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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

(Mark One)

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

For the quarterly period ended March 31, 2023

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	**81-5395687**
(State or other jurisdiction of incorporation or organization)	**(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 ☒ No ☐

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☒	Small reporting company	☒
Emerging growth Company	☒		

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

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

As of May 8, 2023, the registrant had 52,322,822 shares of common stock and 2,399,517 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., F. Hoffmann-La Roche Ltd. and Hoffmann-La Roche 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 non-replicating and replicating 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;
- the effects of the coronavirus pandemic or other emerging global health threats on business and operations;
- 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 ability to comply with Nasdaq listing rules 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/), Securities and Exchange Commission 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)

	March 31, 2023	December 31, 2022
Assets		
Current assets:		
Cash and cash equivalents	$ 109,600	$ 112,488
Restricted cash	—	537
Accounts receivable	501	6,533
Receivable research incentives	17,962	15,479
Prepaid expenses and other current assets	11,850	12,159
Total current assets	139,913	147,196
Non-current assets:		
Restricted cash	421	419
Property, plant and equipment, net	17,975	17,970
Operating lease right of use assets	3,686	4,006
Other non-current assets	1,093	863
Total non-current assets	23,175	23,258
Total assets	$ 163,088	$ 170,454
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	$ 7,075	$ 5,488
Deferred revenues	19,047	15,684
Operating lease liabilities, current	1,719	1,688
Accrued expenses and other current liabilities	14,301	11,178
Loans payable, current	2,067	1,594
Total current liabilities	44,209	35,632
Non-current liabilities		
Loans payable, non-current	—	911
Operating lease liabilities, non-current	1,972	2,310
Deferred revenues, non-current	30,281	25,664
Other non-current liabilities	3,147	3,420
Total non-current liabilities	35,400	32,305
Total liabilities	79,609	67,937
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized at March 31, 2023 and December 31, 2022, respectively; Series A convertible preferred stock, 2,978 shares designated, 1,697 shares outstanding at March 31, 2023 and December 31, 2022, respectively; Series A-1 convertible preferred stock, 15,800 shares designated, 15,800 shares outstanding at March 31, 2023 and December 31, 2022, respectively	0	0
Common stock, $0.0001 par value; 200,000,000 shares authorized at March 31, 2023 and December 31, 2022, respectively; 52,322,822 shares and 52,317,138 shares issued and outstanding at March 31, 2023 and December 31, 2022, respectively	5	5
Class A common stock, $0.0001 par value; 3,900,000 shares authorized at March 31, 2023 and December 31, 2022, respectively; 2,399,517 shares issued and outstanding at March 31, 2023 and December 31, 2022, respectively	0	0
Additional paid-in capital	398,008	397,349
Accumulated other comprehensive loss	(7,173)	(7,156)
Accumulated deficit	(307,361)	(287,681)
Total stockholders' equity	83,479	102,517
Total liabilities and stockholders' equity	$ 163,088	$ 170,454

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

HOOKIPA PHARMA INC.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(UNAUDITED)

(In thousands, except share and per share amounts)

	Three months ended March 31,	
	2023	2022
Revenue from collaboration and licensing	$ 3,176	$ 1,445
Operating expenses:		
Research and development	(20,931)	(16,620)
General and administrative	(4,902)	(4,972)
Total operating expenses	(25,833)	(21,592)
Loss from operations	(22,657)	(20,147)
Other income (expense):		
Grant income	$ 2,353	$ 1,887
Interest income	1,171	7
Interest expense	(122)	(243)
Other income and (expenses), net	(220)	528
Total other income, net	3,182	2,179
Net loss before tax	(19,475)	(17,968)
Income tax expense	(205)	(0)
Net loss	(19,680)	(17,968)
Other comprehensive (loss) income:		
Foreign currency translation gain (loss), net of tax	(17)	(487)
Comprehensive loss	$ (19,697)	$ (18,455)
Net loss per share — basic and diluted	$ (0.27)	$ (0.40)

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

HOOKIPA PHARMA INC.

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

(In thousands, except share amounts)

	Convertible Preferred Stock		Common Stock				Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
			Common Stock		Class A Common Stock					
	Shares	Amount	Shares	Amount	Shares	Amount				
Balances as of December 31, 2022	**17,497**	**$ 0**	**52,317,138**	**$ 5**	**2,399,517**	**$ 0**	**$ 397,349**	**$ (7,156)**	**$ (287,681)**	**$ 102,517**
Issuance of common stock upon exercise of stock options	—	—	5,684	0	—	—	1	—	—	1
Foreign currency translation adjustment, net of tax	—	—	—	—	—	—	—	(17)	—	(17)
Stock-based compensation expense	—	—	—	—	—	—	658	—	—	658
Net loss	—	—	—	—	—	—	—	—	(19,680)	(19,680)
Balances as of March 31, 2023	**17,497**	**$ 0**	**52,322,822**	**$ 5**	**2,399,517**	**$ 0**	**$ 398,008**	**$ (7,173)**	**$ (307,361)**	**$ 83,479**
Balances as of December 31, 2021	**1,697**	**$ 0**	**27,383,483**	**$ 3**	**3,819,732**	**$ 0**	**$ 317,135**	**$ (4,780)**	**$ (222,766)**	**$ 89,592**
Issuance of Series A-1 convertible preferred stock upon public offering at $2,000 per share for cash, net of issuance costs of $1,975	15,800	0	—	—	—	—	29,625	—	—	29,625
Issuance of common stock upon public offering at $2.00 per share for cash, net of issuance costs of $2,713	—	—	21,700,000	2	—	—	40,685	—	—	40,687
Issuance of common stock upon stock purchase agreement with Gilead at $3.00 per share for cash, no issuance costs	—	—	1,666,666	0	—	—	5,000	—	—	5,000
Issuance of common stock upon exercise of stock options	—	—	10,034	0	—	—	1	—	—	1
Vesting of equity grants	—	—	112,551	0	—	—	(0)	—	—	—
ATM costs	—	—	—	—	—	—	(142)	—	—	(142)
Foreign currency translation adjustment, net of tax	—	—	—	—	—	—	—	(487)	—	(487)
Stock-based compensation expense	—	—	—	—	—	—	1,621	—	—	1,621
Net loss	—	—	—	—	—	—	—	—	(17,968)	(17,968)
Balances as of March 31, 2022	**17,497**	**$ 0**	**50,872,734**	**$ 5**	**3,819,732**	**$ 0**	**$ 393,925**	**$ (5,267)**	**$ (240,734)**	**$ 147,929**

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

HOOKIPA PHARMA INC.

CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS (UNAUDITED)

(In thousands)

	Three months ended March 31,	
	2023	2022
Operating activities:		
Net loss	$ (19,680)	$ (17,968)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	658	1,621
Depreciation and amortization expense	921	1,078
Other non-cash items	4	74
Changes in operating assets and liabilities:		
Accounts receivable	6,139	6,075
Receivable research incentives	(2,202)	(1,655)
Prepaid expenses and other current assets	407	756
Other non-current assets	(214)	(460)
Accounts payable	1,557	(1,614)
Deferred revenues	7,213	14,128
Operating lease liabilities	(377)	(421)
Accrued expenses and other liabilities	2,933	9
Other non-current liabilities	(207)	110
Net cash (used in) provided by operating activities	(2,848)	1,733
Investing activities:		
Purchases of property and equipment	(274)	(1,828)
Net cash used in investing activities	(274)	(1,828)
Financing activities:		
Payments related to finance leases	—	(20)
Proceeds from issuance of convertible preferred stock, net of issuance costs	—	29,625
Proceeds from issuance of common stock, net of issuance costs	1	45,688
Payments for deferred offering costs	(139)	—
Repayments of borrowings	(597)	—
Net cash (used in) provided by financing activities	(735)	75,293
Net (decrease) increase in cash, cash equivalents and restricted cash	(3,857)	75,198
Cash, cash equivalents and restricted cash at beginning of period	113,444	66,912
Effect of exchange rate changes on cash, cash equivalents and restricted cash	434	(307)
Cash, cash equivalents and restricted cash at end of period	$ 110,021	$ 141,803
Supplemental disclosure of cash flow information:		
Cash paid for interest	$ (1)	$ —
Cash paid for income taxes	$ (0)	$ (0)
Supplemental disclosure of non-cash financing activities:		
Property and equipment additions in accounts payable and accrued expenses	$ 22	$ (504)
Lease assets obtained in exchange for new operating lease liabilities	$ —	$ 240

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

HOOKIPA PHARMA INC.

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 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 consolidated balance sheet as of December 31, 2022 was derived from audited financial statements but does not include all disclosures required by GAAP. The accompanying condensed consolidated balance sheet as of March 31, 2023, the condensed consolidated statements of operations, and comprehensive loss for the three months ended March 31, 2023 and 2022, the condensed consolidated statement of convertible preferred stock and stockholders' equity for the three months ended March 31, 2023 and 2022 and the condensed consolidated statements of cash flows for the three months ended March 31, 2023 and 2022 are unaudited.

The unaudited interim condensed consolidated financial statements have been prepared on the same basis as the audited annual consolidated financial statements 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 audited financial statements for the year ended December 31, 2022 included in the Company's Annual Report on Form 10-K, filed with the Securities and Exchange Commission. The results for any interim period are not necessarily indicative of results for any future period. Certain previous year amounts have been reclassified to conform to the current year presentation.

HOOKIPA PHARMA INC.

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

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 March 31, 2023, the Company has funded its operations with proceeds from sales of common stock, sales of convertible preferred stock, 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 $19.7 million for the three months ended March 31, 2023 and $64.9 million for the year ended December 31, 2022. As of March 31, 2023, the Company had an accumulated deficit of $307.4 million. The Company expects to continue to generate operating losses in the foreseeable future. As of May 11, 2023, the filing date of this Quarterly Report on Form 10-Q, the Company expects that its cash and cash equivalents will 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 may 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 and general and administrative expenses, the present value of lease right of use assets and corresponding liabilities, the valuation of stock-based awards and the valuation of current and non-current loans payable. 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.

The COVID-19 pandemic continues to affect economies and business around the world. The extent and duration of such effects remain uncertain and difficult to predict, particularly as virus variants continue to spread. The Company is actively monitoring and managing its response and assessing actual and potential impacts to its operating results and financial condition, as well as developments in its business, which could further impact the developments, trends and expectations described below. As of the date of issuance of these unaudited condensed consolidated financial statements, the Company is not aware of any specific event or circumstance that would require the Company to update estimates, judgments or revise the carrying value of any assets or liabilities. Actual results may differ from those estimates or assumptions.

HOOKIPA PHARMA INC.

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

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 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 on a pro-rata basis generated as a result of the offering. Should the in-process equity financing be abandoned, the deferred offering costs will be expensed immediately as a charge to operating expenses in the condensed consolidated statements of operations and comprehensive loss.

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. For the three months ended March 31, 2023 and March 31, 2022 the net proceeds from the Company's offerings have been deposited in interest-bearing bank accounts with two of the largest investment grade U.S. financial institutions and have been partially invested in money market funds. The money market funds, held in U.S. dollars, are primarily invested in U.S. and foreign short-term debt obligations. As of March 31, 2023 and December 31, 2022, the Company's cash and cash equivalents included smaller amounts of cash balances held in accounts with regional European banks at the Company's 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.

As of March 31, 2023 and December 31, 2022, Gilead Sciences, Inc. ("Gilead") and F. Hoffmann-La Roche Ltd. and Hoffmann-La Roche Inc. (together "Roche") accounted for the majority of the accounts receivable balance. For the three months ended March 31, 2023 and the three month ended March 31, 2022 Gilead and Roche accounted for the majority of the Company's revenues. Other customers accounted for less than 10.0% of accounts receivable or net sales. The Company monitors the financial performance of its customers so that it can appropriately respond to changes in their credit worthiness. To date, the Company has not experienced any significant losses with respect to collection of its accounts receivable.

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 March 31, 2023 and December 31, 2022, cash equivalents consisted of money market funds and short-term deposits.

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.

HOOKIPA PHARMA INC.

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

- 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.
- 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	shorter of useful life or term of lease
Laboratory equipment	2 - 10 years
Furniture and fixtures	2 - 10 years
Computer equipment and software	2 - 4 years

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. When property and equipment is sold or otherwise disposed of, the cost and related accumulated depreciation are eliminated from the accounts and any resulting gain or loss is reflected in the consolidated statements of operations.

Leases

The determination whether an arrangement qualifies as a lease is made at contract inception. A lease qualifies as a finance lease if any of the following criteria are met at the inception of the lease: (i) there is a transfer of ownership of the leased asset to the Company by the end of the lease term, (ii) the Company holds an option to purchase the leased asset that it is reasonably certain to exercise, (iii) the lease term is for a major part of the remaining economic life of the leased asset, (iv) the present value of the sum of lease payments equals or exceeds substantially all of the fair value of the leased asset, or (v) the nature of the leased asset is specialized to the point that it is expected to provide the lessor no alternative use at the end of the lease term. All other leases are recorded as operating leases and are included in right of use ("ROU") assets and lease liabilities in the consolidated balance sheets. For leases with an initial term of 12 months or less, the Company does not recognize a right of use asset or lease liability. These short-term leases are expensed on a straight-line basis over the lease term.

ROU assets represent the Company's right to use an underlying asset for the lease term and lease liabilities represent its obligation to make lease payments arising from the lease. ROU assets and lease 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 ROU assets may include lease incentives, stated rent increases and escalation clauses linked to rates of

inflation when determinable and are recognized as ROU asset on the consolidated balance sheet. In addition, certain of the Company's arrangements contain lease and non-lease components. The Company generally separates lease payments from non-lease payments. Operating leases are reflected in operating lease assets, in current operating lease liabilities and non-current operating lease liabilities in the consolidated balance sheets. Finance leases are reflected in finance lease assets, in accrued expenses and other current liabilities and in other non-current operating lease liabilities in the consolidated balance sheets. The ROU asset is tested for impairment in accordance with Accounting Standards Codification ("ASC") 360.

Capitalized Software Development Cost

The Company capitalizes certain implementation costs for internal-use software incurred in a cloud computing agreement that is a service contract. Eligible costs associated with cloud computing arrangements, such as software business applications used in the normal course of business, are capitalized in accordance with ASC 350. These costs are recognized on a straight-line basis in the same line item in the statement of operations and comprehensive loss as the expense for fees for the associated cloud computing arrangement, over the term of the arrangement, plus reasonably certain renewals.

Revenue recognition from contracts with customers

The Company recognized revenue from collaboration and license agreements with Gilead and Roche.

Under the collaboration and license agreement with Gilead (as amended and restated, the "Gilead Collaboration Agreement"), 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"). In February 2022, the parties signed an amended and restated collaboration agreement (the "Restated Gilead Collaboration Agreement"), which revised the terms only for the HIV program, whereby the Company will take on development responsibilities for the HIV program candidate through a Phase 1b clinical trial. The Company's performance obligations under the terms of the original agreement include one combined performance obligation for each research program (HBV and HIV) comprised of the transfer of intellectual property rights (licenses) and providing research and development services. The terms of the Restated Gilead Collaboration Agreement added an additional performance obligation to perform research and development work for the HIV program. The licenses do not represent distinct performance obligations, because they cannot be used without the research and development services. Payments to the Company under the Restated Gilead Collaboration Agreement include a non-refundable up-front payment, payments for research and development activities, payments based upon the achievement of defined milestones, and if certain future conditions are met, payments for manufacturing services, commercial milestones and royalties on product sales.

Under the research collaboration and license agreement with Roche (the "Roche Collaboration Agreement"), the Company has agreed to conduct research and early clinical development through Phase 1b for HB-700, a novel investigational arenaviral immunotherapy for the treatment of KRAS-mutated cancers. The Roche Collaboration Agreement also includes an obligation of the Company to deliver a specified package of preclinical data and results with respect to a second program, targeting undisclosed cancer antigens (collectively "UCAs") and an option for Roche to license the UCA program. The Company's performance obligations under the terms of the Roche Collaboration Agreement include one combined performance obligation for the transfer of intellectual property rights (licenses) and providing research and development services for the HB-700 program, and a second, separate performance obligation to perform research and development services with respect to the UCA program. The UCA Option provides a right to license the program at the standalone selling price and therefore does not constitute a separate performance obligation. Payments to the Company under the Roche Collaboration Agreement include a non-refundable up-front payment, payments based upon the achievement of defined milestones, an additional payment if the option for the UCA program is exercised and royalties on product sales.

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

The Company evaluates its collaboration and licensing arrangements pursuant to ASC 606 Revenue from Contracts with Customers. To determine the recognition of revenue from arrangements that fall within the scope of ASC 606, the Company performs the following five steps: (i) identify the contract(s) with a customer; (ii) identify the performance obligations in the contract; (iii) determine the transaction price; (iv) allocate the transaction price to the performance obligations in the contract; and (v) recognize revenue when (or as) the Company satisfies a performance obligation.

Under ASC 606, the Company applies significant judgement to evaluate whether the promises under the collaboration and licensing arrangements, represent separate or one or more combined performance obligations, the allocation of the transaction price to identified performance obligations, the timing of revenue recognition, whether the UCA Option constitutes a material right, and the determination of when milestone payments are probable of being received.

Upfront payment and program initiation fee

The non-refundable upfront-payment received by the Company upon signing of the Gilead Collaboration Agreement, and milestone payments that were linked to future performance obligations, were initially recorded as deferred revenue and allocated between the two research program performance obligations. Such amounts are recognized as revenue over the performance period of the respective services on a percent of completion basis using total estimated research and development labor hours (input method) for each of the obligations. The percent of completion basis using labor hours was considered the best measure of progress in which control of the combined performance obligations transfers to the customer, due to the short time intervals in which research results are shared with the collaboration partner and the nature of the work being performed.

The non-refundable program initiation payment received from Gilead upon signing of the Restated Collaboration Agreement was also initially recorded as deferred revenue and is recognized on a percent of completion basis using total estimated research and development costs (input method) for the performance of the obligations. The percent of completion basis using research and development costs was considered the best measure of progress in which control of the performance obligations transfers to the customer, due to the immediate benefit that it adds to the value of the customer’s rights on the program, the short time intervals in which development results are shared and the nature of the work being performed.

The non-refundable upfront-payment received by the Company upon signing of the Roche Collaboration Agreement, was initially recorded as deferred revenue and allocated between the HB-700 program and the UCA program. Such amounts are recognized as revenue over the performance period of the respective services on a percent of completion basis using total estimated research and development costs (input method) for each of the obligations during the initial term of the contract. The percent of completion basis using research and development costs was considered the best measure of progress in which control of the performance obligations transfers to the customer.

Reimbursement for services

Under the Gilead Collaboration Agreement and the Roche Collaboration Agreement, the Company incurs employee expenses as well as external costs for research, manufacturing and clinical trial activities presented as operating expenses or prepaid expenses. Based on the nature of the Company's responsibilities under the collaboration arrangements, reimbursement of those costs are presented as revenue and not deducted from expenses, as the Company controls the research activities. Amounts of consideration allocated to the performance of research or manufacturing services are recognized over the period in which services are performed. Reimbursements for external costs are recognized as revenues as progress is achieved. Unpaid reimbursement amounts are presented as Accounts Receivable.

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

Research and development milestones

The Gilead Collaboration Agreement and the Roche Collaboration Agreement include contingent milestone payments related to specified preclinical and clinical development milestones. These milestone payments represent variable consideration that are not initially recognized within the transaction price as they are fully constrained under the guidance in ASC 606, due to the scientific uncertainties and the required commitment from Gilead and Roche. The Company will continue to assess the probability of significant reversals for any amounts that become likely to be realized prior to including the variable consideration associated with these payments within the transaction price.

Sales-based milestones and royalty payments

The Gilead Collaboration Agreement and the Roche Collaboration Agreement also include certain sales-based milestone and royalty payments upon successful commercialization of a licensed product. In accordance with ASC 606-10-55-65 Sales Based or Usage Based Royalties, the Company recognizes revenues from sales-based milestone and royalty payments at the later of (i) the occurrence of the subsequent sale; or (ii) the performance obligation to which some or all of the sales-based milestone or royalty payments has been allocated has been satisfied. The Company anticipates recognizing these milestones and royalty payments if and when subsequent sales are generated from a licensed product by the collaboration partner.

Cost to fulfill contracts

The Company incurs costs for personnel, supplies and other costs related to its laboratory operations as well as fees from third parties and license expenses in connection with its research and development obligations under the collaboration and licensing agreement. These costs are recognized as research and development expenses over the period in which services are performed. Sublicense fees triggered by the receipt of payments are capitalized as an asset when the obligation to pay the fee arises. The capitalized asset is amortized over the period in which the revenue from the triggering payment is recognized.

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.

Recently Issued Accounting Pronouncements

In August 2020, the FASB issued ASU 2020-06, Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity’s Own Equity (Subtopic 815-40). The ASU provides guidance that simplified the accounting for certain financial instruments with characteristics of liabilities and equity. The new guidance reduced the number of accounting models for convertible debt and convertible preferred stock instruments and made certain disclosure amendments intended to improve the information provided to users. The guidance also amended the derivative guidance for the “own stock” scope exception, which exempts qualifying instruments from being accounted for as derivatives if certain criteria are met. Finally, the standard changed the way certain convertible instruments are treated when calculating earnings per share. This guidance is effective for fiscal years beginning after December 15, 2023, including interim periods within those fiscal years, with early adoption permitted. The Company is currently assessing the impact that this guidance will have on its consolidated financial statements.

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

3. Collaboration and Licensing Agreements

Gilead Collaboration and License Agreement

In June 2018, the Company entered into the Gilead Collaboration Agreement whereby the Company and Gilead agreed to collaborate with respect to two preclinical research programs to evaluate potential vaccine products for the treatment, cure, diagnosis or prevention of HBV and HIV. In February 2022, the Company signed the Amended and Restated Collaboration Agreement, which altered key aspects of the collaboration pertaining to the HIV therapeutic. Most importantly, the Amended and Restated Collaboration Agreement allocated additional research and development responsibility to the Company with respect to the Company's HIV candidate and provided for additional funding by Gilead of such research and development activities as well as increased later stage development and commercial milestone payments.

Under the Gilead Collaboration Agreement, the Company granted Gilead an exclusive, royalty-bearing license to the Company's technology platforms. Upon entering into the agreement in June 2018, the Company received a non-refundable $10.0 million upfront payment from Gilead and upon signing of the Restated Gilead Collaboration Agreement in February 2022, the Company received a program initiation fee of $15.0 million. 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 $140.0 million for the HBV program, and up to $172.5 million for the HIV program, inclusive of a $10.0 million program completion fee, payable upon Gilead's exercise of the option to pursue further development activities post Phase 1b. The commercial milestones amount to a total of $50.0 million for the HBV program, and $65.0 million for the HIV program. Additionally, Gilead is obligated to pay royalties on net sales for each program. Payments from Gilead generally have a 60 day payment term.

The $10.0 million upfront payment, the $15.0 million initiation fee and $8.0 million in milestone payments were initially recorded as deferred revenue in the consolidated balance sheet and are recognized as revenue when revenue recognition criteria are met. As of March 31, 2023, $13.4 million of such payments were still recorded as a liability in deferred revenues, current and non-current. As of December 31, 2022, $14.3 million of upfront, initiaton and milestone payments were included as a liability in deferred revenues, current. Approximately 23% of deferred revenue is expected to be recognized as revenue in the remainder of 2023, 37% in 2024, 27% in 2025 and the remaining 13% in 2026.

In the three months ended March 31, 2023, the Company recognized $1.2 million of the milestone and initiation payments that were originally recorded as deferred revenue. Furthermore, the Company recognized $0.5 million revenue from cost reimbursements for research and development services. In the three months ended March 31, 2022, the Company recognized $0.6 million of the upfront and milestone payments that were originally recorded as deferred revenue. Furthermore, the Company recognized $0.8 million revenue from cost reimbursements for research and development services.

Sublicense fees payable to certain licensors of technologies upon the receipt of the deferred upfront and milestone payments, 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 March 31, 2023 and December 31, 2022, the contract asset relating to the sublicense payment was $0.2 million and $0.2 million, respectively, and there was no liability relating to sublicense payment.

Roche Collaboration and License Agreement

In October 2022, the Company entered into the Roche Collaboration Agreement whereby the Company and Roche agreed to collaborate with respect to the development of novel arenaviral immunotherapies for KRAS-mutated

cancers and, potentially, a second, novel arenaviral immunotherapeutic program targeting specific undisclosed cancer antigens.

Under the Roche Collaboration Agreement, the Company granted Roche an exclusive, royalty-bearing license to the Company's technology platforms. Upon signing the Roche Collaboration Agreement in October 2022, the Company received a non-refundable upfront payment of $25.0 million and Roche will be obliged to pay an additional $15.0 million payment if the option for the UCA program is exercised. The Company is also eligible for event-based milestone payments of up to an aggregate of $335.0 million during the research and development phase of the HB-700 program for up to four oncology indications and up to an aggregate of $250.0 million in payments related to the achievement of sales-based milestones. For the additional UCA program, subject to option-exercise, the Company is eligible for up to an aggregate of $173.0 million in event-based milestone payments during research and development for up to four oncology indications as well as up to an aggregate of $160.0 million in sales-based milestones. Upon commercialization, the Company is eligible to receive tiered royalties on the worldwide net sales of HB-700 and, subject to option exercise, the UCA program. The royalty payments are subject to reduction under specified conditions set forth in the Roche Collaboration Agreement. Payments from Roche generally have payment terms between 30 days and 60 days.

The $25.0 million upfront payment, and a $10.0 million milestone payment received in the three months ended March 31, 2023 were initially recorded as deferred revenue in the consolidated balance sheet and are recognized as revenue when revenue recognition criteria are met. As of March 31, 2023, $35.9 million of such payments were still recorded as a liability in deferred revenues, current and non-current. The deferred revenues related to the $25.0 million upfront payment and the $10.0 million milestone payment are subject to foreign currency exchange rate fluctuations in future accounting periods. Approximately 36% of deferred revenue is expected to be recognized as revenue in the remainder of 2023, 19% in 2024, 18% in 2025, 17% in 2026 and the remaining 10% in 2027.

In the three months ended March 31, 2023, the Company recognized $1.5 million of the upfront and milestone payments that were originally recorded as deferred revenue.

Sublicense fees payable to certain licensors of technologies upon the receipt of the deferred upfront and milestone payments, 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 March 31, 2023 the contract asset and the liability relating to the sublicense payment was $2.3 million and $2.1 million, respectively. As of December 31, 2022 the contract asset and the liability relating to the sublicense payment was $1.5 million and $1.2 million, respectively.

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):

	Fair Value Measurement at March 31, 2023 Using			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ 81,452	$ —	$ —	$ 81,452
Total	$ 81,452	$ —	$ —	$ 81,452

	Fair Value Measurement at December 31, 2022 Using			
	Level 1	Level 2	Level 3	Total
Cash equivalents:				
Money market funds	$ 85,491	$ —	$ —	$ 85,491
Total	$ 85,491	$ —	$ —	$ 85,491

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

During the three months ended March 31, 2023, there were no transfers between Level 1, Level 2 and Level 3.

5. Property, plant and equipment, net

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

	March 31, 2023	December 31, 2022
Land	$ 1,990	$ 1,959
Leasehold improvements	3,229	3,164
Construction in progress	10,203	10,567
Laboratory equipment	8,244	7,403
Furniture and fixtures	637	622
Computer equipment and software	2,100	2,034
Property and equipment, gross	26,403	25,749
Less: Accumulated depreciation	(8,428)	(7,779)
Property and equipment, net	$ 17,975	$ 17,970

Construction-in-progress as of March 31, 2023 and December 31, 2022 mainly related to investments in connection with the Company's GMP manufacturing facility project.

6. Receivable research incentive

The Company participates in a research incentive program provided by the Austrian government under which it is entitled to reimbursement of a percentage of qualifying research and development expenses and capital expenditures incurred in Austria. Submissions for reimbursement under the program are submitted annually. Incentive amounts are generally paid out during the calendar year that follows the year of the expenses but remain subject to subsequent examinations by the responsible authority. Reimbursements received in excess of the recognized receivable research incentive for a certain period are recorded within other long term liabilities for potential repayment until such time that an audit has taken place, upon expiration of the potential reclaim period, or when it is no longer probable that a reclaim will happen. The years 2018 to present remain open to examination by the authorities.

As of March 31, 2023, the Company recognized receivables of $18.0 million from the research incentive program, which are reported in research incentive receivables in the Company's condensed consolidated balance sheet. As of December 31, 2022, the receivables from the research incentive program were $15.5 million.

During the three months ended March 31, 2023 and 2022, the Company recorded $2.2 million and $1.7 million, respectively, of income related to the incentive program within the Company's condensed consolidated statements of operations as part of the grant income. Research incentives depend on the eligible research and development expenses of the respective period.

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

7. Accrued expenses and other current liabilities

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

	March 31, 2023	December 31, 2022
Salaries and bonuses	3,931	4,481
Social security contributions	369	267
Unearned grant income (current)	237	300
Sublicense fees	2,089	1,220
Accrued external research and development expenses	6,138	3,458
Accrued external general and administration expenses	543	898
Income taxes	402	230
Other accruals and liabilities	592	324
	$ 14,301	$ 11,178

8. Loans payable

As of March 31, 2023 and December 31, 2022, loans payable consisted of the following (in thousands):

	March 31, 2023	December 31, 2022
Loans from FFG	$ 2,305	$ 2,855
Unamortized debt discount	(238)	(350)
Total loans payable, net	$ 2,067	$ 2,505

In connection with the funding agreements with the Austrian Research Promotion Agency, (*Österreichische Forschungsförderungsgesellschaft*, 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 a rate of 0.75% per annum and mature at various dates between June 2023 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.

A principal repayment of $0.6 million was made in the three months ended March 31, 2023. No principal repayment was made in the three months ended March 31, 2022.

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

As of March 31, 2023, the aggregate minimum future principal payments due in connection with the FFG Loans are summarized as follows (in thousands):

Payments Due by Calendar Year	Amount
2023 (remaining 9 months)	1,153
2024	1,152
2025	—
2026	—
2027	—
Thereafter	—
Total	$ 2,305

9. Common stock, Class A common stock and convertible preferred stock

The Company's capital structure consists of common stock, Class A common stock and preferred stock. As of March 31, 2023, the Company was authorized to issue 200,000,000 shares of common stock, 3,900,000 shares of Class A common stock and 10,000,000 shares of preferred stock. The Company has designated 2,978 of the 10,000,000 authorized shares of preferred stock as non-voting Series A convertible preferred stock and 15,800 of the 10,000,000 authorized shares of preferred stock as non-voting Series A-1 convertible preferred stock. As of March 31, 2023, the Company had 52,322,822 shares of common stock, 2,399,517 shares of Class A common stock, 1,697 shares of Series A convertible preferred stock and 15,800 shares of Series A-1 convertible preferred stock outstanding and issued.

In July 2022 and August 2022 certain of the Company's stockholders elected to convert an aggregate of 1,420,215 shares (769,734 and 650,481 shares, respectively) of Class A common stock owned by such holders into an aggregate of 1,420,215 shares of the Company's common stock.

On February 15, 2022, the Company entered into a Stock Purchase Agreement (the "Stock Purchase Agreement") with Gilead, that requires Gilead, at the Company's option, to purchase up to $35.0 million of the Company's common stock. On February 15, 2022, Gilead purchased an initial amount of 1,666,666 shares of the Company's common stock in exchange for $5.0 million in cash at a purchase price per share equal to $3.00. Pursuant to the terms of the Stock Purchase Agreement, the Company may require Gilead to purchase the balance of the $30.0 million of common stock, at the discretion of the Company, in one or two subsequent purchases at a price equal to the volume weighted average purchase price preceding such purchase, as defined in the Stock Purchase Agreement, plus, for the first subsequent purchase, which can be up to the full $30.0 million balance, a premium of 30%. The Company's right to sell shares of its common stock to Gilead is subject to specified limitations, including a limitation that prevents the Company from requesting purchases of shares of common stock by Gilead that would result in a beneficial ownership of more than 19.9% of the total number of outstanding shares of common stock by Gilead. At March 31, 2023, this limitation would have prevented the Company from requesting that Gilead purchase the full remaining $30.0 million balance of the investment commitment. The Company agreed to file a registration statement on Form S-3 to register for resale any additional shares of common stock issued to Gilead within four months from issuance.

On March 4, 2022, the Company closed a public offering of 21,700,000 shares of its common stock and of 15,800 shares of Series A-1 convertible preferred stock at a public offering price of $2.00 and $2,000.00 per share, respectively, for net proceeds of $70.2 million after deducting underwriting discounts and commissions and offering expenses including pro-rata ATM expenses.

The Company has two series of preferred stock authorized, issued and outstanding as of March 31, 2023: Series A convertible preferred stock and Series A-1 convertible preferred stock. Shares of Series A and Series A-1

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convertible preferred stock may be independently converted into common stock. Holders of Series A and Series A-1 convertible preferred stock have equal rights, powers and privileges.

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 and Series A and Series A-1 convertible preferred stock are not entitled to vote, except as required by law. The holders of common stock and Class A common stock do not have any cumulative voting rights.

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. Each holder of Series A and Series A-1 convertible preferred stock has the right to convert each share of Series A and Series A-1 convertible preferred stock into 1,000 shares of common stock at any time at the holder’s option, provided that the holder will be prohibited, subject to certain exceptions, from converting Series A and Series A-1 preferred stock into shares of our common stock if, as a result of such conversion, the holder, together with its affiliates, would own more than 9.99% of the total number of shares of the Company’s common stock then issued and outstanding.

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, subject to any preferential dividend rights of any outstanding preferred stock. Holders of Series A and Series A-1 preferred stock will be entitled to receive dividends at a rate equal to (on an as-if-converted-to-common stock basis), and in the same form and manner as, dividends actually paid on shares of the Company’s common stock. 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 our Series A and Series A-1 preferred stock will receive a payment equal to $0.001 per share of Series A and Series A-1 preferred stock before any proceeds are distributed to the holders of common stock. Then, 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.

There were 1,697 shares of Series A convertible preferred stock and 15,800 shares of Series A-1 convertible preferred stock outstanding as of March 31, 2023 and December 31, 2022, respectively.

10. Stock-based compensation

2018 Stock Option and Grant Plan

In June 2018, the Board of Directors approved the 2018 Stock Option and Grant Plan. 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. The options expire on the 10th anniversary of the grant date. As of March 31, 2023, 895,112 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.

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 plan provides for the grant of shares of restricted stock, long term incentive awards, stock options or other equity-based awards. As of March 31 2023, the maximum number of shares of the Company’s common stock that may be issued

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

under the Company's 2019 Stock Option and Incentive Plan was 8,067,480 shares which shall be cumulatively increased each year by up to 4.0% of the then outstanding number of shares of common stock and Class A common stock. 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. Initial options granted to non-executive directors upon their election 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. Option re-grants to non-executive directors generally vest on the first anniversary of the grant date. The options expire on the 10th anniversary of the grant date. For each option, the beneficiary is entitled to receive one share of common stock upon the exercise of the option.

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 on 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 the assumptions used in the Black-Scholes option-pricing model for estimating the fair value of stock options granted during:

	Three months ended March 31,	
	2023	2022
Risk-free interest rate	— %	1.64 %
Expected term (in years)	—	5.0
Expected volatility	— %	85.8 %
Expected dividends	— %	— %

For the 2022 grants, the Company used the simplified method in developing an estimate of the expected term due to a lack of historical exercise data.

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

Stock option activity

The following table summarizes the Company's stock option activity since January 1, 2023 (in thousands, except share and per share amounts):

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2022	6,532,523	$ 6.19	7.7	$ 490
Granted	—	—		
Exercised	(5,684)	0.10		
Forfeited	(43,527)	6.13		
Outstanding as of March 31, 2023	6,483,312	$ 6.20	7.4	$ 435
Options exercisable as of March 31, 2023	3,779,107	$ 7.85	6.4	$ 435
Options unvested as of March 31, 2023	2,704,205	$ 3.88	8.8	$ —

The aggregate intrinsic value of stock options was calculated as the difference between the exercise price of the stock options and the 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 fair value per common stock used for calculating the intrinsic values as of March 31, 2023 and December 31, 2022, was $0.74 and $0.81, respectively.

Cash received from stock option exercise under share-based payment arrangements for the three months ended March 31, 2023 and March 31, 2022 was $1 thousand, respectively.

Common Stock Awards

In the three months ended March 31, 2022 the Company issued unrestricted shares of common stock to its executive team. The Company's executive team agreed to convert a portion of their base salaries, for the six months ended June 30, 2022, for shares of the Company's fully vested common stock having a value equal to their foregone salary, determined based on a value of $3.00 per share, resulting in the issuance of 112,551 shares of common stock in the three months ended March 31, 2022. The total fair value of common stock awards issued during the three months ended March 31, 2022 was $0.2 million. The grant date fair value per share of common stock was $1.50 and was measured at the closing price of the common stock on the date of grant. Expenses were recorded immediately and are included in stock based compensation in the three months ended March 31, 2022. No unrestricted shares of common stock were issued in the three months ended March 31, 2023.

Stock-based compensation

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

	Three months ended March 31,	
	2023	2022
Research and development expenses	$ 240	$ 618
General and administrative expenses	418	1,003
	$ 658	$ 1,621

HOOKIPA PHARMA INC.

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

11. Income taxes

Income tax expense during the three months ended March 31, 2023 and 2022, resulted from U.S. federal and state income tax as well as minimum tax obligations in Austria. Income tax expense during the three months ended March 31, 2022 resulted from minimum tax obligations in Austria. During the three months ended March 31, 2023 and 2022, 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 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 March 31, 2023 and December 31, 2022. Management reevaluates the positive and negative evidence at each reporting period.

12. Commitments and contingencies

Operating and Finance 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 is required to maintain a cash balance of $0.4 million to secure letters of credit associated with real estate leases. This amount was classified as non-current restricted cash in the Company's condensed consolidated balance sheet as of March 31, 2023.

As of March 31, 2023 and December 31, 2022, the Company's operating lease right-of-use assets were $3.7 million and $4.0 million, respectively, which are reported in operating lease right-of-use assets in the Company's condensed consolidated balance sheets. As of March 31, 2023, the Company had outstanding operating lease obligations of $3.7 million, of which $1.7 million is reported in operating lease liabilities, current portion and $2.0 million is reported in operating lease liabilities, non-current portion in the Company's condensed consolidated balance sheets. As of December 31, 2022, the Company had outstanding operating lease obligations of $4.0 million, of which $1.7 million is reported in operating lease liabilities, current portion and $2.3 million is reported in operating lease liabilities, non-current portion in the Company's condensed consolidated balance sheets. The Company's weighted average discount rate and weighted average lease term remaining on operating lease liabilities is approximately 1.3% and 2.5 years, respectively.

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 March 31, 2023, the Company's total non-cancellable obligations under contracts with CMOs were $8.8 million, of which $8.6 million relate to 2023 (remaining nine months) deliverables, and $0.2 million relate to 2024 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.

HOOKIPA PHARMA INC.

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

In the three months ended March 31, 2023, the Company recorded $0.3 million in licensing fees related to intellectual property licenses as research and development expenses. The amount is mainly related to the upfront payment and milestone payments received by the Company under the Gilead Collaboration Agreement and the Roche Collaboration Agreement. The amount recognized as expenses has 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 March 31, 2023 or December 31, 2022.

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. The Company is currently a party to a patent proceeding opposing European Patent No. 3218504, which was granted to the University of Geneva in July 2020 and is exclusively licensed to the Company. 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 the pending patent opposition, and any asserted or unasserted legal claims or proceedings, individually or in the aggregate, will have a material adverse effect on the Company. However, if, as a result of the current patent proceeding, the Company would lose all, or at least part, of the protection under the opposed patent, such loss could erode the Company’s competitive position and harm its business and ability to achieve profitability. The Company expenses the costs related to the pending and other such legal proceedings as incurred.

HOOKIPA PHARMA INC.

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 March 31,	
	2023	2022
Numerator:		
Net loss	$ (19,680)	$ (17,968)
Denominator:		
Weighted-average common shares outstanding, basic and diluted	54,720,823	38,603,022
Weighted-average Series A convertible preferred shares outstanding, basic and diluted, presented as if converted into common stock[(1)]	1,697,000	1,697,000
Weighted-average Series A-1 convertible preferred shares outstanding, basic and diluted, presented as if converted into common stock[(1)]	15,800,000	4,740,000
Total number of shares used to calculate net loss per share, basic and diluted	72,217,823	45,040,022
Net loss per share, basic and diluted	$ (0.27)	$ (0.40)

[(1)] Class A common stock, Series A and Series A-1 convertible preferred stock are participating securities that have substantially the same terms and features as the Company's common stock. The Class A common stock, Series A and Series A-1 convertible preferred stock is therefore included in the weighted-average number of shares outstanding to calculate net loss per share, basic and diluted as if converted in common stock. Each share of Class A common stock, Series A and Series A-1 convertible preferred stock is independently convertible into one and 1,000 shares of common stock, respectively. 2,399,517 shares of the Company's common stock are issuable upon conversion of the Class A common stock, 1,697,000 shares of the Company's common stock are issuable upon conversion of Series A convertible preferred stock and 15,800,000 shares of the Company's common stock are issuable upon conversion of Series A-1 convertible preferred stock (see Note 9).

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 that were not included in the diluted per share calculations because they would be anti-dilutive were as follows:

	Three months ended March 31,	
	2023	2022
Options issued and outstanding	6,483,312	4,298,946
Unvested restricted stock units	—	—
Total	6,483,312	4,298,946

HOOKIPA PHARMA INC.

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

14. Subsequent Events

Stock option grant

In April 2023, the Company granted stock options to purchase 2,102,100 shares of common stock at an exercise price of $1.00 per share option to employees. All options granted vest over four years, with 25% of the options vesting on February 15, 2024 and the remaining 75% of the options vesting in 12 equal quarterly installments following the first anniversary of the vesting date, provided the option holder continues to have an employment relationship with the Company on each vesting date. In addition, in April 2023, the Company's board approved the HOOKIPA Pharma Inc. 2023 Inducement Plan and reserved 500,000 shares of common stock for stock options issued as inducement grants to new employees.

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, 2022 included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission, or the SEC. As a result of many factors, including those factors set forth in the "Risk Factors" section of our Annual Report on Form 10-K for the year end December 31, 2022, our actual results could differ materially from the results described in, or implied by, the forward-looking statements contained in the following discussion and analysis.

Overview

We are a clinical-stage biopharmaceutical company developing a new class of immunotherapeutics based on our proprietary arenavirus platform that is designed to target and amplify T cell immune responses to fight diseases. We believe that our technologies can meaningfully leverage the human immune system for prophylactic and therapeutic purposes by inducing CD8+ T cell response levels previously not achieved by other immunotherapy approaches.

We are building a proprietary immuno-oncology pipeline by targeting oncoviral cancer antigens, self-antigens and next-generation antigens. Our oncology portfolio includes three disclosed programs, HB-200, HB-300 and HB-700, all of which use our replicating technology. HB-200 is in clinical development for the treatment of Human Papillomavirus 16-positive ("HPV16+") cancers in an ongoing Phase 1/2 clinical trial. HB-300, in development for the treatment of prostate cancer, is in an ongoing Phase 1 clinical trial, which opened for enrollment of patients in the first quarter of 2023. HB-700, which has been partnered with F. Hoffmann-La Roche Ltd. and Hoffmann-La Roche Inc. (collectively referred to as "Roche"), is in preclinical development for the treatment of KRAS mutated cancers, including, lung, colorectal and pancreatic cancers.

Our HB-200 program is comprised of potential therapeutic agents for people with cancers caused by the Human Papillomavirus ("HPV"), specifically HPV16+ and includes HB-201 single-vector therapy and HB-202/HB-201 dual-vector therapy. HB-200 is being evaluated in an ongoing Phase 1/2 clinical trial. In the second quarter of 2022, data presented at scientific conferences showed that HB-202/HB-201 alternating dual-vector candidate induced immune and clinical responses, as well as stable disease in some HPV16+ advanced metastatic/recurrent head and neck cancer patients who failed prior standard of care therapy. We believe that these early-stage data establish proof of concept for our replicating viral vector immunotherapy candidate in oncology.

Based on the safety profile, anti-tumor activity and T cell response data observed to date, we are evaluating HB-202/HB-201 in combination with pembrolizumab in 1st line and 2nd line patients with advanced/metastatic head and neck cancer. We plan to provide a data update in the first half of 2023.

In September 2021, we entered into a clinical collaboration with Merck & Co., Inc. to evaluate the combination of HB-200 and Merck & Co., Inc's anti-PD-1 therapy, KEYTRUDA® (pembrolizumab) in a separate randomized Phase 2 trial for which we have been granted fast track designation by the FDA.

In October 2022, we entered into a Research Collaboration and License Agreement (the "Roche Collaboration Agreement"), with Roche to (i) grant Roche an exclusive license to research, develop, manufacture and commercialize our pre-clinical HB-700 cancer program, an arenaviral immunotherapeutic for KRAS-mutated cancers, and (ii) grant Roche an option right to exclusively license for research, development manufacturing and commercialization, a second, novel arenaviral immunotherapeutic program targeting undisclosed cancer antigens. Pursuant to the Roche Collaboration Agreement, we received a non-refundable upfront payment of $25.0 million and are eligible to receive up to approximately $930 million in potential future success-based milestone payments for both programs, plus tiered royalties. In the first quarter of 2023, we reported the achievement of the first milestone event under the Roche agreement, triggering a milestone payment of $10.0 million.

While our strategic priority is the development of our oncology portfolio, we believe that our platform is also uniquely positioned to provide value from the prophylactic and therapeutic use against infectious diseases. We plan to continue developing infectious disease therapies in partnership with other companies.

We are collaborating with Gilead Sciences, Inc. ("Gilead") to research arenavirus functional cures for chronic Hepatitis B and HIV infections under a Collaboration and License Agreement signed in 2018 (the "Gilead Collaboration Agreement"). Both programs have completed preclinical research, and in April 2023 the first participant in a Phase 1 clinical trial of the Hepatitis B product candidate being conducted by Gilead has been dosed. Gilead is solely responsible for further development and commercialization of the Hepatitis B product candidate and we are eligible for up to a further $185.0 million in development and commercialization milestone payments, plus tiered royalties. According to the amendment to the Gilead Collaboration Agreement, signed in February 2022, we have taken on development responsibilities for the HIV program candidate through a Phase 1b clinical trial and Gilead will provide funding through a combination of an initiation payment of $15.0 million, a milestone payment of $5.0 million and equity contributions of up to $35.0 million. Gilead retains the exclusive option right, to further develop and commercialize the HIV program, in which case we are eligible for up to a further $232.5 million in developmental and commercialization milestone payments, inclusive of a $10.0 million option exercise payment, plus tiered royalties.

We have funded our operations to date primarily from public offerings of common stock and convertible preferred stock, including our initial public offering, as well as private placements of our redeemable convertible preferred stock, grant funding and loans from an Austrian government agency, and upfront, milestone and initiation payments from Gilead and Roche in connection with our respective collaboration and license agreements.

On April 23, 2019, we completed an initial public offering of our common stock (the "IPO") in which we issued 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. On December 11, 2020, we completed a follow-on public offering in which we issued 3.9 million shares of our common stock, at $11.75 per share, and 2,978 shares of our Series A convertible preferred stock, at $11,750.00 per share, for net proceeds of $75.0 million after deducting underwriting discounts and commissions and offering expenses. In addition, in February 2022, Gilead purchased 1.7 million shares of our common stock for $5.0 million. On March 4, 2022, we completed a follow-on public offering in which we issued 21.7 million shares of our common stock, at $2.00 per share, and 15,800 shares of our Series A-1 convertible preferred stock, at $2,000.00 per share, for net proceeds of $70.2 million after deducting underwriting discounts and commissions and offering expenses. As of March 31, 2023, the principal amount outstanding under loans from government agencies was $2.3 million and we had cash, cash equivalents and restricted cash of $110.0 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 oncology product candidate, HB-200, 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 reduce or eliminate our reliance on contract manufacturing organizations ("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 continue to incur legal, accounting and other expenses in operating our business, including the 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 $19.7 million for the three months ended March 31, 2023. As of March 31, 2023, we had an accumulated deficit of $307.4 million and we do not expect positive cash flows from operations in the foreseeable future, if ever. 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 further commercial manufacturing capacity.

Impacts of Coronavirus and Market Conditions on Our Business

We have been actively monitoring the coronavirus pandemic situation and its impact globally. We believe our financial results for the three months ended March 31, 2023 and 2022 were not significantly impacted by the outbreak of the coronavirus. We believe our hybrid and remote working arrangements have had limited impact on our ability to maintain internal operations during the three months ended March 31, 2023 and 2022. Further, disruption of global financial markets and a recession or market correction, including as a result of the coronavirus pandemic, the ongoing military conflict between Russia and Ukraine and the related sanctions imposed against Russia, and other global macroeconomic factors, could reduce our ability to access capital, which could, in the future, negatively affect our business and the value of our common stock.

Effects of Inflation

We do not believe that inflation has had a material impact on our business or operating results during the periods presented. However, inflation, has had, and may continue to have, an impact on the labor costs we incur to attract and retain qualified personnel, costs to conduct clinical trials and other operational costs. Inflationary costs could adversely affect our business, financial condition and results of operations. In addition, increased inflation has had, and may continue to have, an effect on interest rates. Increased interest rates may adversely affect our borrowing rate and our ability to obtain, or the terms under which we can obtain, any potential additional funding.

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 research collaboration and license agreements with Gilead and Roche.

Gilead Collaboration Agreement

On June 4, 2018, we entered into the Gilead Collaboration Agreement to evaluate potential vaccine products using or incorporating our replicating technology and non-replicating technology for the treatment, cure, diagnosis or prevention of HBV and HIV.

Under the Gilead Collaboration Agreement, we granted Gilead an exclusive, royalty-bearing license to our technology platform for researching, developing, manufacturing and commercializing products for HIV or HBV. We received a non-refundable $10.0 million upfront payment upon entering the Gilead Collaboration Agreement. In February 2022, we signed an amended and restated collaboration agreement (the “Restated Gilead Collaboration Agreement”) which revised the terms only for the HIV program, whereby we will take on development responsibilities for the HIV program candidate through a Phase 1b clinical trial. Pursuant to the Restated Gilead Collaboration Agreement, Gilead will retain an exclusive right, the Option, to take back the development responsibilities, thus keeping the rights for the HIV program, including further development and commercialization in return for an option exercise payment of $10.0 million. Pursuant to the Restated Gilead Collaboration Agreement, we are eligible for up to $140.0 million in developmental milestone payments for the HBV program and $50.0 million in commercialization

milestone payments. If Gilead exercises the Option, we are eligible for up to $172.5 million in developmental milestone payments for the HIV program, inclusive of the $10.0 million Option exercise payment, and $65.0 million in commercialization milestone payments for the HIV program. Upon the commercialization of a product, we are eligible to receive tiered royalties of a high single-digit to mid-teens percentage on the worldwide net sales of each HBV product, and royalties of a mid-single-digit to 10% of worldwide net sales of each HIV product. 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 Restated Gilead Collaboration Agreement with respect to the HBV program, and if the Option is exercised, any manufacturing costs related to the HIV program. Through March 31, 2023, we have received a non-refundable upfront payment of $10.0 million, a program initiation fee of $15.0 million and $21.2 million in milestone payments for the achievement of pre-clinical research milestones from Gilead. In addition, we have recognized $41.3 million of cost reimbursements for research and development services performed under the original and Restated Gilead Collaboration Agreement.

We determined that our performance obligations under the terms of the original Gilead 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 recognized 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. The terms of the Restated Gilead Collaboration Agreement added an additional performance obligation to us to perform research and development work for the HIV program. We recognize the amounts of revenue allocated to the performance obligation resulting from the Restated Gilead Collaboration Agreement on a percent of completion basis over the performance period, using total estimated research and development costs as the measure of progress.

Roche Collaboration Agreement

On October 18, 2022, we entered into the Roche Collaboration Agreement to (i) grant Roche an exclusive license to research, develop, manufacture and commercialize our pre-clinical HB-700 cancer program, an arenaviral immunotherapeutic for KRAS-mutated cancers, and (ii) grant Roche an exclusive option right to exclusively license for research, development manufacturing and commercialization, a second, novel arenaviral immunotherapeutic program targeting undisclosed cancer antigens.

Under the Roche Collaboration Agreement, we granted Roche an exclusive, royalty-bearing license to our technology platforms. Upon signing the Roche Collaboration Agreement in October 2022, we received a non-refundable upfront payment of $25.0 million and Roche will be obliged to pay an additional $15.0 million payment if the option (the "UCA Option") for the program targeting undisclosed cancer antigens (the "UCA Program") is exercised. We are also eligible for event-based milestone payments of up to an aggregate of $335.0 million during the research and development phase of the HB-700 program for up to four oncology indications and up to an aggregate of $250.0 million in payments related to the achievement of sales-based milestones. For the additional UCA Program, subject to UCA Option-exercise, we are eligible for up to an aggregate of $173.0 million in event-based milestone payments during research and development for up to four oncology indications as well as up to an aggregate of $160.0 million in sales-based milestones. Upon commercialization, we are eligible to receive tiered royalties on the worldwide net sales of HB-700 and, subject to UCA Option exercise, the UCA Program. The royalty payments are subject to reduction under specified conditions set forth in the Roche Collaboration Agreement. Through March 31, 2023, we have received from Roche the non-refundable upfront payment of $25.0 million and $10.0 million in milestone payments for the achievement of a GMP manufacturing milestone under the HB-700 program.

We determined that our performance obligations under the terms of the Roche Collaboration Agreement included one combined performance obligation for the transfer of intellectual property rights (licenses) and providing research and development services for the HB-700 program, and a second, separate performance obligation during the UCA Option period to perform research and development services with respect to the UCA Program. Accordingly, we allocated the non-refundable upfront payment of $25.0 million between the two performance obligations. Milestone payments that are contingent on future events will be added to the transaction price when the triggering event has become probable. The consideration allocated to a performance obligation will be recognized as revenue over the performance period of the respective services on a percent of completion basis using total estimated research and

development costs for each of the performance obligations. Milestone payments, or parts thereof, that relate to completed services will be reflected via a cumulative catch up for past performance.

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 Phase 1 and Phase 2 clinical trials for HB-101 as well as the ongoing HB-200 Phase 1/2 study, and an investigational new drug ("IND") application for HB-300. 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 ("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
- third-party 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 trials and pursue regulatory approval. The process of conducting the necessary clinical studies to obtain regulatory approval is costly and time-consuming. Clinical trials 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 trial 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 candidates 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 U.S. Food and Drug Administration 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.

The following table summarizes our research and development expenses by product candidate or program (in thousands):

	Three months ended March 31,	
	2023	2022
HB-200 program	$ 9,733	$ 7,413
HB-300 program	3,647	2,767
Gilead partnered programs	3,584	1,733
Roche partnered programs	1,993	—
Other and earlier-stage programs	1,562	4,089
Other unallocated research and development expenses	412	618
Total research and development expenses	$ 20,931	$ 16,620

Other unallocated research and development expenses include stock-based compensation expense, certain lease expenses and other operating expenses that we do not track on a program-by-program basis, since our research and development employees and infrastructure resources are utilized across our programs.

General and Administrative Expenses

Our general and administrative expenses consist primarily of personnel costs in our executive, finance and investor relations, business development and administrative functions. Other general and administrative expenses include consulting fees and professional service fees for auditing, tax and legal services, lease expenses related to our offices, premiums for directors and officers liability insurance, intellectual property costs incurred in connection with filing and prosecuting patent applications, 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 investor relations activities and maintain compliance with requirements of the Nasdaq Global Select Market and the Securities and Exchange Commission.

Grant Income

Since inception, we have received grants from the Austrian Research Promotions 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.

We participate in a research incentive program provided by the Austrian government under which we are entitled to reimbursement of a percentage of qualifying research and development expenses and capital expenditures incurred in Austria. Submissions for reimbursement under the program are submitted annually. Incentive amounts are generally paid out during the calendar year that follows the year of the expenses but remain subject to subsequent examinations by the responsible authority.

Interest Income

Interest income results of interest earned on our cash, cash equivalents, and restricted cash.

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 U.S. federal and state income tax as well as 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, at this point in time, it is uncertain whether we will ever be able to realize the benefits of the deferred tax asset, and accordingly, have established a full valuation allowance as of March 31, 2023.

Results of Operations

Comparison of Three Months Ended March 31, 2023 and 2022

The following table summarizes our results of operations for the three months ended March 31, 2023 and 2022 (in thousands):

	Three months ended March 31,	
	2023	2022
Revenue from collaboration and licensing	$ 3,176	$ 1,445
Operating expenses:		
Research and development	(20,931)	(16,620)
General and administrative	(4,902)	(4,972)
Total operating expenses	(25,833)	(21,592)
Loss from operations	(22,657)	(20,147)
Other income (expense):		
Grant income	2,353	1,887
Interest income	1,171	7
Interest expense	(122)	(243)
Other income and expenses, net	(220)	528
Total other income (expense), net	3,182	2,179
Net loss before tax	(19,475)	(17,968)
Income tax expense	(205)	(0)
Net loss	$ (19,680)	$ (17,968)

Revenue from Collaboration and Licensing

Revenue was $3.2 million for the three months ended March 31, 2023, compared to $1.4 million for the three months ended March 31, 2022.

The increase of $1.8 million for the three months ended March 31, 2023 compared to the three months ended March 31, 2022 was primarily due to higher partial recognition of the upfront and milestone payments under the Gilead and Roche collaborations, partially offset by lower cost reimbursements received under the Restated Gilead Collaboration Agreement.

For the three months ended March 31, 2023 and 2022, revenue included $0.5 million and $0.8 million, respectively, from reimbursement of research and development expenses, and $2.7 million and $0.6 million, respectively, from partial recognition of upfront, milestone and initiation payments that were initially recorded as deferred revenue.

For the three months ended March 31, 2023, revenue included $1.7 million related to the Restated Gilead Collaboration Agreement, of which $0.5 million resulted from reimbursement of research and development expenses, and $1.2 million from partial recognition of milestone and initiation payments that were initially recorded as deferred revenue. In addition, revenue included $1.5 million from partial recognition of upfront and milestone payments under the Roche Collaboration Agreement, that were initially recorded as deferred revenue.

For the three months ended March 31, 2022, revenue included $1.4 million related to the Restated Gilead Collaboration Agreement, of which $0.8 million resulted from reimbursement of research and development expenses, and $0.6 million from partial recognition of milestone and initiation payments that were initially recorded as deferred revenue.

Research and Development Expenses

For the three months ended March 31, 2023, our research and development expenses were $20.9 million, compared to $16.6 million for the three months ended March 31, 2022.

The increase of $4.3 million for the three months ended March 31, 2023 compared to the three months ended March 31, 2022 was attributable to an increase in direct research and development expenses of $2.5 million, and an increase in indirect research and development expenses of $1.8 million. The increase in direct research and development expenses was primarily driven by higher clinical study expenses for our HB-200 program and higher expenses for research and development services for our HB-200 program, as well as increased spending for our Gilead and Roche partnered programs, partially offset by lower manufacturing expenses for our HB-200 and Gilead partnered programs. Indirect research and development expenses increased mainly because of personnel related expenses.

General and Administrative Expenses

General and administrative expenses for the three months ended March 31, 2023 were $4.9 million, compared to $5.0 million for the three months ended March 31, 2022.

The decrease of $0.1 million was primarily due to a decrease in other expenses of $0.3 million, and a decrease in professional and consulting fees of $0.1 million, partially offset by an increase in personnel-related expenses of $0.3 million. The increase in personnel-related expenses resulted from a growth in headcount along with increased salaries in our general and administrative functions as well as expenses for contractors, partially offset by decreased stock compensation expenses.

Grant Income

In the three months ended March 31, 2023, we recorded grant income of $2.4 million, compared to $1.9 million in the three months ended March 31, 2022. Income from grants mainly included research incentives and imputed benefits from below market interest rates on loans from governmental agencies. The increase of $0.5 million was primarily due to higher income from Austrian research and development incentives as a result of higher eligible research and development expenses.

Interest Income and Expense

Interest income was $1.2 million for the three months ended March 31, 2023, compared to interest income of less than $0.1 million for the three months ended March 31, 2022. The increase in interest income for the three months ended March 31, 2023 was a result of the rising U.S. dollar and euro interest rates. Interest income represents interest from cash and cash equivalents held in U.S. dollars and euros resulting from the proceeds from the issuance of common and preferred stock as well as payments received under our Gilead and Roche collaborations. During the three months ended March 31, 2023 our cash, cash equivalents and restricted cash were mainly held in dollars at U.S. investment grade financial institutions or in money market funds. In addition, smaller amounts were held in euros and dollars at our Austrian subsidiary.

Interest expenses for loans from government agencies were $0.1 million for the three months ended March 31, 2023, compared to $0.2 million for the three months ended March 31, 2022. Interest expense was recorded at the market rate of interest, which exceeded the contractual interest.

Other Income and Expenses

Other expenses were $0.2 million for the three months ended March 31, 2023, compared to other income of $0.5 million for the three months ended March 31, 2022. The change in the three months ended March 31, 2023 resulted primarily from exchange rate differences and foreign currency remeasurements.

Liquidity and Capital Resources

Since our inception in 2011, we have funded our operations primarily from public offerings and private placements of common stock and convertible preferred stock, including our initial public offering, as well as private placements of our redeemable convertible preferred stock, grant funding and loans from an Austrian government agency, and upfront, milestone and initiation payments from Gilead and Roche in connection with research collaboration agreements.

Prior to our IPO, we raised gross proceeds of approximately $142.5 million from the issuance of our redeemable convertible preferred stock. In April 2019, we completed our IPO in which we issued and sold 6,000,000 shares of our common stock, at $14.00 per share, for gross proceeds of $84.0 million, or net proceeds of $74.6 million. On December 11, 2020, we completed a follow-on public offering in which we issued 3,910,000 shares of our common stock, at $11.75 per share, and 2,978 shares of our Series A convertible preferred stock, at $11,750.00 per share, for net proceeds of $75.0 million after deducting underwriting discounts and commissions and offering expenses. In addition, in February 2022, Gilead purchased 1,666,666 shares of our common stock for $5.0 million, at a purchase price of $3.00 per share and committed to purchase an additional $30.0 million of common stock at our discretion subject to specified limitations (see “Note 9. Common stock, Class A common stock and convertible preferred stock”). On March 4, 2022, we completed a follow-on public offering in which we issued 21,700,000 shares of our common stock, at $2.00 per share, and 15,800 shares of our Series A-1 convertible preferred stock, at $2,000.00 per share, for net proceeds of $70.2 million after deducting underwriting discounts and commissions and offering expenses. We also received $46.2 million from non-refundable upfront, milestone and initiation payments pursuant to the Restated Gilead Collaboration Agreement and $35.0 million from non-refundable upfront and milestone payments related to the Roche Collaboration Agreement. As of March 31, 2023, we had cash, cash equivalents and restricted cash of $110.0 million.

On July 12, 2022, we filed a registration statement on Form S-3, or the Registration Statement, with the SEC, which was declared effective on July 21, 2022. The Registration Statement registers the offering, issuance and sale of an unspecified amount of common stock, preferred stock, debt securities, warrants and/or units of any combination thereof. We simultaneously entered into a Sales Agreement with SVB Securities LLC, as sales agent, to provide for the issuance and sale by us of up to $50.0 million of common stock from time to time in “at-the-market” offerings under the Registration Statement and related prospectus filed with the Registration Statement, or the ATM Program. As of March 31, 2023, no sales had been made pursuant to the ATM Program.

We entered into various funding agreements with the Austrian Research Promotion Agency (Österreichische Forschungsförderungsgesellschaft, or “FFG”). The loans by FFG (the “FFG Loans”) were made on a project-by-project basis and bear interest at a rate of 0.75% 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. The debt obligation is $2.3 million, principal repayments are due as follows: $1.2 million are due in 2023, and the remaining $1.1 million are due upon final maturity in 2024.

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 March 31, 2023, the unamortized debt discount related to FFG Loans was $0.2 million.

We entered into arrangements with contract manufacturing organizations. As of March 31, 2023, we had total non-cancellable obligations under such contracts of $8.8 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 oncology product candidate HB-200, 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 March 31, 2023, we had an accumulated deficit of $307.4 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 ongoing 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 non-replicating and replicating 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 and Roche;
- 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, including the funds received under the Restated Gilead Collaboration Agreement, and the funds received under the

Roche Collaboration Agreement, 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, the ownership interest of our shareholders 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):

	Three months ended March 31,	
	2023	2022
Net cash (used in) provided by operating activities	$ (2,848)	$ 1,733
Net cash used in investing activities	(274)	(1,828)
Net cash (used in) provided by financing activities	(735)	75,293
Net (decrease) increase in cash and cash equivalents	(3,857)	75,198

Cash (Used in) Provided by Operating Activities

During the three months ended March 31, 2023, cash used in operating activities was $2.8 million, which consisted of a net loss of $19.7 million, adjusted by non-cash charges of $1.6 million and cash provided due to changes in our operating assets and liabilities of $15.2 million. The non-cash charges consisted primarily of stock-based compensation of $0.7 million and depreciation and amortization expense of $0.9 million. The change in our operating assets and liabilities was primarily due an increase in deferred revenues of $7.2 million, resulting from the receipt of a $10.0 million milestone payment less recognition of deferred revenue in the period, a decrease in accounts receivable of $6.1 million, primarily resulting from the collection of a $5.0 million milestone payment and cost reimbursements from Gilead, an increase in other current liabilities of $2.9 million, an increase in accounts payable of $1.6 million, and a decrease in prepaid expenses and other current assets of $0.4 million, partially offset by an increase in receivable research incentives of $2.2 million, a decrease in operating lease liabilities of $0.4 million, a decrease in other non-current liabilities of $0.2 million, and an increase in other non-current assets of $0.2 million.

During the three months ended March 31, 2022, cash provided by operating activities was $1.7 million, which consisted of a net loss of $18.0 million, adjusted by non-cash charges of $2.8 million and cash provided due to changes in our operating assets and liabilities of $16.9 million. The non-cash charges consisted primarily of stock-based compensation of $1.6 million and depreciation and amortization expense of $1.1 million. The change in our operating assets and liabilities was primarily due an increase in deferred revenues of $14.1 million, resulting from the receipt of the $15.0 million program initiation payment, a decrease in accounts receivable of $6.1 million, resulting from the collection of pass through costs from Gilead, a decrease in prepaid expenses and other current assets of $0.8 million, and an increase in other non-current liabilities of $0.1 million, partially offset by an increase in receivable research incentives of $1.7 million, resulting from research incentive eligible research and development activities, a decrease in accounts payable of $1.6 million, an increase in other non-current assets of $0.5 million, and a decrease in operating lease liabilities of $0.4 million.

Cash Used in Investing Activities

During the three months ended March 31, 2023, cash used in investing activities was $0.3 million. The decrease of $1.5 million compared to the three months ended March 31, 2022 resulted from lower capital expenditures in connection with our GMP manufacturing facility project and lower expenditures for purchase of equipment.

During the three months ended March 31, 2022, cash used in investing activities was $1.8 million and resulted primarily from capital expenditures in connection with our GMP manufacturing facility project as well as expenditures for laboratory and office space extension and purchase of equipment.

Cash (Used in) Provided by Financing Activities

During the three months ended March 31, 2023, cash used by financing activities was $0.7 million and consisted mainly of the principal repayment of a loan of $0.6 million and the payment of deferred offering costs related to our ATM from July 2022 of $0.1 million. The decrease of $76.0 million compared to the three months ended March 31, 2022 resulted from the financing activites done in the first quarter 2022.

During the three months ended March 31, 2022, cash provided by financing activities was $75.3 million and consisted mainly of net proceeds of $70.2 million from our follow-on public offering in March 2022 and of net proceeds of $5.0 million from Gilead's purchase of 1,666,666 unregistered shares of our common stock in February 2022.

Critical Accounting Policies and Estimates

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 ("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, as compared to those disclosed in "Management's Discussion and Analysis of Financial Condition and Results of Operations - Critical Accounting Policies" in our Annual Report on Form 10-K for the year ended December 31, 2022 filed with the Securities and Exchange Commission ("SEC") on March 15, 2023.

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 March 31, 2023 included small 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 $110.0 million as of March 31, 2023, 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. 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

As of March 31, 2023, management, with the participation of our Principal Executive Officer and Principal Financial and Accounting Officer, evaluated 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). Our disclosure controls and procedures are designed to ensure that information required to be disclosed in the reports we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including the Chief Executive Officer and the Chief Financial and Accounting Officer, to allow timely decisions regarding required disclosures.

Any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objective and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based on that evaluation, our Principal Executive Officer and Principal

Financial and Accounting Officer concluded that our disclosure controls and procedures were effective at a reasonable assurance level as of March 31, 2023.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a 15(f) and 15d 15(f) under the Exchange Act) identified that occurred during the three months ended March 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

In April 2021, a third party opposed European Patent No. 3218504 (the "EP '504 Patent") which was granted to the University of Geneva in July 2020 and is exclusively licensed to us. The patent is directed to our replicating arenavirus platform technology and is part of our strategy to protect current product candidates based on this platform technology, including our lead oncology product candidates HB-201 and HB-202. We filed our formal response to the opposition with the European Patent Office ("EPO") on September 3, 2021, in which we requested that the opposition be rejected and the EP '504 Patent be maintained as granted. In an oral proceeding summoned by the EPO on May 9, 2023, the Opposition Division followed our arguments, rejected all attacks raised by the opponent and decided that the EP '504 Patent should be maintained as granted. A formal written decision will be issued by the Opposition Division within about two months of the oral hearing. The opposing party may file a notice and grounds of appeal within two months and four months, respectively, from the date of the written decision.

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 to the Company's risk factors as disclosed in Part I, Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2022. Careful consideration should be given to these risk factors, in addition to the other information set forth in this Quarterly Report on Form 10-Q and in other documents that we file with the SEC, in evaluating our company and our business. Investing in our common shares involves a high degree of risk. If any of these risks actually occur, our business, financial condition, results of operations and future growth prospects could be materially and adversely affected.

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 March 31, 2023.

Item 3. Defaults upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

None.

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
3.1	Amended and Restated Certificate of Incorporation of the Company (filed as Exhibit 3.1 to the Company's Current Report on Form 8-K filed on July 1, 2022 (File No. 001-38869) and incorporated herein by reference)
3.2	Amended and Restated Bylaws of the Company (filed as Exhibit 3.2 to the Company's Current Report on Form 8-K filed on April 23, 2019 (File No. 001-38869) and incorporated herein by reference)
4.1	Registration Rights Agreement, dated June 17, 2022, by and between the Company and Gilead Sciences, Inc. (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on June 22, 2022 (File No. 001-38869) and incorporated herein by reference)
10.1*#	Amended and Restated 2019 Stock Option and Incentive Plan
10.2*#	Employment Agreement between Christine Baker and the Registrant, dated August 1, 2019
10.3	HOOKIPA Pharma Inc. 2023 Inducement Plan and form of award agreements thereunder (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on April 13, 2023 (File No. 001-38869) and incorporated herein by reference)
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*	Inline XBRL Instance Document
101.SCH*	Inline XBRL Taxonomy Extension Schema Document
101.CAL*	Inline XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF*	Inline XBRL Taxonomy Extension Definition Linkbase Document
101.LAB*	Inline XBRL Taxonomy Extension Label Linkbase Document
101.PRE*	Inline XBRL Taxonomy Extension Presentation Linkbase Document
104*	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101)

* Filed herewith.

**°°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.

# Indicates a management contract or any compensatory plan, contract or arrangement.

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: May 11, 2023

By:/s/ Joern Aldag
Joern Aldag
Chief Executive Officer (Principal Executive Officer)

By:/s/ Reinhard Kandera
Reinhard Kandera
Chief Financial Officer (Principal Financial and Accounting Officer)

Exhibit 10.1

HOOKIPA PHARMA INC.

2019 STOCK OPTION AND INCENTIVE PLAN

SECTION 1. GENERAL PURPOSE OF THE PLAN; DEFINITIONS

The name of the plan is the HOOKIPA Pharma Inc. 2019 Stock Option and Incentive Plan (the "Plan"). The purpose of the Plan is to encourage and enable the officers, employees, Non-Employee Directors and Consultants of HOOKIPA Pharma Inc. (the "Company") and its Affiliates upon whose judgment, initiative and efforts the Company largely depends for the successful conduct of its business to acquire a proprietary interest in the Company. It is anticipated that providing such persons with a direct stake in the Company's welfare will assure a closer identification of their interests with those of the Company and its stockholders, thereby stimulating their efforts on the Company's behalf and strengthening their desire to remain with the Company.

The following terms shall be defined as set forth below:

"Act" means the Securities Act of 1933, as amended, and the rules and regulations thereunder.

"Administrator" means either the Board or the compensation committee of the Board or a similar committee performing the functions of the compensation committee and which is comprised of not less than two Non-Employee Directors who are independent.

"*Affiliate*" means, at the time of determination, any "parent" or "subsidiary" of the Company as such terms are defined in Rule 405 of the Act. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

"Award" or *"Awards,"* except where referring to a particular category of grant under the Plan, shall include Incentive Stock Options, Non-Qualified Stock Options, Stock Appreciation Rights, Restricted Stock Units, Restricted Stock Awards, Unrestricted Stock Awards, Cash-Based Awards, and Dividend Equivalent Rights.

"*Award Certificate"* means a written or electronic document setting forth the terms and provisions applicable to an Award granted under the Plan. Each Award Certificate is subject to the terms and conditions of the Plan.

"*Board"* means the Board of Directors of the Company.

"*Cash-Based Award"* means an Award entitling the recipient to receive a cash-denominated payment.

"*Code"* means the Internal Revenue Code of 1986, as amended, and any successor Code, and related rules, regulations and interpretations.

"*Consultant*" means a consultant or adviser who provides *bona fide* services to the Company or an Affiliate as an independent contractor and who qualifies as a consultant or advisor under Instruction A.1.(a)(1) of Form S-8 under the Act.

"*Dividend Equivalent Right*" means an Award entitling the grantee to receive credits based on cash dividends that would have been paid on the shares of Stock specified in the Dividend Equivalent Right (or other award to which it relates) if such shares had been issued to and held by the grantee.

"*Effective Date*" means the date on which the Plan becomes effective as set forth in Section 19.

"*Exchange Act*" means the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder.

"*Fair Market Value*" of the Stock on any given date means the fair market value of the Stock determined in good faith by the Administrator; provided, however, that if the Stock is listed on the National Association of Securities Dealers Automated Quotation System ("NASDAQ"), NASDAQ Global Market, The New York Stock Exchange or another national securities exchange or traded on any established market, the determination shall be made by reference to market quotations. If there are no market quotations for such date, the determination shall be made by reference to the last date preceding such date for which there are market quotations; provided further, however, that if the date for which Fair Market Value is determined is the Registration Date, the Fair Market Value shall be the "Price to the Public" (or equivalent) set forth on the cover page for the final prospectus relating to the Company's initial public offering.

"*Incentive Stock Option*" means any Stock Option designated and qualified as an "incentive stock option" as defined in Section 422 of the Code.

"*Non-Employee Director*" means a member of the Board who is not also an employee of the Company or any Subsidiary.

"*Non-Qualified Stock Option*" means any Stock Option that is not an Incentive Stock Option.

"*Option*" or "*Stock Option*" means any option to purchase shares of Stock granted pursuant to Section 5.

"*Registration Date*" means the date upon which the registration statement on Form S-1 that is filed by the Company with respect to its initial public offering is declared effective by the Securities and Exchange Commission.

"*Restricted Shares*" means the shares of Stock underlying a Restricted Stock Award that remain subject to a risk of forfeiture or the Company's right of repurchase.

"*Restricted Stock Award*" means an Award of Restricted Shares subject to such restrictions and conditions as the Administrator may determine at the time of grant.

"*Restricted Stock Units*" means an Award of stock units subject to such restrictions and conditions as the Administrator may determine at the time of grant.

"*Sale Event*" shall mean (i) the sale of all or substantially all of the assets of the Company on a consolidated basis to an unrelated person or entity, (ii) a merger, reorganization or consolidation pursuant to which the holders of the Company's outstanding voting power and outstanding stock immediately prior to such transaction do not own a majority of the outstanding voting power and outstanding stock or other equity interests of the resulting or successor entity (or its ultimate parent, if applicable) immediately upon completion of such transaction, (iii) the sale of all of the Stock of the Company to an unrelated person, entity or group thereof acting in concert, or (iv) any other transaction in which the owners of the Company's outstanding voting power immediately prior to such transaction do not own at least a majority of the outstanding voting power of the Company or any successor entity immediately upon completion of the transaction other than as a result of the acquisition of securities directly from the Company.

"*Sale Price*" means the value as determined by the Administrator of the consideration payable, or otherwise to be received by stockholders, per share of Stock pursuant to a Sale Event.

"*Section 409A*" means Section 409A of the Code and the regulations and other guidance promulgated thereunder.

"*Service Relationship*" means any relationship as an employee, director or Consultant of the Company or any Affiliate (e.g., a Service Relationship shall be deemed to continue without interruption in the event an individual's status changes from full-time employee to part-time employee or Consultant).

"*Stock*" means the Common Stock, par value $0.0001 per share, of the Company, subject to adjustments pursuant to Section 3.

"*Stock Appreciation Right*" means an Award entitling the recipient to receive shares of Stock (or cash, to the extent explicitly provided for in the applicable Award Certificate) having a value equal to the excess of the Fair Market Value of the Stock on the date of exercise over the exercise price of the Stock Appreciation Right multiplied by the number of shares of Stock with respect to which the Stock Appreciation Right shall have been exercised.

"*Subsidiary*" means any corporation or other entity (other than the Company) in which the Company has at least a 50 percent interest, either directly or indirectly.

"*Ten Percent Owner*" means an employee who owns or is deemed to own (by reason of the attribution rules of Section 424(d) of the Code) more than 10 percent of the combined voting power of all classes of stock of the Company or any parent or subsidiary corporation.

"*Unrestricted Stock Award*" means an Award of shares of Stock free of any restrictions.

SECTION 2. ADMINISTRATION OF PLAN; ADMINISTRATOR AUTHORITY TO SELECT GRANTEES AND DETERMINE AWARDS

(a) Administration of Plan. The Plan shall be administered by the Administrator.

(b) Powers of Administrator. The Administrator shall have the power and authority to grant Awards consistent with the terms of the Plan, including the power and authority:

(i) to select the individuals to whom Awards may from time to time be granted;

(ii) to determine the time or times of grant, and the extent, if any, of Incentive Stock Options, Non-Qualified Stock Options, Stock Appreciation Rights, Restricted Stock Awards, Restricted Stock Units, Unrestricted Stock Awards, Cash-Based Awards, and Dividend Equivalent Rights, or any combination of the foregoing, granted to any one or more grantees;

(iii) to determine the number of shares of Stock to be covered by any Award;

(iv) to determine and modify from time to time the terms and conditions, including restrictions, not inconsistent with the terms of the Plan, of any Award, which terms and conditions may differ among individual Awards and grantees, and to approve the forms of Award Certificates;

(v) to accelerate at any time the exercisability or vesting of all or any portion of any Award;

(vi) subject to the provisions of Section 5(c), to extend at any time the period in which Stock Options may be exercised; and

(vii) at any time to adopt, alter and repeal such rules, guidelines and practices for administration of the Plan and for its own acts and proceedings as it shall deem advisable; to interpret the terms and provisions of the Plan and any Award (including related written instruments); to make all determinations it deems advisable for the administration of the Plan; to decide all disputes arising in connection with the Plan; and to otherwise supervise the administration of the Plan.

All decisions and interpretations of the Administrator shall be binding on all persons, including the Company and Plan grantees.

(c) Delegation of Authority to Grant Awards. Subject to applicable law, the Administrator, in its discretion, may delegate to a committee consisting of one or more officers of the Company including the Chief Executive Officer of the Company all or part of the Administrator's authority and duties with respect to the granting of Awards to individuals who are (i) not subject to the reporting and other provisions of Section 16 of the Exchange Act and (ii) not members of the delegated committee. Any such delegation by the Administrator shall include a limitation as to the amount of Stock underlying Awards that may be granted during the period of the delegation and shall contain guidelines as to the determination of the exercise price and the vesting criteria. The Administrator may revoke or amend the terms of a delegation at any time but such action shall not invalidate any prior actions of the Administrator's delegate or delegates that were consistent with the terms of the Plan.

(d) Award Certificate. Awards under the Plan shall be evidenced by Award Certificates that set forth the terms, conditions and limitations for each Award which may

include, without limitation, the term of an Award and the provisions applicable in the event employment or service terminates.

(e) Indemnification. Neither the Board nor the Administrator, nor any member of either or any delegate thereof, shall be liable for any act, omission, interpretation, construction or determination made in good faith in connection with the Plan, and the members of the Board and the Administrator (and any delegate thereof) shall be entitled in all cases to indemnification and reimbursement by the Company in respect of any claim, loss, damage or expense (including, without limitation, reasonable attorneys' fees) arising or resulting therefrom to the fullest extent permitted by law and/or under the Company's articles or bylaws or any directors' and officers' liability insurance coverage which may be in effect from time to time and/or any indemnification agreement between such individual and the Company.

(f) Foreign Award Recipients. Notwithstanding any provision of the Plan to the contrary, in order to comply with the laws in other countries in which the Company and its Subsidiaries operate or have employees or other individuals eligible for Awards, the Administrator, in its sole discretion, shall have the power and authority to: (i) determine which Subsidiaries shall be covered by the Plan; (ii) determine which individuals outside the United States are eligible to participate in the Plan; (iii) modify the terms and conditions of any Award granted to individuals outside the United States to comply with applicable foreign laws; (iv) establish subplans and modify exercise procedures and other terms and procedures, to the extent the Administrator determines such actions to be necessary or advisable (and such subplans and/or modifications shall be attached to this Plan as appendices); provided, however, that no such subplans and/or modifications shall increase the share limitations contained in Section 3(a) hereof; and (v) take any action, before or after an Award is made, that the Administrator determines to be necessary or advisable to obtain approval or comply with any local governmental regulatory exemptions or approvals. Notwithstanding the foregoing, the Administrator may not take any actions hereunder, and no Awards shall be granted, that would violate the Exchange Act or any other applicable United States securities law, the Code, or any other applicable United States governing statute or law.

SECTION 3. STOCK ISSUABLE UNDER THE PLAN; MERGERS; SUBSTITUTION

(a) Stock Issuable. The maximum number of shares of Stock reserved and available for issuance under the Plan shall be 5,878,814 shares (the "Initial Limit"), subject to adjustment as provided in Section 3(b), plus on January 1, 2020 and each January 1 thereafter, the number of shares of Stock reserved and available for issuance under the Plan shall be cumulatively increased by the lesser of (i) four percent (4%) of the number of shares of Common Stock and Class A Common Stock issued and outstanding on the immediately preceding December 31 or (ii) such lesser number of shares as determined by the Administrator (the "Annual Increase"). Subject to such overall limitation, the maximum aggregate number of shares of Stock that may be issued in the form of Incentive Stock Options shall not exceed the Initial Limit cumulatively increased on January 1, 2020 and on each January 1 thereafter by the lesser of the Annual Increase for such year or 5,878,814 shares of Stock, subject in all cases to adjustment as provided in Section 3(b). For purposes of this limitation, the shares of Stock underlying any awards under the Plan and under the Company's 2018 Stock Option and Grant Plan that are forfeited, canceled, held back upon exercise of an Option or settlement of an Award to cover the

exercise price or tax withholding, reacquired by the Company prior to vesting, satisfied without the issuance of Stock or otherwise terminated (other than by exercise) shall be added back to the shares of Stock available for issuance under the Plan and, to the extent permitted under Section 422 of the Code and the regulations promulgated thereunder, the shares of Stock that may be issued as Incentive Stock Options. In the event the Company repurchases shares of Stock on the open market, such shares shall not be added to the shares of Stock available for issuance under the Plan. Subject to such overall limitations, shares of Stock may be issued up to such maximum number pursuant to any type or types of Award. The shares available for issuance under the Plan may be authorized but unissued shares of Stock or shares of Stock reacquired by the Company.

(b) Changes in Stock. Subject to Section 3(c) hereof, if, as a result of any reorganization, recapitalization, reclassification, stock dividend, stock split, reverse stock split or other similar change in the Company's capital stock, the outstanding shares of Stock are increased or decreased or are exchanged for a different number or kind of shares or other securities of the Company, or additional shares or new or different shares or other securities of the Company or other non-cash assets are distributed with respect to such shares of Stock or other securities, or, if, as a result of any merger or consolidation, sale of all or substantially all of the assets of the Company, the outstanding shares of Stock are converted into or exchanged for securities of the Company or any successor entity (or a parent or subsidiary thereof), the Administrator shall make an appropriate or proportionate adjustment in (i) the maximum number of shares reserved for issuance under the Plan, including the maximum number of shares that may be issued in the form of Incentive Stock Options, (ii) the number and kind of shares or other securities subject to any then outstanding Awards under the Plan, (iii) the repurchase price, if any, per share subject to each outstanding Restricted Stock Award, and (iv) the exercise price for each share subject to any then outstanding Stock Options and Stock Appreciation Rights under the Plan, without changing the aggregate exercise price (i.e., the exercise price multiplied by the number of shares subject to Stock Options and Stock Appreciation Rights) as to which such Stock Options and Stock Appreciation Rights remain exercisable. The Administrator shall also make equitable or proportionate adjustments in the number of shares subject to outstanding Awards and the exercise price and the terms of outstanding Awards to take into consideration cash dividends paid other than in the ordinary course or any other extraordinary corporate event. The adjustment by the Administrator shall be final, binding and conclusive. No fractional shares of Stock shall be issued under the Plan resulting from any such adjustment, but the Administrator in its discretion may make a cash payment in lieu of fractional shares.

(c) Mergers and Other Transactions. In the case of and subject to the consummation of a Sale Event, the parties thereto may cause the assumption or continuation of Awards theretofore granted by the successor entity, or the substitution of such Awards with new Awards of the successor entity or parent thereof, with appropriate adjustment as to the number and kind of shares and, if appropriate, the per share exercise prices, as such parties shall agree. To the extent the parties to such Sale Event do not provide for the assumption, continuation or substitution of Awards, upon the effective time of the Sale Event, the Plan and all outstanding Awards granted hereunder shall terminate. In such case, except as may be otherwise provided in the relevant Award Certificate, all Options and Stock Appreciation Rights with time-based vesting conditions or restrictions that are not vested and/or exercisable immediately prior to the effective time of the Sale Event shall become fully vested and exercisable as of the effective time of the Sale Event, all other Awards with time-based vesting, conditions or restrictions shall

become fully vested and nonforfeitable as of the effective time of the Sale Event, and all Awards with conditions and restrictions relating to the attainment of performance goals may become vested and nonforfeitable in connection with a Sale Event in the Administrator's discretion or to the extent specified in the relevant Award Certificate. In the event of such termination, (i) the Company shall have the option (in its sole discretion) to make or provide for a payment, in cash or in kind, to the grantees holding Options and Stock Appreciation Rights, in exchange for the cancellation thereof, in an amount equal to the difference between (A) the Sale Price multiplied by the number of shares of Stock subject to outstanding Options and Stock Appreciation Rights (to the extent then exercisable at prices not in excess of the Sale Price) and (B) the aggregate exercise price of all such outstanding Options and Stock Appreciation Rights (provided that, in the case of an Option or Stock Appreciation Right with an exercise price equal to or less than the Sale Price, such Option or Stock Appreciation Right shall be cancelled for no consideration); or (ii) each grantee shall be permitted, within a specified period of time prior to the consummation of the Sale Event as determined by the Administrator, to exercise all outstanding Options and Stock Appreciation Rights (to the extent then exercisable) held by such grantee. The Company shall also have the option (in its sole discretion) to make or provide for a payment, in cash or in kind, to the grantees holding other Awards in an amount equal to the Sale Price multiplied by the number of vested shares of Stock under such Awards.

SECTION 4. ELIGIBILITY

Grantees under the Plan will be such employees, Non-Employee Directors and Consultants of the Company and its Affiliates as are selected from time to time by the Administrator in its sole discretion; provided that Awards may not be granted to employees, Directors or Consultants who are providing services only to any "parent" of the Company, as such term is defined in Rule 405 of the Act, unless (i) the stock underlying the Awards is treated as "service recipient stock" under Section 409A or (ii) the Company has determined that such Awards are exempt from or otherwise comply with Section 409A.

SECTION 5. STOCK OPTIONS

(a) Award of Stock Options. The Administrator may grant Stock Options under the Plan. Any Stock Option granted under the Plan shall be in such form as the Administrator may from time to time approve.

Stock Options granted under the Plan may be either Incentive Stock Options or Non-Qualified Stock Options. Incentive Stock Options may be granted only to employees of the Company or any Subsidiary that is a "subsidiary corporation" within the meaning of Section 424(f) of the Code. To the extent that any Option does not qualify as an Incentive Stock Option, it shall be deemed a Non-Qualified Stock Option.

Stock Options granted pursuant to this Section 5 shall be subject to the following terms and conditions and shall contain such additional terms and conditions, not inconsistent with the terms of the Plan, as the Administrator shall deem desirable. If the Administrator so determines, Stock Options may be granted in lieu of cash compensation at the optionee's election, subject to such terms and conditions as the Administrator may establish.

(b) Exercise Price. The exercise price per share for the Stock covered by a Stock Option granted pursuant to this Section 5 shall be determined by the Administrator at the time of grant but shall not be less than 100 percent of the Fair Market Value on the date of grant. In the case of an Incentive Stock Option that is granted to a Ten Percent Owner, the exercise price of such Incentive Stock Option shall be not less than 110 percent of the Fair Market Value on the grant date. Notwithstanding the foregoing, Stock Options may be granted with an exercise price per share that is less than 100 percent of the Fair Market Value on the date of grant (i) pursuant to a transaction described in, and in a manner consistent with, Section 424(a) of the Code, (ii) to individuals who are not subject to U.S. income tax on the date of grant, or (iii) the Stock Option is otherwise compliant with Section 409A.

(c) Option Term. The term of each Stock Option shall be fixed by the Administrator, but no Stock Option shall be exercisable more than ten years after the date the Stock Option is granted. In the case of an Incentive Stock Option that is granted to a Ten Percent Owner, the term of such Stock Option shall be no more than five years from the date of grant.

(d) Exercisability; Rights of a Stockholder. Stock Options shall become exercisable at such time or times, whether or not in installments, as shall be determined by the Administrator at or after the grant date. The Administrator may at any time accelerate the exercisability of all or any portion of any Stock Option. An optionee shall have the rights of a stockholder only as to shares acquired upon the exercise of a Stock Option and not as to unexercised Stock Options.

(e) Method of Exercise. Stock Options may be exercised in whole or in part, by giving written or electronic notice of exercise to the Company, specifying the number of shares to be purchased. Payment of the purchase price may be made by one or more of the following methods except to the extent otherwise provided in the Option Award Certificate:

(i) In cash, by certified or bank check or other instrument acceptable to the Administrator;

(ii) Through the delivery (or attestation to the ownership following such procedures as the Company may prescribe) of shares of Stock that are not then subject to restrictions under any Company plan. Such surrendered shares shall be valued at Fair Market Value on the exercise date;

(iii) By the optionee delivering to the Company a properly executed exercise notice together with irrevocable instructions to a broker to promptly deliver to the Company cash or a check payable and acceptable to the Company for the purchase price; provided that in the event the optionee chooses to pay the purchase price as so provided, the optionee and the broker shall comply with such procedures and enter into such agreements of indemnity and other agreements as the Company shall prescribe as a condition of such payment procedure; or

(iv) With respect to Stock Options that are not Incentive Stock Options, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price.

Payment instruments will be received subject to collection. The transfer to the optionee on the records of the Company or of the transfer agent of the shares of Stock to be purchased pursuant to the exercise of a Stock Option will be contingent upon receipt from the optionee (or a purchaser acting in his stead in accordance with the provisions of the Stock Option) by the Company of the full purchase price for such shares and the fulfillment of any other requirements contained in the Option Award Certificate or applicable provisions of laws (including the satisfaction of any withholding taxes that the Company is obligated to withhold with respect to the optionee). In the event an optionee chooses to pay the purchase price by previously-owned shares of Stock through the attestation method, the number of shares of Stock transferred to the optionee upon the exercise of the Stock Option shall be net of the number of attested shares. In the event that the Company establishes, for itself or using the services of a third party, an automated system for the exercise of Stock Options, such as a system using an internet website or interactive voice response, then the paperless exercise of Stock Options may be permitted through the use of such an automated system.

(f) Annual Limit on Incentive Stock Options. To the extent required for "incentive stock option" treatment under Section 422 of the Code, the aggregate Fair Market Value (determined as of the time of grant) of the shares of Stock with respect to which Incentive Stock Options granted under this Plan and any other plan of the Company or its parent and subsidiary corporations become exercisable for the first time by an optionee during any calendar year shall not exceed $100,000. To the extent that any Stock Option exceeds this limit, it shall constitute a Non-Qualified Stock Option.

SECTION 6. STOCK APPRECIATION RIGHTS

(a) Award of Stock Appreciation Rights. The Administrator may grant Stock Appreciation Rights under the Plan. A Stock Appreciation Right is an Award entitling the recipient to receive shares of Stock (or cash, to the extent explicitly provided for in the applicable Award Certificate) having a value equal to the excess of the Fair Market Value of a share of Stock on the date of exercise over the exercise price of the Stock Appreciation Right multiplied by the number of shares of Stock with respect to which the Stock Appreciation Right shall have been exercised.

(b) Exercise Price of Stock Appreciation Rights. The exercise price of a Stock Appreciation Right shall not be less than 100 percent of the Fair Market Value of the Stock on the date of grant.

(c) Grant and Exercise of Stock Appreciation Rights. Stock Appreciation Rights may be granted by the Administrator independently of any Stock Option granted pursuant to Section 5 of the Plan.

(d) Terms and Conditions of Stock Appreciation Rights. Stock Appreciation Rights shall be subject to such terms and conditions as shall be determined on the date of grant by the Administrator. The term of a Stock Appreciation Right may not exceed ten years. The terms and conditions of each such Award shall be determined by the Administrator, and such terms and conditions may differ among individual Awards and grantees.

SECTION 7. RESTRICTED STOCK AWARDS

(a) Nature of Restricted Stock Awards. The Administrator may grant Restricted Stock Awards under the Plan. A Restricted Stock Award is any Award of Restricted Shares subject to such restrictions and conditions as the Administrator may determine at the time of grant. Conditions may be based on continuing employment (or other Service Relationship) and/or achievement of pre-established performance goals and objectives.

(b) Rights as a Stockholder. Upon the grant of the Restricted Stock Award and payment of any applicable purchase price, a grantee shall have the rights of a stockholder with respect to the voting of the Restricted Shares and receipt of dividends; provided that if the lapse of restrictions with respect to the Restricted Stock Award is tied to the attainment of performance goals, any dividends paid by the Company during the performance period shall accrue and shall not be paid to the grantee until and to the extent the performance goals are met with respect to the Restricted Stock Award. Unless the Administrator shall otherwise determine, (i) uncertificated Restricted Shares shall be accompanied by a notation on the records of the Company or the transfer agent to the effect that they are subject to forfeiture until such Restricted Shares are vested as provided in Section 7(d) below, and (ii) certificated Restricted Shares shall remain in the possession of the Company until such Restricted Shares are vested as provided in Section 7(d) below, and the grantee shall be required, as a condition of the grant, to deliver to the Company such instruments of transfer as the Administrator may prescribe.

(c) Restrictions. Restricted Shares may not be sold, assigned, transferred, pledged or otherwise encumbered or disposed of except as specifically provided herein or in the Restricted Stock Award Certificate. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 16 below, in writing after the Award is issued, if a grantee's employment (or other Service Relationship) with the Company and its Subsidiaries terminates for any reason, any Restricted Shares that have not vested at the time of termination shall automatically and without any requirement of notice to such grantee from or other action by or on behalf of, the Company be deemed to have been reacquired by the Company at its original purchase price (if any) from such grantee or such grantee's legal representative simultaneously with such termination of employment (or other Service Relationship), and thereafter shall cease to represent any ownership of the Company by the grantee or rights of the grantee as a stockholder. Following such deemed reacquisition of Restricted Shares that are represented by physical certificates, a grantee shall surrender such certificates to the Company upon request without consideration.

(d) Vesting of Restricted Shares. The Administrator at the time of grant shall specify the date or dates and/or the attainment of pre-established performance goals, objectives and other conditions on which the non-transferability of the Restricted Shares and the Company's right of repurchase or forfeiture shall lapse. Subsequent to such date or dates and/or the attainment of such pre-established performance goals, objectives and other conditions, the shares on which all restrictions have lapsed shall no longer be Restricted Shares and shall be deemed "vested."

SECTION 8. RESTRICTED STOCK UNITS

(a) Nature of Restricted Stock Units. The Administrator may grant Restricted Stock Units under the Plan. A Restricted Stock Unit is an Award of stock units that may be settled in shares of Stock (or cash, to the extent explicitly provided for in the Award Certificate) upon the satisfaction of such restrictions and conditions at the time of grant. Conditions may be based on continuing employment (or other Service Relationship) and/or achievement of pre-established performance goals and objectives. The terms and conditions of each such Award shall be determined by the Administrator, and such terms and conditions may differ among individual Awards and grantees. Except in the case of Restricted Stock Units with a deferred settlement date that complies with Section 409A, at the end of the vesting period, the Restricted Stock Units, to the extent vested, shall be settled in the form of shares of Stock. Restricted Stock Units with deferred settlement dates are subject to Section 409A and shall contain such additional terms and conditions as the Administrator shall determine in its sole discretion in order to comply with the requirements of Section 409A.

(b) Election to Receive Restricted Stock Units in Lieu of Compensation. The Administrator may, in its sole discretion, permit a grantee to elect to receive a portion of future cash compensation otherwise due to such grantee in the form of an award of Restricted Stock Units. Any such election shall be made in writing and shall be delivered to the Company no later than the date specified by the Administrator and in accordance with Section 409A and such other rules and procedures established by the Administrator. Any such future cash compensation that the grantee elects to defer shall be converted to a fixed number of Restricted Stock Units based on the Fair Market Value of Stock on the date the compensation would otherwise have been paid to the grantee if such payment had not been deferred as provided herein. The Administrator shall have the sole right to determine whether and under what circumstances to permit such elections and to impose such limitations and other terms and conditions thereon as the Administrator deems appropriate. Any Restricted Stock Units that are elected to be received in lieu of cash compensation shall be fully vested, unless otherwise provided in the Award Certificate.

(c) Rights as a Stockholder. A grantee shall have the rights as a stockholder only as to shares of Stock acquired by the grantee upon settlement of Restricted Stock Units; provided, however, that the grantee may be credited with Dividend Equivalent Rights with respect to the stock units underlying his Restricted Stock Units, subject to the provisions of Section 11 and such terms and conditions as the Administrator may determine.

(d) Termination. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 16 below, in writing after the Award is issued, a grantee's right in all Restricted Stock Units that have not vested shall automatically terminate upon the grantee's termination of employment (or cessation of Service Relationship) with the Company and its Subsidiaries for any reason.

SECTION 9. UNRESTRICTED STOCK AWARDS

Grant or Sale of Unrestricted Stock. The Administrator may grant (or sell at par value or such higher purchase price determined by the Administrator) an Unrestricted Stock Award under the Plan. An Unrestricted Stock Award is an Award pursuant to which the grantee may receive

shares of Stock free of any restrictions under the Plan. Unrestricted Stock Awards may be granted in respect of past services or other valid consideration, or in lieu of cash compensation due to such grantee.

SECTION 10. CASH-BASED AWARDS

Grant of Cash-Based Awards. The Administrator may grant Cash-Based Awards under the Plan. A Cash-Based Award is an Award that entitles the grantee to a payment in cash upon the attainment of specified performance goals. The Administrator shall determine the maximum duration of the Cash-Based Award, the amount of cash to which the Cash-Based Award pertains, the conditions upon which the Cash-Based Award shall become vested or payable, and such other provisions as the Administrator shall determine. Each Cash-Based Award shall specify a cash-denominated payment amount, formula or payment ranges as determined by the Administrator. Payment, if any, with respect to a Cash-Based Award shall be made in accordance with the terms of the Award and may be made in cash.

SECTION 11. DIVIDEND EQUIVALENT RIGHTS

(a) Dividend Equivalent Rights. The Administrator may grant Dividend Equivalent Rights under the Plan. A Dividend Equivalent Right is an Award entitling the grantee to receive credits based on cash dividends that would have been paid on the shares of Stock specified in the Dividend Equivalent Right (or other Award to which it relates) if such shares had been issued to the grantee. A Dividend Equivalent Right may be granted hereunder to any grantee as a component of an award of Restricted Stock Units or as a freestanding award. The terms and conditions of Dividend Equivalent Rights shall be specified in the Award Certificate. Dividend equivalents credited to the holder of a Dividend Equivalent Right may be paid currently or may be deemed to be reinvested in additional shares of Stock, which may thereafter accrue additional equivalents. Any such reinvestment shall be at Fair Market Value on the date of reinvestment or such other price as may then apply under a dividend reinvestment plan sponsored by the Company, if any. Dividend Equivalent Rights may be settled in cash or shares of Stock or a combination thereof, in a single installment or installments. A Dividend Equivalent Right granted as a component of an Award of Restricted Stock Units shall provide that such Dividend Equivalent Right shall be settled only upon settlement or payment of, or lapse of restrictions on, such other Award, and that such Dividend Equivalent Right shall expire or be forfeited or annulled under the same conditions as such other Award.

(b) Termination. Except as may otherwise be provided by the Administrator either in the Award Certificate or, subject to Section 16 below, in writing after the Award is issued, a grantee's rights in all Dividend Equivalent Rights shall automatically terminate upon the grantee's termination of employment (or cessation of Service Relationship) with the Company and its Subsidiaries for any reason.

SECTION 12. TRANSFERABILITY OF AWARDS

(a) Transferability. Except as provided in Section 12(b) below, during a grantee's lifetime, his or her Awards shall be exercisable only by the grantee, or by the grantee's legal representative or guardian in the event of the grantee's incapacity. No Awards shall be sold,

assigned, transferred or otherwise encumbered or disposed of by a grantee other than by will or by the laws of descent and distribution or pursuant to a domestic relations order. No Awards shall be subject, in whole or in part, to attachment, execution, or levy of any kind, and any purported transfer in violation hereof shall be null and void.

(b) Administrator Action. Notwithstanding Section 12(a), the Administrator, in its discretion, may provide either in the Award Certificate regarding a given Award or by subsequent written approval that the grantee (who is an employee or director) may transfer his or her Non-Qualified Stock Options to his or her immediate family members, to trusts for the benefit of such family members, or to partnerships in which such family members are the only partners, provided that the transferee agrees in writing with the Company to be bound by all of the terms and conditions of this Plan and the applicable Award. In no event may an Award be transferred by a grantee for value.

(c) Family Member. For purposes of Section 12(b), "family member" shall mean a grantee's child, stepchild, grandchild, parent, stepparent, grandparent, spouse, former spouse, sibling, niece, nephew, mother-in-law, father-in-law, son-in-law, daughter-in-law, brother-in-law, or sister-in-law, including adoptive relationships, any person sharing the grantee's household (other than a tenant of the grantee), a trust in which these persons (or the grantee) have more than 50 percent of the beneficial interest, a foundation in which these persons (or the grantee) control the management of assets, and any other entity in which these persons (or the grantee) own more than 50 percent of the voting interests.

(d) Designation of Beneficiary. To the extent permitted by the Company, each grantee to whom an Award has been made under the Plan may designate a beneficiary or beneficiaries to exercise any Award or receive any payment under any Award payable on or after the grantee's death. Any such designation shall be on a form provided for that purpose by the Administrator and shall not be effective until received by the Administrator. If no beneficiary has been designated by a deceased grantee, or if the designated beneficiaries have predeceased the grantee, the beneficiary shall be the grantee's estate.

SECTION 13. TAX WITHHOLDING

(a) Payment by Grantee. Each grantee shall, no later than the date as of which the value of an Award or of any Stock or other amounts received thereunder first becomes includable in the gross income of the grantee for income tax purposes, pay to the Company, or make arrangements satisfactory to the Administrator regarding payment of, any Federal, state, or local taxes of any kind required by law to be withheld by the Company with respect to such income. The Company and its Subsidiaries shall, to the extent permitted by law, have the right to deduct any such taxes from any payment of any kind otherwise due to the grantee. The Company's obligation to deliver evidence of book entry (or stock certificates) to any grantee is subject to and conditioned on tax withholding obligations being satisfied by the grantee.

(b) Payment in Stock. The Administrator may require the Company's tax withholding obligation to be satisfied, in whole or in part, by the Company withholding from shares of Stock to be issued pursuant to any Award a number of shares with an aggregate Fair Market Value (as of the date the withholding is effected) that would satisfy the withholding

amount due; provided, however, that the amount withheld does not exceed the maximum statutory tax rate or such lesser amount as is necessary to avoid liability accounting treatment. For purposes of share withholding, the Fair Market Value of withheld shares shall be determined in the same manner as the value of Stock includible in income of the Participants. The Administrator may also require the Company's tax withholding obligation to be satisfied, in whole or in part, by an arrangement whereby a certain number of shares of Stock issued pursuant to any Award are immediately sold and proceeds from such sale are remitted to the Company in an amount that would satisfy the withholding amount due.

SECTION 14. SECTION 409A AWARDS

Awards are intended to be exempt from Section 409A to the greatest extent possible and to otherwise comply with Section 409A. The Plan and all Awards shall be interpreted in accordance with such intent. To the extent that any Award is determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A (a "409A Award"), the Award shall be subject to such additional rules and requirements as specified by the Administrator from time to time in order to comply with Section 409A. In this regard, if any amount under a 409A Award is payable upon a "separation from service" (within the meaning of Section 409A) to a grantee who is then considered a "specified employee" (within the meaning of Section 409A), then no such payment shall be made prior to the date that is the earlier of (i) six months and one day after the grantee's separation from service, or (ii) the grantee's death, but only to the extent such delay is necessary to prevent such payment from being subject to interest, penalties and/or additional tax imposed pursuant to Section 409A. Further, the settlement of any 409A Award may not be accelerated except to the extent permitted by Section 409A.

SECTION 15. TERMINATION OF SERVICE RELATIONSHIP, TRANSFER, LEAVE OF ABSENCE, ETC.

(a) Termination of Service Relationship. If the grantee's Service Relationship is with an Affiliate and such Affiliate ceases to be an Affiliate, the grantee shall be deemed to have terminated his or her Service Relationship for purposes of the Plan.

(b) For purposes of the Plan, the following events shall not be deemed a termination of a Service Relationship:

(i) a transfer to the employment of the Company from an Affiliate or from the Company to an Affiliate, or from one Affiliate to another; or

(ii) an approved leave of absence for military service or sickness, or for any other purpose approved by the Company, if the employee's right to re-employment is guaranteed either by a statute or by contract or under the policy pursuant to which the leave of absence was granted or if the Administrator otherwise so provides in writing.

SECTION 16. AMENDMENTS AND TERMINATION

The Board may, at any time, amend or discontinue the Plan and the Administrator may, at any time, amend or cancel any outstanding Award for the purpose of satisfying changes in law or for any other lawful purpose, but no such action shall materially and adversely affect rights under

any outstanding Award without the holder's consent. The Administrator is specifically authorized to exercise its discretion to reduce the exercise price of outstanding Stock Options or Stock Appreciation Rights or effect the repricing of such Awards through cancellation and re-grants. To the extent required under the rules of any securities exchange or market system on which the Stock is listed, to the extent determined by the Administrator to be required by the Code to ensure that Incentive Stock Options granted under the Plan are qualified under Section 422 of the Code, Plan amendments shall be subject to approval by Company stockholders. Nothing in this Section 16 shall limit the Administrator's authority to take any action permitted pursuant to Section 3(b) or 3(c).

SECTION 17. STATUS OF PLAN

With respect to the portion of any Award that has not been exercised and any payments in cash, Stock or other consideration not received by a grantee, a grantee shall have no rights greater than those of a general creditor of the Company unless the Administrator shall otherwise expressly determine in connection with any Award or Awards. In its sole discretion, the Administrator may authorize the creation of trusts or other arrangements to meet the Company's obligations to deliver Stock or make payments with respect to Awards hereunder, provided that the existence of such trusts or other arrangements is consistent with the foregoing sentence.

SECTION 18. GENERAL PROVISIONS

(a) No Distribution. The Administrator may require each person acquiring Stock pursuant to an Award to represent to and agree with the Company in writing that such person is acquiring the shares without a view to distribution thereof.

(b) Issuance of Stock. To the extent certificated, stock certificates to grantees under this Plan shall be deemed delivered for all purposes when the Company or a stock transfer agent of the Company shall have mailed such certificates in the United States mail, addressed to the grantee, at the grantee's last known address on file with the Company. Uncertificated Stock shall be deemed delivered for all purposes when the Company or a Stock transfer agent of the Company shall have given to the grantee by electronic mail (with proof of receipt) or by United States mail, addressed to the grantee, at the grantee's last known address on file with the Company, notice of issuance and recorded the issuance in its records (which may include electronic "book entry" records). Notwithstanding anything herein to the contrary, the Company shall not be required to issue or deliver any evidence of book entry or certificates evidencing shares of Stock pursuant to the exercise or settlement of any Award, unless and until the Administrator has determined, with advice of counsel (to the extent the Administrator deems such advice necessary or advisable), that the issuance and delivery is in compliance with all applicable laws, regulations of governmental authorities and, if applicable, the requirements of any exchange on which the shares of Stock are listed, quoted or traded. Any Stock issued pursuant to the Plan shall be subject to any stop-transfer orders and other restrictions as the Administrator deems necessary or advisable to comply with federal, state or foreign jurisdiction, securities or other laws, rules and quotation system on which the Stock is listed, quoted or traded. The Administrator may place legends on any Stock certificate or notations on any book entry to reference restrictions applicable to the Stock. In addition to the terms and conditions provided herein, the Administrator may require that an individual make such reasonable

covenants, agreements, and representations as the Administrator, in its discretion, deems necessary or advisable in order to comply with any such laws, regulations, or requirements. The Administrator shall have the right to require any individual to comply with any timing or other restrictions with respect to the settlement or exercise of any Award, including a window-period limitation, as may be imposed in the discretion of the Administrator.

(c) Stockholder Rights. Until Stock is deemed delivered in accordance with Section 18(b), no right to vote or receive dividends or any other rights of a stockholder will exist with respect to shares of Stock to be issued in connection with an Award, notwithstanding the exercise of a Stock Option or any other action by the grantee with respect to an Award.

(d) Other Compensation Arrangements; No Employment Rights. Nothing contained in this Plan shall prevent the Board from adopting other or additional compensation arrangements, including trusts, and such arrangements may be either generally applicable or applicable only in specific cases. The adoption of this Plan and the grant of Awards do not confer upon any employee any right to continued employment with the Company or any Subsidiary.

(e) Trading Policy Restrictions. Option exercises and other Awards under the Plan shall be subject to the Company's insider trading policies and procedures, as in effect from time to time.

(f) Clawback Policy. Awards under the Plan shall be subject to the Company's clawback policy, as in effect from time to time.

SECTION 19. EFFECTIVE DATE OF PLAN

This Plan shall become effective upon the date immediately preceding the Registration Date subject to prior stockholder approval in accordance with applicable state law, the Company's bylaws and articles of incorporation, and applicable stock exchange rules. No grants of Stock Options and other Awards may be made hereunder after the tenth anniversary of the Effective Date and no grants of Incentive Stock Options may be made hereunder after the tenth anniversary of the date the Plan is approved by the Board.

SECTION 20. GOVERNING LAW

This Plan and all Awards and actions taken thereunder shall be governed by, and construed in accordance with the General Corporation Law of the State of Delaware as to matters within the scope thereof, and as to all other matters shall be governed by and construed in accordance with the internal laws of the State of New York, applied without regard to conflict of law principles.

DATE APPROVED BY BOARD OF DIRECTORS: April 15, 2022

DATE APPROVED BY STOCKHOLDERS: June 30, 2022

AMENDED AND RESTATED: June 30, 2022

Exhibit 10.2

MANAGEMENT EMPLOYMENT AGREEMENT

This Management Employment Agreement ("Agreement") is made between HOOKIPA Pharma Inc., a Delaware corporation (the "Company"), and Christine Baker (the "Executive") and is made effective as of 1st August 2019 (the "Effective Date").

WHEREAS, the Company desires to employ the Executive and the Executive desires to be employed by the Company on the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree to enter into the Agreement on the following terms:

1. Employment.

(a) Term. The term of this Agreement shall commence on the Effective Date and continue until terminated in accordance with the provisions hereof (the "Term").

(b) Position and Duties. During the Term, the Executive shall serve as the Chief Business Officer of the Company, and shall have supervision and control over and responsibility for the day-to-day business and affairs of the Company and shall have such other powers and duties as may from time to time be prescribed by the Chief Executive Officer of the Company (the "CEO") or other authorized executive, provided that such duties are consistent with the Executive's position or other positions that he may hold from time to time. The Executive reports to the CEO and shall devote his full working time and efforts to the business and affairs of the Company. Notwithstanding the foregoing, the Executive may serve on one board of directors, with the approval of the CEO, or engage in religious, charitable or other community activities as long as such services and activities are disclosed to the CEO and do not materially interfere with the Executive's performance of his duties to the Company as provided in this Agreement.

2. Compensation and Related Matters.

(a) Base Salary. During the Term, the Executive's initial annual base salary shall be $ 375,000.00. The Executive's base salary shall be re-determined annually by the Compensation Committee. The base salary in effect at any given time is referred to herein as "Base Salary." The Base Salary shall be payable in a manner that is consistent with the Company's usual payroll practices for senior executives.

(b) Incentive Compensation. During the Term, the Executive shall be eligible to receive cash incentive compensation as determined by the Compensation Committee from time to time. The Executive's target annual incentive compensation shall be 40 percent of her Base Salary (prorated in the first year upon employment start). To earn incentive compensation, the Executive must be employed by the Company till December 31 of the respective year. The CEO shall establish objectives and goals for Executive and the Company to achieve in order for Executive to earn the incentive compensation and such incentive compensation shall also be subject to the Company's standard eligibility requirements. The Company will pay any such

incentive compensation that has been duly earned and awarded by the Compensation Committee prior to the later of (i) the fifteenth day of the third month after the end of the Company's fiscal year in which such incentive compensation is earned or (ii) March 15 following the calendar year in which such incentive compensation is earned.

(c) Expenses. The Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by him during the Term in performing services hereunder, in accordance with the policies and procedures then in effect and established by the Company for its senior executive officers.

(d) Long Term Incentives. Annual options may be granted to the Executive in accordance with the Company's 2019 stock option plan with a market value equivalent to 60 % of the Executive´s yearly gross Base Salary (current market value of $ 225,000) based on personal and company performance.

(e) Sign-on Bonus. The Executive will receive a one-time sign on share option grant of 180,000 options. The grant price will be equivalent to the market price at the grant date.

(f) Other Benefits. During the Term, the Executive shall be eligible to participate in or receive benefits under the Company's employee benefit plans in effect from time to time, subject to the terms of such plans.

(g) Vacations. During the Term, the Executive shall be entitled to accrue up to 20 paid vacation days in each year. The Executive shall also be entitled to all paid holidays given by the Company to its executives. The company currently provides 10 paid holidays.

(h) 401(k) plan. During the Term, subject to eligibility requirements, Company policies, applicable law and the provisions of the various plans and programs in effect from time to time, Executive shall have the right, on the same basis as other senior employees of the Company, to participate in any 40l(k) plan maintained by the Company and, subject to nondiscrimination requirements, the Company will match the contributions that Executive makes to the Company's 40l(k) plan up to the lesser of (i) four percent (4%) of Executive's Base Salary and (ii) the statutory contribution limitation.

(i) During the Term, subject to eligibility requirements, Company policies, applicable law and the provisions of the various plans and programs in effect from time to time, Executive shall have the right, on the same basis as other senior employees of the Company, to participate in, and to receive benefits under, any health, dental; vision and disability industry comparable, competitive insurance policy maintained by the Company and the Company shall, at its expense, pay the premiums for such health, dental, vision and disability insurance for the Executive and his eligible dependents under the Company's then current employee benefit policy if Executive elects to participate in such plans.

3. Termination. During the Term, the Executive's employment hereunder may be terminated without any breach of this Agreement under the following circumstances:

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

(b) Disability. The Company may terminate the Executive's employment if he is disabled and unable to perform the essential functions of the Executive's then existing position or positions under this Agreement with or without reasonable accommodation for a period of 180 days (which need not be consecutive) in any 12-month period. If any question shall arise as to whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 3(b) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. §2601 *et seq.* and the Americans with Disabilities Act, 42 U.S.C. §12101 *et seq.*

(c) Termination by Company for Cause. The Company may terminate the Executive's employment hereunder for Cause. For purposes of this Agreement, "Cause" shall mean: (i) conduct by the Executive constituting a material act of misconduct in connection with the performance of his duties, including, without limitation, misappropriation of funds or property of the Company or any of its subsidiaries or affiliates other than the occasional, customary and de minimis use of Company property for personal purposes; (ii) the commission by the Executive of any felony or a misdemeanor involving moral turpitude, deceit, dishonesty or fraud, or any conduct by the Executive that would reasonably be expected to result in material injury or reputational harm to the Company or any of its subsidiaries and affiliates if he were retained in his position; (iii) continued non-performance by the Executive of his duties hereunder (other than by reason of the Executive's physical or mental illness, incapacity or disability) which has continued for more than 30 days following written notice of such non-performance from the CEO; (iv) a breach by the Executive of any of the provisions contained in Section 7 of this Agreement; (v) a material violation by the Executive of the Company's written employment policies, including without limitation, Company policies concerning substance abuse or sexual harassment; or (vi) failure to cooperate with a bona fide internal investigation or an investigation by regulatory or law enforcement authorities, after being instructed by the Company to cooperate, or the willful destruction or failure to preserve documents or other materials known to be relevant to such investigation or the inducement of others to fail to cooperate or to produce documents or other materials in connection with such investigation.

(d) Termination Without Cause. The Company may terminate the Executive's employment hereunder at any time without Cause upon 3 months' notice to the Executive. Any termination by the Company of the Executive's employment under this Agreement which does not constitute a termination for Cause under Section 3(c) and does not

result from the death or disability of the Executive under Section 3(a) or (b) shall be deemed a termination without Cause.

(e) Termination by the Executive. The Executive may terminate his employment hereunder at any time upon 3 months´ notice to the Company for any reason, including but not limited to Good Reason. For purposes of this Agreement, "Good Reason" shall mean that the Executive has complied with the "Good Reason Process" (hereinafter defined) following the occurrence of any of the following events: (i) a material diminution in the Executive's responsibilities, authority or duties; (ii) a material diminution in the Executive's Base Salary except for across-the-board salary reductions based on the Company's financial performance similarly affecting all or substantially all senior management employees of the Company; (iii) a material change in the geographic location at which the Executive provides services to the Company; or (iv) the material breach of this Agreement by the Company. "Good Reason Process" shall mean that (i) the Executive reasonably determines in good faith that a "Good Reason" condition has occurred; (ii) the Executive notifies the Company in writing of the first occurrence of the Good Reason condition within 60 days of the first occurrence of such condition; (iii) the Executive cooperates in good faith with the Company's efforts, for a period not less than 30 days following such notice (the "Cure Period"), to remedy the condition; (iv) notwithstanding such efforts, the Good Reason condition continues to exist; and (v) the Executive terminates his employment within 60 days after the end of the Cure Period. If the Company cures the Good Reason condition during the Cure Period, Good Reason shall be deemed not to have occurred.

(f) Notice of Termination. Except for termination as specified in Section 3(a), any termination of the Executive's employment by the Company or any such termination by the Executive shall be communicated by written Notice of Termination to the other party hereto. For purposes of this Agreement, a "Notice of Termination" shall mean a notice which shall indicate the specific termination provision in this Agreement relied upon.

(g) Date of Termination. "Date of Termination" shall mean: (i) if the Executive's employment is terminated by his death, the date of his death; (ii) if the Executive's employment is terminated on account of disability under Section 3(b) or by the Company for Cause under Section 3(c), the date on which Notice of Termination is given; (iii) if the Executive's employment is terminated by the Company under Section 3(d), three months after the date on which a Notice of Termination is given; (iv) if the Executive's employment is terminated by the Executive under Section 3(e) without Good Reason, -three months after the date on which a Notice of Termination is given, and (v) if the Executive's employment is terminated by the Executive under Section 3(e) with Good Reason, the date on which a Notice of Termination is given after the end of the Cure Period. Notwithstanding the foregoing, in the event that the Executive gives a Notice of Termination to the Company, the Company may unilaterally accelerate the Date of Termination and such acceleration shall not result in a termination by the Company for purposes of this Agreement.

4. Compensation Upon Termination.

(a) Termination Generally. If the Executive's employment with the Company is terminated for any reason, the Company shall pay or provide to the Executive (or to his

authorized representative or estate) (i) any Base Salary earned through the Date of Termination, unpaid expense reimbursements (subject to, and in accordance with, Section 2(c) of this Agreement) and unused vacation that accrued through the Date of Termination on or before the time required by law but in no event more than 30 days after the Executive's Date of Termination; and (ii) any vested benefits the Executive may have under any employee benefit plan of the Company through the Date of Termination, which vested benefits shall be paid and/or provided in accordance with the terms of such employee benefit plans (collectively, the "Accrued Benefit").

(b) Termination by the Company Without Cause or by the Executive with Good Reason. During the Term, if the Executive's employment is terminated by the Company without Cause as provided in Section 3(d), or the Executive terminates his employment for Good Reason as provided in Section 3(e), then the Company shall pay the Executive his Accrued Benefit. In addition, subject to the Executive signing a separation agreement containing, among other provisions, a general release of claims in favor of the Company and related persons and entities, confidentiality, return of property and non-disparagement, in a form and manner satisfactory to the Company (the "Separation Agreement and Release") and the Separation Agreement and Release becoming irrevocable within the time period set forth in the Separation Agreement and Release, and in no event longer than 60 days after the Date of Termination:

(i) the Company shall pay the Executive an amount equal to 100 percent of the Executive's Base Salary. For clarity, this does not include any salary payments made between the Notice of Termination and the Date of Termination. Notwithstanding the foregoing, if the Executive breaches any of the provisions contained in Section 7 of this Agreement, all payments of the Severance Amount shall immediately cease; and

(ii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 12 months or the Executive's COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iii) the amounts payable under this Section 4(b) shall be paid out in substantially equal installments in accordance with the Company's payroll practice over 12 months commencing within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, the Severance Amount shall begin to be paid in the second calendar year by the last day of such 60-day period; provided, further, that the initial payment shall include a catch-up payment to cover amounts retroactive to the day immediately following the Date of Termination. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2).

5. Change in Control Payment. The provisions of this Section 5 set forth certain terms of an agreement reached between the Executive and the Company regarding the

Executive's rights and obligations upon the occurrence of a Change in Control of the Company. These provisions are intended to assure and encourage in advance the Executive's continued attention and dedication to his assigned duties and his objectivity during the pendency and after the occurrence of any such event. These provisions shall apply in lieu of, and expressly supersede, the provisions of Section 4(b) regarding severance pay and benefits upon a termination of employment, if such termination of employment occurs within 12 months after the occurrence of the first event constituting a Change in Control. These provisions shall terminate and be of no further force or effect beginning 12 months after the occurrence of a Change in Control.

(a) Change in Control. During the Term, if within 12 months after a Change in Control, the Executive's employment is terminated by the Company without Cause as provided in Section 3(d) or the Executive terminates his employment for Good Reason as provided in Section 3(e), then, subject to the signing of the Separation Agreement and Release by the Executive and the Separation Agreement and Release becoming irrevocable, within the time period set forth in the Separation Agreement and Release, and in no event longer than 60 days after the Date of Termination,

(i) the Company shall pay the Executive a lump sum in cash in an amount equal to 1.0 times the sum of (A) the Executive's current Base Salary (or the Executive's Base Salary in effect immediately prior to the Change in Control, if higher) plus (B) the Executive's target annual incentive compensation; and

(ii) notwithstanding anything to the contrary in any applicable option agreement or stock-based award agreement, all stock options and other stock-based awards held by the Executive shall immediately accelerate and become fully exercisable or nonforfeitable as of the Date of Termination; and

(iii) if the Executive was participating in the Company's group health plan immediately prior to the Date of Termination and elects COBRA health continuation, then the Company shall pay to the Executive a monthly cash payment for 12 months or the Executive's COBRA health continuation period, whichever ends earlier, in an amount equal to the monthly employer contribution that the Company would have made to provide health insurance to the Executive if the Executive had remained employed by the Company; and

(iv) The amounts payable under this Section 5(a) shall be paid or commence to be paid within 60 days after the Date of Termination; provided, however, that if the 60-day period begins in one calendar year and ends in a second calendar year, such payment shall be paid or commence to be paid in the second calendar year by the last day of such 60-day period.

(b) Additional Limitation.

(i) Anything in this Agreement to the contrary notwithstanding, in the event that the amount of any compensation, payment or distribution by the Company to or for the benefit of the Executive, whether paid or payable or distributed or distributable

pursuant to the terms of this Agreement or otherwise, calculated in a manner consistent with Section 280G of the Code and the applicable regulations thereunder (the "Aggregate Payments"), would be subject to the excise tax imposed by Section 4999 of the Code, then the Aggregate Payments shall be reduced (but not below zero) so that the sum of all of the Aggregate Payments shall be $1.00 less than the amount at which the Executive becomes subject to the excise tax imposed by Section 4999 of the Code; provided that such reduction shall only occur if it would result in the Executive receiving a higher After Tax Amount (as defined below) than the Executive would receive if the Aggregate Payments were not subject to such reduction. In such event, the Aggregate Payments shall be reduced in the following order, in each case, in reverse chronological order beginning with the Aggregate Payments that are to be paid the furthest in time from consummation of the transaction that is subject to Section 280G of the Code: (1) cash payments not subject to Section 409A of the Code; (2) cash payments subject to Section 409A of the Code; (3) equity-based payments and acceleration; and (4) non-cash forms of benefits; provided that in the case of all the foregoing Aggregate Payments all amounts or payments that are not subject to calculation under Treas. Reg. §1.280G-1, Q&A-24(b) or (c) shall be reduced before any amounts that are subject to calculation under Treas. Reg. §1.280G-1, Q&A-24(b) or (c).

(ii) For purposes of this Section 5(b), the "After Tax Amount" means the amount of the Aggregate Payments less all federal, state, and local income, excise and employment taxes imposed on the Executive as a result of the Executive's receipt of the Aggregate Payments. For purposes of determining the After Tax Amount, the Executive shall be deemed to pay federal income taxes at the highest marginal rate of federal income taxation applicable to individuals for the calendar year in which the determination is to be made, and state and local income taxes at the highest marginal rates of individual taxation in each applicable state and locality, net of the maximum reduction in federal income taxes which could be obtained from deduction of such state and local taxes.

(iii) The determination as to whether a reduction in the Aggregate Payments shall be made pursuant to Section 5(b)(i) shall be made by a nationally recognized accounting firm selected by the Company (the "Accounting Firm"), which shall provide detailed supporting calculations both to the Company and the Executive within 15 business days of the Date of Termination, if applicable, or at such earlier time as is reasonably requested by the Company or the Executive. Any determination by the Accounting Firm shall be binding upon the Company and the Executive.

(c) Definitions. For purposes of this Section 5, the following terms shall have the following meanings:

"Change in Control" shall mean any of the following:

(i) any "person," as such term is used in Sections 13(d) and 14(d) of the Securities Exchange Act of 1934, as amended (the "Act") (other than the Company, any of its subsidiaries, or any trustee, fiduciary or other person or entity holding securities under any employee benefit plan or trust of the Company or any of its subsidiaries), together with all "affiliates" and "associates" (as such terms are defined in Rule 12b-2

under the Act) of such person, shall become the "beneficial owner" (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, of securities of the Company representing 50 percent or more of the combined voting power of the Company's then outstanding securities having the right to vote in an election of the Board ("Voting Securities") (in such case other than as a result of an acquisition of securities directly from the Company); or

(ii) the date a majority of the members of the Board is replaced during any 12-month period by directors whose appointment or election is not endorsed by a majority of the members of the Board before the date of the appointment or election; or

(iii) the consummation of (A) any consolidation or merger of the Company where the stockholders of the Company, immediately prior to the consolidation or merger, would not, immediately after the consolidation or merger, beneficially own (as such term is defined in Rule 13d-3 under the Act), directly or indirectly, shares representing in the aggregate more than 50 percent of the voting shares of the Company issuing cash or securities in the consolidation or merger (or of its ultimate parent corporation, if any), or (B) any sale or other transfer (in one transaction or a series of transactions contemplated or arranged by any party as a single plan) of all or substantially all of the assets of the Company.

Notwithstanding the foregoing, a "Change in Control" shall not be deemed to have occurred for purposes of the foregoing clause (i) solely as the result of an acquisition of securities by the Company which, by reducing the number of shares of Voting Securities outstanding, increases the proportionate number of Voting Securities beneficially owned by any person to 50 percent or more of the combined voting power of all of the then outstanding Voting Securities; provided, however, that if any person referred to in this sentence shall thereafter become the beneficial owner of any additional shares of Voting Securities (other than pursuant to a stock split, stock dividend, or similar transaction or as a result of an acquisition of securities directly from the Company) and immediately thereafter beneficially owns 50 percent or more of the combined voting power of all of the then outstanding Voting Securities, then a "Change in Control" shall be deemed to have occurred for purposes of the foregoing clause (i).

6. Section 409A.

(a) Anything in this Agreement to the contrary notwithstanding, if at the time of the Executive's separation from service within the meaning of Section 409A of the Code, the Company determines that the Executive is a "specified employee" within the meaning of Section 409A(a)(2)(B)(i) of the Code, then to the extent any payment or benefit that the Executive becomes entitled to under this Agreement on account of the Executive's separation from service would be considered deferred compensation otherwise subject to the 20 percent additional tax imposed pursuant to Section 409A(a) of the Code as a result of the application of Section 409A(a)(2)(B)(i) of the Code, such payment shall not be payable and such benefit shall not be provided until the date that is the earlier of (A) six months and one day after the Executive's separation from service, or (B) the Executive's death. If any such delayed cash payment is otherwise payable on an installment basis, the first payment shall include a catch-up payment covering amounts that would otherwise have been paid during the six-month period but for the

application of this provision, and the balance of the installments shall be payable in accordance with their original schedule.

(b) All in-kind benefits provided and expenses eligible for reimbursement under this Agreement shall be provided by the Company or incurred by the Executive during the time periods set forth in this Agreement. All reimbursements shall be paid as soon as administratively practicable, but in no event shall any reimbursement be paid after the last day of the taxable year following the taxable year in which the expense was incurred. The amount of in-kind benefits provided or reimbursable expenses incurred in one taxable year shall not affect the in-kind benefits to be provided or the expenses eligible for reimbursement in any other taxable year (except for any lifetime or other aggregate limitation applicable to medical expenses). Such right to reimbursement or in-kind benefits is not subject to liquidation or exchange for another benefit.

(c) To the extent that any payment or benefit described in this Agreement constitutes "non-qualified deferred compensation" under Section 409A of the Code, and to the extent that such payment or benefit is payable upon the Executive's termination of employment, then such payments or benefits shall be payable only upon the Executive's "separation from service." The determination of whether and when a separation from service has occurred shall be made in accordance with the presumptions set forth in Treasury Regulation Section 1.409A-1(h).

(d) The parties intend that this Agreement will be administered in accordance with Section 409A of the Code. To the extent that any provision of this Agreement is ambiguous as to its compliance with Section 409A of the Code, the provision shall be read in such a manner so that all payments hereunder comply with Section 409A of the Code. Each payment pursuant to this Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). The parties agree that this Agreement may be amended, as reasonably requested by either party, and as may be necessary to fully comply with Section 409A of the Code and all related rules and regulations in order to preserve the payments and benefits provided hereunder without additional cost to either party.

(e) The Company makes no representation or warranty and shall have no liability to the Executive or any other person if any provisions of this Agreement are determined to constitute deferred compensation subject to Section 409A of the Code but do not satisfy an exemption from, or the conditions of, such Section.

7. Confidential Information, Noncompetition and Cooperation.

(a) Confidential Information. As used in this Agreement, "Confidential Information" means information belonging to the Company which is of value to the Company in the course of conducting its business and the disclosure of which could result in a competitive or other disadvantage to the Company. Confidential Information includes, without limitation, financial information, reports, and forecasts; inventions, improvements and other intellectual property; trade secrets; know-how; designs, processes or formulae; software; market or sales information or plans; customer lists; and business plans, prospects and opportunities (such as possible acquisitions or dispositions of businesses or facilities) which have been discussed or

considered by the management of the Company. Confidential Information includes information developed by the Executive in the course of the Executive's employment by the Company, as well as other information to which the Executive may have access in connection with the Executive's employment. Confidential Information also includes the confidential information of others with which the Company has a business relationship. Notwithstanding the foregoing, Confidential Information does not include information in the public domain, unless due to breach of the Executive's duties under Section 7(b).

(b) Confidentiality. The Executive understands and agrees that the Executive's employment creates a relationship of confidence and trust between the Executive and the Company with respect to all Confidential Information. At all times, both during the Executive's employment with the Company and after its termination, the Executive will keep in confidence and trust all such Confidential Information, and will not use or disclose any such Confidential Information without the written consent of the Company, except as may be necessary in the ordinary course of performing the Executive's duties to the Company. For avoidance of doubt, nothing in this Agreement shall be interpreted or applied to prohibit the Executive from making any good faith report to any governmental agency or other governmental entity concerning any act or omission that the Executive reasonably believes constitutes a possible violation of federal or state law or making other disclosures that are protected under the anti-retaliation or whistleblower provisions of applicable federal or state law or regulation. In addition, for the avoidance of doubt, pursuant to the federal Defend Trade Secrets Act of 2016, the Executive shall not be held criminally or civilly liable under any federal or state trade secret law for the disclosure of a trade secret that (i) is made (A) in confidence to a federal, state or local government official, either directly or indirectly, or to an attorney and (B) solely for the purpose of reporting or investigating a suspected violation of law; or (ii) is made in a complaint or other document filed in a lawsuit or other proceeding, if such filing is made under seal.

(c) Documents, Records, etc. All documents, records, data, apparatus, equipment and other physical property, whether or not pertaining to Confidential Information, which are furnished to the Executive by the Company or are produced by the Executive in connection with the Executive's employment will be and remain the sole property of the Company. The Executive will return to the Company all such materials and property as and when requested by the Company. In any event, the Executive will return all such materials and property immediately upon termination of the Executive's employment for any reason. The Executive will not retain with the Executive any such material or property or any copies thereof after such termination.

(d) Noncompetition and Nonsolicitation. During the Executive's employment with the Company and for 6 months thereafter (subject to automatic extension for an additional period equal to the period of any breach of the covenants in this Section 7(d)), regardless of the reason for the termination, the Executive (i) will not, directly or indirectly, whether as owner, partner, shareholder, consultant, agent, employee, co-venturer or otherwise, engage, participate, assist or invest in any Competing Business (as hereinafter defined). During Executive's employment with the Company and for 12 months thereafter (subject to automatic extension for an additional period equal to the period of any breach of the covenants in this Section 7 (d)), regardless of the reason for the termination, the Executive, (ii) will refrain from directly or indirectly employing, attempting to employ, recruiting or otherwise soliciting, inducing or

influencing any person to leave employment with the Company (other than terminations of employment of subordinate employees undertaken in the course of the Executive's employment with the Company); and (iii) will refrain from soliciting or encouraging any customer or supplier to terminate or otherwise modify adversely its business relationship with the Company. The Executive understands that the restrictions set forth in this Section 7(d) are intended to protect the Company's interest in its Confidential Information and established employee, customer and supplier relationships and goodwill, and agrees that such restrictions are reasonable and appropriate for this purpose. For purposes of this Agreement, the term "Competing Business" shall mean a business conducted anywhere in the world which is primarily engaged in viral or cell based immunotherapy (for prophylactic or therapeutic use) in indication areas, indication area meaning specific diseases in which the Company is active at the time of termination of the Executive's employment, such as HPV+ cancers or prevention of CMV transmission during organ transplants. Notwithstanding the foregoing, the Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competing Business.

(e) Third-Party Agreements and Rights. The Executive hereby confirms that the Executive is not bound by the terms of any agreement with any previous employer or other party which restricts in any way the Executive's use or disclosure of information or the Executive's engagement in any business. The Executive represents to the Company that the Executive's execution of this Agreement, the Executive's employment with the Company and the performance of the Executive's proposed duties for the Company will not violate any obligations the Executive may have to any such previous employer or other party. In the Executive's work for the Company, the Executive will not disclose or make use of any information in violation of any agreements with or rights of any such previous employer or other party, and the Executive will not bring to the premises of the Company any copies or other tangible embodiments of non-public information belonging to or obtained from any such previous employment or other party.

(f) Litigation and Regulatory Cooperation. During and after the Executive's employment, the Executive shall cooperate fully with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive's full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and after the Executive's employment, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall reimburse the Executive for any reasonable out-of-pocket expenses incurred in connection with the Executive's performance of obligations pursuant to this Section 7(f).

(g) Injunction. The Executive agrees that it would be difficult to measure any damages caused to the Company which might result from any breach by the Executive of the promises set forth in this Section 7, and that in any event money damages would be an inadequate remedy for any such breach. Accordingly, subject to Section 9 of this Agreement, the

Executive agrees that if the Executive breaches, or proposes to breach, any portion of this Agreement, the Company shall be entitled, in addition to all other remedies that it may have, to an injunction or other appropriate equitable relief to restrain any such breach without showing or proving any actual damage to the Company.

8. Inventions and Proprietary Rights.

(a) Executive hereby agrees promptly to disclose and describe to the Company, and Executive hereby assigns to the Company all right, title and interest in and to, each of the Innovations and all associated intellectual property rights that Executive may solely or jointly conceive, reduce to practice, create, derive, develop or make during the period of his employment with the Company that (i) relate to the Company's or any Affiliate's business or actual or demonstrably anticipated research or development, (ii) were developed on any amount of the Company's or any Affiliate' s time or with the use of any of the Company's or any Affiliate's materials, equipment, supplies, facilities or information or (iii) resulted from any work that Executive performed for the Company or any Affiliate (collectively, the "Company Innovations"). Executive further acknowledges and agrees that all Company Innovations, including, without limitation, any computer programs, programming documentation, and other works of authorship, are "works made for hire" for purposes of the Company's rights under copyright laws and Executive hereby assigns to the Company any and all right, title and interest that Executive may have acquired or may hereafter acquire in such Company Innovations. Any assignment of copyright hereunder includes all rights of paternity, integrity, disclosure and withdrawal and any other rights that may be known as or referred to as "moral rights" (collectively "Moral Rights"). To the extent that such Moral Rights cannot be assigned under applicable law and to the extent the following is allowed by the laws in the various countries where Moral Rights exist, Executive hereby waives such Moral Rights and consents to any action of the Company and the Affiliates that would violate such Moral Rights in the absence of such consent. Executive shall confirm any such waivers and consents from time to time as requested by the Company. To the extent that any right, title or interest in or to any Company Innovation cannot be assigned by Executive to the Company, Executive hereby grants to the Company an exclusive, royalty free, transferable, irrevocable, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to practice such non-assignable right, title or interest. To the extent that any right, title or interest in or to any Company Innovation can be neither assigned nor licensed by Executive to the Company, Executive hereby irrevocably waives and agrees never to assert such non-assignable and non licensable right, title or interest against the Company, any Affiliate or any of their successors in interest to such non-assignable and non-licensable rights. Executive hereby grants to the Company or the Company's designees a royalty free, irrevocable, worldwide license (with rights to sublicense through multiple tiers of sublicensees) to practice all applicable patent, copyright, Moral Right, mask work, trade secret and other rights relating to any Prior Innovations that Executive may incorporate, or permit to be incorporated, into any Company Innovation. Notwithstanding the foregoing, Executive shall not incorporate, or permit to be incorporated, any Prior Innovation into any Company Innovation without the Company's prior written consent.

(b) Executive recognizes that Innovations relating directly to viral or cell based immunotherapy (for prophylactic or therapeutic use) (the "Company Innovations")

conceived, reduced to practice, created, derived, developed or made by Executive, alone or with others, within six (6) months after termination of his employment with the Company may have been conceived, reduced to practice, created, derived, developed or made, as applicable, in significant part while employed by the Company. Accordingly, Executive agrees that such Company Innovations shall be presumed to have been conceived, reduced to practice, created, derived, developed or made, as applicable, during his employment with the Company and shall be assigned to the Company unless and until Executive has established the contrary by written evidence satisfying the clear and convincing standard of proof.

(c) Executive shall perform, during and after his employment with the Company at the Company's sole expense (including compensation for Executive's time after the Termination Date), all acts deemed necessary or desirable by the Company to permit and assist the Company, at the Company's expense, in obtaining and enforcing the full benefits, enjoyment, rights and title throughout the world in the Confidential Information and Innovations assigned or licensed to, or whose rights are irrevocably waived and shall not be asserted against, the Company and the Affiliates under this Agreement. Such acts may include, but are not limited to, execution of documents and assistance or cooperation (i) in the filing, prosecution, registration, and memorialization of assignment of any applicable patents, copyrights, mask works or other applications, (ii) in the enforcement of any applicable patents, copyrights, mask works, Moral Rights, trade secrets or other rights, and (iii) in other legal proceedings related to the Confidential Information or Innovations.

(d) In the event that the Company is unable for any reason, after good faith and all reasonable effort, to secure Executive's signature to any document required to file, prosecute, register, or memorialize the assignment of any patent, copyright, mask work or other applications or to enforce any patent, copyright, mask work, Moral Right, trade secret or other right under any Confidential Information (including improvements thereof) or any Innovations (including derivative works, improvements, renewals, extensions, continuations, divisionals, continuations in part, continuing patent applications, reissues, and reexaminations thereof), Executive hereby irrevocably designates and appoints the Company and the Company's duly authorized officers and agents as his agents and attorneys-in-fact to act for and on his behalf and instead of Executive (i) to execute, file, prosecute, register and memorialize the assignment of any such application, (ii) to execute and file any documentation required for such enforcement and (iii) to do all other lawfully permitted acts to further the filing, prosecution, registration, memorialization of assignment, issuance, and enforcement of patents, copyrights, mask works, Moral Rights, trade secrets or other rights under the Confidential Information or Innovations, all with the same legal force and effect as if executed by Executive.

(e) The term "Innovations" means all processes, compositions of matter, compounds, improvements, inventions (whether or not protectable under patent laws), works of authorship, information fixed in any tangible medium of expression (whether or not protectable under copyright laws), moral rights, mask works, trademarks, trade names, trade dress, trade secrets, know-how, ideas (whether or not protectable under trade secret laws) and all other subject matter protectable under patent, copyright, moral right, mask work, trademark, trade secret or other laws and includes, without limitation, all new or useful art, combinations, designs,

developments, modifications, derivative works, discoveries, formulae, techniques and all goodwill associated with any of the foregoing.

(f) Executive hereby irrevocably consents to any and all uses and displays, by the Company and its Affiliates, agents, representatives and licensees, of the Executive's name, voice, likeness, image, appearance, and biographical information in, on or in connection with any pictures, photographs, audio and video recordings, digital images, websites, television programs and advertising, other advertising and publicity, sales and marketing brochures, books, magazines, other publications, CDs, DVDs, tapes, and all other printed and electronic forms and media throughout the world, at any time during or after the period of his employment by the Company, for all legitimate commercial and business purposes of the Company ("Permitted Uses") without further consent from or royalty, payment, or other compensation to the Executive.

9. Arbitration of Disputes. Any controversy or claim arising out of or relating to this Agreement or the breach thereof or otherwise arising out of the Executive's employment or the termination of that employment (including, without limitation, any claims of unlawful employment discrimination whether based on age or otherwise) shall, to the fullest extent permitted by law, be settled by arbitration in any forum and form agreed upon by the parties or, in the absence of such an agreement, under the auspices of the American Arbitration Association ("AAA") in New York, New York in accordance with the Employment Dispute Resolution Rules of the AAA, including, but not limited to, the rules and procedures applicable to the selection of arbitrators. In the event that any person or entity other than the Executive or the Company may be a party with regard to any such controversy or claim, such controversy or claim shall be submitted to arbitration subject to such other person or entity's agreement. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. This Section 9 shall be specifically enforceable. Notwithstanding the foregoing, this Section 9 shall not preclude either party from pursuing a court action for the sole purpose of obtaining a temporary restraining order or a preliminary injunction in circumstances in which such relief is appropriate; provided that any other relief shall be pursued through an arbitration proceeding pursuant to this Section 9.

10. Consent to Jurisdiction. To the extent that any court action is permitted consistent with or to enforce Section 9 of this Agreement, the parties hereby consent to the jurisdiction of the Supreme Court of the State of New York and the United States District Court for the Southern District of New York. Accordingly, with respect to any such court action, the Executive (a) submits to the personal jurisdiction of such courts; (b) consents to service of process; and (c) waives any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

11. Integration. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties concerning such subject matter, provided that the provisions set forth in Section 6 of the Prior Agreement shall remain in full force and effect.

12. Withholding. All payments made by the Company to the Executive under this Agreement shall be net of any tax or other amounts required to be withheld by the Company under applicable law.

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

14. Enforceability. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of this Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

15. Survival. The provisions of this Agreement shall survive the termination of this Agreement and/or the termination of the Executive's employment to the extent necessary to effectuate the terms contained herein.

16. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

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

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

19. Governing Law. This is a New York contract and shall be construed under and be governed in all respects by the laws of the State of New York, without giving effect to the conflict of laws principles of such State. With respect to any disputes concerning federal law, such disputes shall be determined in accordance with the law as it would be interpreted and applied by the United States Court of Appeals for the Second Circuit.

20. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

21. Successor to Company. The Company shall require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business or assets of the Company expressly to assume and agree to perform this Agreement to

the same extent that the Company would be required to perform it if no succession had taken place. Failure of the Company to obtain an assumption of this Agreement at or prior to the effectiveness of any succession shall be a material breach of this Agreement.

22. Gender Neutral. Wherever used herein, a pronoun in the masculine gender shall be considered as including the feminine gender unless the context clearly indicates otherwise.

IN WITNESS WHEREOF, the parties have executed this Agreement effective on the date and year first above written.

HOOKIPA PHARMA INC.

/s/ Joern Aldag
By: Joern Aldag
Its: CEO

Date of Signature: August 1, 2019

EXECUTIVE

/s/ Christine Baker
Christine Baker

Date of Signature: August 1, 2019

Exhibit 31.1

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 THE 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an 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: May 11, 2023

/s/ Joern Aldag

Joern Aldag
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

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 THE 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)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

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

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

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

d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an 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: May 11, 2023

/s/ Reinhard Kandera

Reinhard Kandera
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of HOOKIPA Pharma Inc. (the "Company") on Form 10-Q for the quarterly period ended March 31, 2023 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that to the best of their knowledge:

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

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

Dated: May 11, 2023

/s/ Joern Aldag

Joern Aldag
Chief Executive Officer
(Principal Executive Officer)

Dated: May 11, 2023

/s/ Reinhard Kandera

Reinhard Kandera
Chief Financial Officer
(Principal Financial and Accounting Officer)