency of our wholly owned foreign subsidiary, Hookipa Biotech GmbH, is the euro. Our cash, cash equivalents and restricted cash as of September 30, 2019 included substantial amounts of cash balances held by Hookipa Biotech GmbH in euro. We are exposed to market risk related to changes in interest rates. We had cash, cash equivalents and restricted cash of \$124.0 million as of September 30, 2019, which included account balances with foreign banks. Interest income is sensitive to changes in the general level of interest rates; however, due to the nature of these investments, we do not believe that we have any material exposure to changes in the fair value of our investment portfolio as a result of changes in interest rates.

Item 4. Limitations on Effectiveness of Controls and Procedures

The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, refers to controls and procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

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

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Principal Executive Officer and Principal Financial Officer, evaluated, as of the end of the period covered by this Quarterly Report on Form 10-Q, the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act of 1934). Based on that evaluation, our Principal Executive Officer and Principal Financial Officer concluded that our disclosure controls and procedures were not effective at a reasonable assurance level as of September 30, 2019 due to the material weakness described below.

Material Weakness

In connection with our preparation and the audits of our financial statements as of and for the years ended December 31, 2017 and 2018, we and our independent registered public accounting firm identified two material weaknesses as defined under the Exchange Act and by the Public Company Accounting Oversight Board (United States) in our internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual financial statements will not be prevented or detected on a timely basis.

- · We did not maintain a sufficient complement of resources with an appropriate level of accounting knowledge, experience, and training, which would allow for appropriate monitoring, presentation and disclosure, and internal control over financial reporting. Specifically, we have not designed and implemented a sufficient level of formal accounting policies and procedures.
- Additionally, the limited personnel resulted in our inability to consistently establish appropriate authorities and responsibilities in pursuit of our financial reporting objectives, as demonstrated by, amongst other things, our insufficient segregation of duties in their finance and accounting functions.

We are in the process of implementing measures designed to improve our internal control over financial reporting to remediate these material weaknesses. We have hired additional qualified accounting personnel and segregated duties among accounting personnel. We have identified and documented our key internal controls and strengthened supervisory reviews by our management. These additional resources and procedures are designed to enable us to broaden the scope and quality of our internal review of underlying information related to financial reporting and to formalize and enhance our internal control procedures. With the oversight of senior management and our audit committee, we have begun taking steps to remediate the underlying causes of the material weaknesses. During the nine months ended September 30, 2019, we have undertaken the following activities to improve our internal controls over financial reporting:

- Hired additional finance and accounting staff with financial controls and GAAP reporting experience. Hired
 additional human resources and IT staff to segregate duties in the areas of payroll and system controls.
- Implemented formal disclosure controls and procedures, including the formalization of a disclosure committee and requiring management sub-certifications from employees in key functional areas.
- · Engaged third party specialists to support our compliance with internal control requirements.
- Initiated the development of formalized accounting policies and procedures, and clearly defined authorities.
- Identified and documented our significant financial reporting risks and mitigating controls. Documented existing
 controls, implemented additional controls and identified remaining deficiencies. Developed control matrices to
 monitor controls and continue to improve internal controls to remediate the remaining deficiencies.

Changes in Internal Control Over Financial Reporting

Other than the applicable remediation efforts as described above, there were no other changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three and nine months ended September 30, 2019 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

We are not currently a party to any material legal proceedings. From time to time, we may become involved in other litigation or legal proceedings relating to claims arising from the ordinary course of business.

Item 1A. Risk Factors

There have been no material changes from the risk factors previously disclosed in Part II, Item 1A of our Quarterly Report on Form 10-Q for the three months ended June 30, 2019.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

There were no unregistered sales of equity securities by us during the three months ended September 30, 2019.

Use of Proceeds from Initial Public Offering of Common Stock

On April 23, 2019, we closed our initial public offering of 6,000,000 shares of our common stock at a public offering price of \$14.00 per share for an aggregate offering of \$84.0 million. The offer and sale of all of the shares in the offering were registered under the Securities Act of 1933, as amended, pursuant to registration statement on Form S-1 (File No. 333-230451), which was declared effective by the SEC on April 17, 2019. Merrill Lynch, Pierce, Fenner & Smith Incorporated, SVB Leerink LLC and RBC Capital Markets, LLC acted as joint book-running managers for the offering. The offering commenced on April 17, 2019 and did not terminate until the sale of all of the shares offered.

We received aggregate net proceeds from the offering of \$74.6 million, after deducting underwriting discounts and commissions of \$5.9 million and estimated offering expenses of \$3.5 million payable by us. None of the underwriting discounts and commissions or offering expenses were incurred or paid to directors or officers of ours or their associates or to persons owning 10% or more of our common stock or to any affiliates of ours.

The net proceeds from the offering have been partially invested in a money market fund and partially deposited in an interest-bearing bank account with an investment grade financial institution. There has been no material change in our planned use of the net proceeds from the offering as described in our Prospectus dated April 17, 2019.

Item 3. Defaults upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

Not applicable.

Item 6. Exhibits.

The exhibits listed on the Exhibit Index immediately preceding such exhibits, which is incorporated herein by reference, are filed or furnished as part of this Quarterly Report on Form 10-Q.

Exhibit Number	Description
31.1	Certificate of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2	Certificate of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1*	Certificate of Principal Executive Officer and 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.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

^{*} The certification furnished in Exhibit 32.1 hereto is deemed to accompany this Quarterly Report on Form 10-Q and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference. Such certification will not be deemed to be incorporated by reference into any filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, except to the extent that the Registrant specifically incorporates it by reference.

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.

HOOKIPA Pharma Inc.

Date: November 12, 2019 By:/s/ Joern Aldag

Joern Aldag

Chief Executive Officer (Principal Executive Officer)

By:/s/ Reinhard Kandera

Reinhard Kandera

Chief Financial Officer (Principal Financial Officer)

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER PURSUANT TO RULES 13A-14(A) AND 15D-14(A) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

- I, Joern Aldag, certify that:
- 1. I have reviewed this Quarterly Report on Form 10-Q of HOOKIPA Pharma Inc.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);
- c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
- d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report), that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 12, 2019 /s/ Joern Aldag

Joern Aldag Chief Executive Officer (Principal Executive Officer)

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER PURSUANT TO RULES 13A-14(A) AND 15D-14(A) UNDER THE SECURITIES EXCHANGE ACT OF 1934, AS ADOPTED PURSUANT TO SECTION 302 OF SARBANES-OXLEY ACT OF 2002

- I, Reinhard Kandera, certify that:
- 1. I have reviewed this Quarterly Report on Form 10-Q of HOOKIPA Pharma Inc.;
- 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
- 4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) 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) (Paragraph omitted pursuant to SEC Release Nos. 33-8238/34-47986 and 33-8392/34-49313);
- c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
- d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report), that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- 5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
- a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 12, 2019 /s/ Reinhard Kandera

Reinhard Kandera Chief Financial Officer (Principal Financial Officer)

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 HOOKIPA Pharma Inc. (the "Company") for the quarterly period ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), the undersigned, Joern Aldag and Reinhard Kandera, Chief Executive Officer of the Company and Chief Financial Officer of the Company, respectively, hereby certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to their knowledge:

(1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

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

Dated: November 12, 2019 /s/ Joern Aldag

Joern Aldag

Chief Executive Officer (Principal Executive Officer)

Dated: November 12, 2019 /s/ Reinhard Kandera

Reinhard Kandera Chief Financial Officer (Principal Financial Officer)