Filed Pursuant to Rule 424(b)(5)
Registration No. 333-238311

FINAL PROSPECTUS SUPPLEMENT
(to Prospectus dated May 27, 2020)

21,700,000 Shares of Common Stock and 15,800 Shares of Series A-1 Convertible Preferred Stock

We are offering 21,700,000 shares of our common stock, par value $0.0001 per share. Our common stock is listed on The Nasdaq Global Select Market under the symbol "HOOK." On March 1, 2022, the last reported sale price of our common stock on The Nasdaq Global Select Market was $2.52 per share.

In addition, we are offering 15,800 shares of our Series A-1 convertible preferred stock, par value $0.0001 per share, or the Series A-1 preferred stock, and the common stock issuable from time to time upon conversion of the Series A-1 preferred stock. There is no established trading market for the Series A-1 preferred stock and we do not expect a market to develop. In addition, we do not intend to list the Series A-1 preferred stock on The Nasdaq Global Select Market, any other national securities exchange or any other nationally recognized trading system.

Each share of Series A-1 preferred stock is convertible into 1,000 shares of our common stock at any time at the option of the holder, provided that the holder will be prohibited, subject to certain exceptions, from converting 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 our common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to us. In the event of our liquidation, dissolution or winding up, 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, respectively, before any proceeds are distributed to the holders of our common stock. In the event of a merger, consolidation, exchange offer or similar other transaction, the holders of the Series A-1 preferred stock, will receive the same consideration as the holders of our common stock, upon conversion of the Series A-1 preferred stock. Shares of Series A-1 preferred stock will generally have no voting rights, except as required by law and except that the consent of the holders of a majority of the outstanding shares of Series A-1 preferred stock will be required to amend the terms of the Series A-1 preferred stock.

We are an "emerging growth company" under applicable Securities and Exchange Commission rules and will be subject to reduced public company reporting requirements for this prospectus supplement and future filings.

Our business and an investment in our securities involve significant risks. These risks are described under the caption "Risk Factors" beginning on page S-8 of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined whether this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Common Share	Per Series A-1 Preferred Share	Total
Public offering price	$2.00	$2,000.00	$75,000,000
Underwriting discounts and commissions[(1)]	$0.12	$ 120.00	$ 4,500,000
Proceeds to us before expenses	$1.88	$1,880.00	$70,500,000

(1) We refer you to "Underwriting" beginning on page S-18 for additional information regarding underwriting compensation.

We have granted the underwriters an option for a period of 30 days from the date of this prospectus supplement to purchase up to 5,625,000 additional shares of our common stock.

Delivery of the shares of common stock and Series A-1 preferred stock is expected to be made on or about March 4, 2022.

Joint Book-Running Managers

SVB LEERINK **RBC CAPITAL MARKETS**

The date of this Prospectus Supplement is March 1, 2022.

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PROSPECTUS SUPPLEMENT

PROSPECTUS

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus is a part of an effective registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this registration statement, we may offer any combination of our securities described in our base prospectus included in the shelf registration statement in one or more offerings up to a total aggregate offering price of $200,000,000. The prospectus supplement describes the specific terms of this offering and also adds to and updates the information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The accompanying prospectus gives more general information, some of which may not apply to this offering. If there is a difference between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference, you should rely on the information in this prospectus supplement. Generally, when we refer to the prospectus, we are referring to this prospectus supplement and the accompanying prospectus combined.

We have not, and the underwriters have not, authorized anyone to provide you with information different than or inconsistent with the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we have authorized for use in connection with this offering. We take, and the underwriters take, no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are not, and the underwriters are not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we have authorized for use in connection with this offering, is accurate only as of the date of those respective documents, regardless of the time of delivery of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we have authorized for use in connection with this offering, in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the sections of this prospectus supplement entitled "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of our securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless otherwise mentioned or unless the context requires otherwise, all references in this prospectus to "HOOKIPA Pharma," "HOOKIPA," "company," "we," "us" and "our" or similar references refer to HOOKIPA Pharma Inc. and our consolidated subsidiaries.

This prospectus supplement and the information incorporated by reference herein include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus are the property of their respective owners.

PROSPECTUS SUPPLEMENT SUMMARY

The following summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our securities. For a more complete understanding of our company and this offering, you should read and consider carefully the more detailed information included or incorporated by reference in this prospectus supplement and the accompanying prospectus, including the factors described under the heading "Risk Factors," as well as the information included in any free writing prospectus that we have authorized for use in connection with this offering.

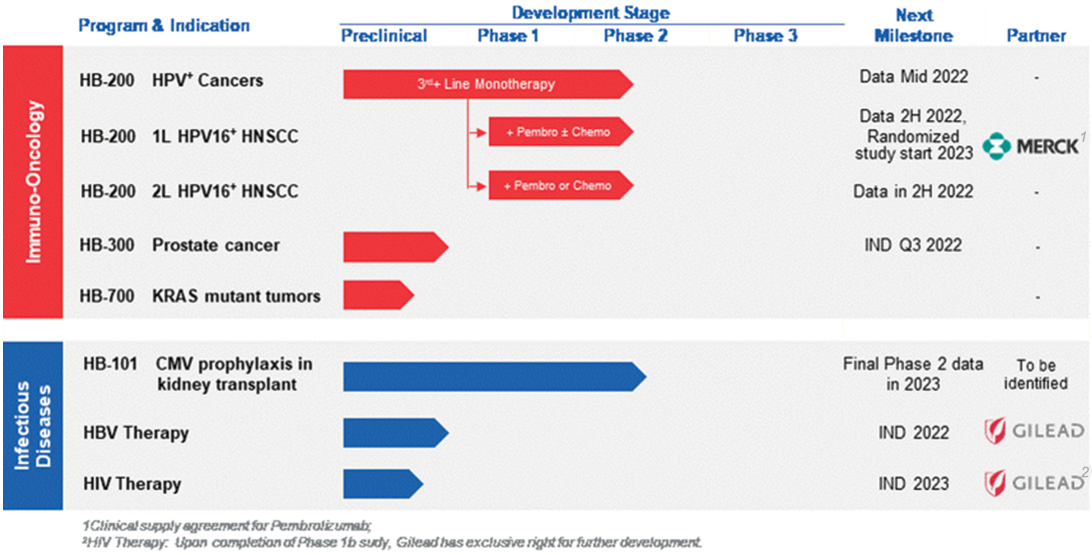
Company Overview

We are a clinical-stage biopharmaceutical company focused on developing novel immunotherapies based on our proprietary arenavirus platform that is designed to mobilize and amplify targeted T cells to fight or prevent serious disease. Our replicating and non-replicating technologies are engineered to induce robust and durable antigen-specific CD8+ T cell responses and pathogen-neutralizing antibodies. 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.

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, or HPV16+, cancers in an ongoing Phase 1/2 clinical trial. HPV is estimated to cause about 5% of the worldwide cancer burden. This includes approximately 99% of cases in cervical, up to 60% of head and neck, 70% of vaginal and 88% of anal cancers. It is estimated that the yearly incidence of metastatic head and neck cancers in Spain, France, Germany, Italy, Japan, the United Kingdom and the United States will be 44,000 by 2030. HB-300 is in development for the treatment of prostate cancer and is expected to move into the clinic after the acceptance of our investigational new drug application, which we plan to submit in the third quarter of 2022. HB-700 is our newest asset in preclinical development for treatment of certain KRAS mutated cancers, including certain lung, colorectal and pancreatic cancers.

Our Pipeline

Our oncology and infectious disease product candidate pipeline consists of the following programs:



HB-200 Program

Our HB-200 program comprises HB-201 and HB-202. HB-201 and HB-202 are replicating viral vectors based on the arenavirus lymphocytic choriomeningitis virus and Pichinde virus, respectively, which encode

an identical, inactivated fusion protein of HPV-16 E6 and E7 designed to induce a tumor specific CD8+ T cell response. HB-201 is being evaluated as monotherapy and in an alternating combination with HB-202 in an ongoing Phase 1/2 study. In November 2021, we announced updated interim data from the ongoing Phase 1 portion of the trial. The interim update included data on 24 patients who received HB-201 or HB-202/HB-201, 13 of whom were evaluable (had one or more scans). We believe the results from this additional data further supports the favorable tolerability, anti-tumor activity, pharmacodyamics and T cell production we had observed in the data we announced at the American Society of Clinical Oncology (ASCO) Annual Meeting in June 2021.

The interim data showed that HB-200 continues to demonstrate a favorable tolerability profile in heavily pre-treated patients with HPV16+ cancers, highlighting its potential in possible combination with checkpoint inhibitors and other agents. Treatment-related adverse events were reported in 66% of patients, with only 8% experiencing treatment-related adverse events rated grade 3 or higher. HB-200 demonstrated promising, early anti-tumor activity in patients with advanced head and neck cancers (a median of three prior lines of therapy), including two confirmed PR (-31%, -41%), one unconfirmed PR (-60%), a 75% disease control rate, tumor shrinkage in 53% of patients and an ongoing median progression-free survival of 3.45 months. The T cell data show that HB-200 rapidly induces high levels of activated, tumor-specific CD8+ T cells (and up to 40% in circulation), with more than 90% of patients achieving an increase in tumor-specific CD8+ T cells within two weeks of the second HB-200 dose and 50% of patients with paired biopsies (3/6 patients) showing elevated tumor infiltrating lymphocytes in their tumors. The data also showed the production of polyfunctional and non-exhaustive T cells.

We believe that these early-stage data establish clinical proof of concept for our replicating single-vector immunotherapy in oncology.

In addition, the interim Phase 1 data released in November 2021 enabled decisions on Phase 2 clinical plans for target tumor type as well as recommended schedule and route of administration for HB-200:

- IV administration is superior to IT administration; therefore, the IT route has been discontinued and IV only will be used in Phase 2;
- The initial Q3W dosing schedule is a superior to Q2W; therefore, the Q2W regimen arm has been discontinued and the Q3W dosing will be used in Phase 2;
- The majority of data accrued to date has been from HNSCC patients; therefore, the Phase 2 target tumor type will be HNSCC.

In coordination with the November 2021 update, the Recommended Phase 2 Dose, or RP2D, for HB-201 single vector therapy was determined. In January 2022, we dosed the first patient with a combination of HB-201 and pembrolizumab for the treatment of first line advanced/metastatic HPV16+ HNSCC in the Phase 2 expansion portion of the ongoing Phase 1/2 trial (NCT04180215). The Phase 2 portion of the trial is also open for enrollment of patients with second line advanced/metastatic HPV16+ HNSCC for treatment with a combination of HB-201 and pembrolizumab. Similarly, for the alternating sequential two vector HB-201/HB-202 therapy, a RP2D will be determined. Thereafter, enrollment of patients with first line or second line advanced/metastatic HPV16+ HNSCC will begin, using a combination treatment of HB-201/HB-202 and pembrolizumab. Enrollment of those patients will also proceed in the unrandomized Phase 2 dose expansion part of the ongoing Phase 1/2 trial. The initial data from the combination with pembrolizumab treatment groups of patients with first line or second line advanced/metastatic HPV16+ HNSCC is anticipated in the second half of 2022.

In November 2021, the FDA granted Fast Track Designation to single-vector HB-201 and alternative two-vector HB-201/HB-202, both in combination with pembrolizumab, for the treatment of first-line advanced/metastatic HPV16+ HNSCC.

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 study. We believe our platform has the potential to be applicable in a broad range of cancers and, as such, we are in discussions with other organizations to explore collaborations that will allow us to further pursue the potential of our T cell technology, and its potency observed to date, in combination with other clinical stage novel immunotherapies. While these discussions are preliminary and we have not entered into any binding agreements, based on discussions to date, we believe that we are well

positioned to expand the scope of our current oncology pipeline with additional collaborations, including for our early stage and preclinical programs, such as KRAS, during 2022. There are many risks and uncertainties regarding these discussions and we may never enter into a collaboration agreement with these parties, or any other.

Infectious Disease Programs

Our non-replicating prophylactic Cytomegalovirus, or CMV, vaccine candidate, HB-101, is a potential first-in-class compound in a Phase 2 clinical trial for patients awaiting kidney transplantation. In June 2021, we completed enrollment in the Phase 2 clinical study with 80 patients dosed. Given the challenges of enrollment of voluntary, live donor kidney transplantation during the ongoing COVID-19 pandemic, the total number of patients enrolled in the trial was smaller than the originally planned 150 patients. Patients who continue in the trial progress through transplantation and a 12-month follow-up period. In November 2021, we reported additional safety, immunogenicity and efficacy data to be largely consistent with the preliminary data announced in our November 2020 update, whereby the three-dose schedule of HB-101 pre-transplantation showed a trend of reducing incidence of CMV viremia and antiviral use as compared to placebo. The trial will continue to follow patients currently on-study with final top-line data readout expected in the first half of 2023. We have decided to further pursue HB-101 only if we are able to partner the program with a collaborator.

Recent Developments

Amended and Restated Collaboration and License Agreement

On February 15, 2022, we and Gilead entered into an Amended and Restated Research Collaboration and License Agreement, the Restated Collaboration Agreement, to that certain Research Collaboration and License Agreement, between us and Gilead, effective as of June 4, 2018, as subsequently amended, the Original Collaboration Agreement. The Original Collaboration Agreement was entered into to evaluate potential vaccine products using or incorporating our Arenavirus technology platforms for the treatment, cure, diagnosis, or prevention of HBV or HIV, which we refer to as the Field. The Restated Collaboration Agreement, among other things, allocated to us additional research and development responsibility with respect to our HIV candidate and provided for later stage development and commercial milestone payments. Gilead has the exclusive right, the Option, to take back the development rights for such HIV program candidates and to further research, develop, and commercialize such candidates in accordance with the terms and conditions of the Restated Collaboration Agreement. Gilead may exercise the Option at any time, but no later than 60 days after the receipt of a data package containing pre-clinical, clinical, chemistry and manufacturing control, regulatory and other data specified by the Restated Collaboration Agreement.

If the Option is not exercised by Gilead during the term of the Option, or if Gilead provides written notice to us of its intention to not exercise the Option, then the terms of the Restated Collaboration Agreement will be deemed terminated with respect to the HIV Development Plan and HIV Licensed Products (each as defined in the Restated Collaboration Agreement), and the Field and rights granted under the Restated Collaboration Agreement shall be limited to the HBV indication. Furthermore, if the Option expires or is terminated, the non-competition and right of first negotiations terms contained in the Restated Collaboration Agreement shall not be applicable to the development for HIV indications. In the event the Option is not exercised, we and Gilead will work in good faith to enter into a license agreement pursuant to which Gilead will grant us a milestone and/or royalty-bearing license under certain Gilead owned intellectual property necessary or reasonably useful to allow us to research, develop, manufacture and commercialize HIV product candidates as of the date on which the Option is exercised.

Upon execution of the Restated Collaboration Agreement, we became entitled to a program initiation fee of $15.0 million. In addition, 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 for the HBV program. 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 program completion fee upon Option exercise, and $65.0 million in commercialization milestone payments for the HIV program. Upon the commercialization of a Licensed Product, if ever, we are eligible to receive tiered royalties of a high single-digit to mid-teens percentage on the worldwide net sales of each HBV Licensed Product, and royalties of a mid-single-digit to 10% of worldwide net sales of each HIV Licensed Product, if the Option is exercised. The royalty

payments are subject to reduction under specified conditions set forth in the Collaboration Agreement. In addition, Gilead is obligated to pay us for all out-of-pocket costs actually incurred by us in connection with the HBV program.

Stock Purchase Agreement

In connection with the Restated Collaboration Agreement, on February 15, 2022, the Effective Date, we entered into a Stock Purchase Agreement, the Stock Purchase Agreement, with Gilead. Pursuant to, and subject to the terms and conditions of, the Stock Purchase Agreement, Gilead will be required, at our option, to purchase up to $35,000,000 of our common stock, the proceeds of which we intend to use to fund additional research and development activities of our HIV program. On the Effective Date, Gilead purchased an initial amount of 1,666,666 unregistered shares of our common stock in exchange for approximately $5.0 million at a purchase price per share equal to $3.00. Pursuant to the terms of the Stock Purchase Agreement, we may require Gilead to purchase the balance of the $30.0 million of common stock in two subsequent purchases. The purchase price per share of the first subsequent purchase shall be equal to (a) the VWAP Purchase Price (as defined in the Stock Purchase Agreement), calculated at the date we exercise our right to require Gilead to purchase shares, plus (b) a premium of 30% on the VWAP Purchase Price, and the purchase price per share of the second subsequent purchase shall be equal to the VWAP Purchase Price, calculated at the date the Company exercises its right to require Gilead to purchase shares. Our ability to sell shares of our common stock to Gilead are subject to specified limitations, including compliance with Nasdaq Rule 5635(d) and continued compliance with the Nasdaq listing rules. The Stock Purchase Agreement also prohibits Gilead from purchasing shares of our common stock if such purchase would result in Gilead being a beneficial owner of more than 19.9% of the total number of our then-issued and outstanding shares of common stock.

The Stock Purchase Agreement may be terminated: (1) by Gilead (a) any time an Event of Default (as defined in the Stock Purchase Agreement) exists or (b) if we suspend, terminate or otherwise cease to perform our obligations under the HIV Development Plan; (2) automatically if Gilead exercises its Option pursuant to the Restated Collaboration Agreement; (3) by us for any reason; (4) automatically on the date that we sell and Gilead purchases the full $35.0 million of common stock; or (5) automatically on December 31, 2023.

Pursuant to the terms of the Stock Purchase Agreement, we and Gilead agreed to enter into a registration rights agreement within two months following the Effective Date, obligating us to file a registration statement on Form S-3 to register for resale the initial 1,666,666 shares of common stock issued to Gilead within six months of the issuance on the Effective Date and thereafter, within four months of any additional purchases of common stock by Gilead.

Cash, Cash Equivalents and Restricted Cash

As of December 31, 2021, we had $66.9 million in cash, cash equivalents and restricted cash. This amount will not meet our capital requirements over the next 12 months which raises substantial doubt about our ability to continue as a going concern. Based on internal management estimates, we will need to raise significant additional capital in order to fund our future operations. We have based these estimates on assumptions that may prove to be wrong, and our operating and capital requirements may change as a result of many factors currently unknown to us.

This preliminary financial information regarding our December 31, 2021 cash balance is subject to completion of review procedures and is the responsibility of management. We have not reported our financial results for year ended December 31, 2021, and our actual results could be materially different from this preliminary financial information.

In addition, PwC Wirtschaftsprüfung GmbH, our independent registered public accounting firm, has not completed its audit of this preliminary financial information and does not express an opinion or any other form of assurance with respect to this preliminary financial information. During the course of the preparation of our financial statements and related notes as of and for the year ended December 31, 2021, we may identify items that would require us to make material adjustments to this preliminary financial information. As a result, prospective investors should exercise caution in relying on this information and should not draw any inferences from this information regarding our operating data not provided. This preliminary financial information should not be viewed as a substitute for full financial statements prepared in accordance with United States generally accepted accounting principles.

Termination of ATM Prospectus

On March 1, 2022, in connection with commencing this offering, we delivered written notice to SVB Securities LLC, the Agent, that we were suspending and terminating the prospectus supplement, dated May 27, 2020, the ATM Prospectus, related to the to the Sales Agreement, dated May 15, 2020, between us and the Agent, the Sales Agreement. As a result, we will not make any sales of our common stock pursuant to the Sales Agreement, unless and until a new prospectus supplement is filed. Other than the termination of the ATM Prospectus, the Sales Agreement remains in full force and effect.

Corporate Information

We were originally incorporated as Hookipa Biotech AG under the laws of Austria in 2011. In February 2017, we reorganized to become a corporation under the laws of the State of Delaware as Hookipa Biotech, Inc., which was a fully-owned subsidiary of Hookipa Biotech AG. In June 2018, Hookipa Biotech, Inc. changed its name to HOOKIPA Pharma Inc. and acquired all of the shares of Hookipa Biotech AG, now Hookipa Biotech GmbH.

Our principal executive offices are located at 350 Fifth Avenue, 72nd Floor, Suite 7240, New York, New York 10118 and our telephone number is +43 1 890 63 60. Our website address is www.hookipapharma.com. The reference to our website is an inactive textual reference only and information contained in, or that can be assessed through, our website is not part of this prospectus supplement.

Implications of Being an Emerging Growth Company and Smaller Reporting Company

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012. For so long as we remain an emerging growth company, we are permitted and intend to rely on certain exemptions from various public company reporting requirements, including not being required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. In particular, in this prospectus, we have not included or incorporated by reference all of the executive compensation-related information that would be required if we were not an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following April 18, 2024, (b) in which we have total annual gross revenues of at least $1.07 billion or (c) in which we are deemed to be a "large accelerated filer," under the rules of the SEC, which means the market value of our equity securities that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt 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.

	THE OFFERING
Common stock offered by us	21,700,000 shares.
Series A-1 preferred stock offered by us	15,800 shares of Series A-1 preferred stock. This prospectus supplement also relates to the offering of shares of common stock issuable upon conversion of the Series A-1 preferred stock.
Underwriters' option to purchase additional shares	We have granted the underwriters an option for a period of 30 days to purchase up to 5,625,000 additional shares of common stock.
Common stock to be outstanding immediately after this offering	51,603,797 shares (or 57,228,797 shares if the underwriters exercise their option to purchase additional shares in full).
Series A-1 preferred stock to be outstanding immediately after this offering	15,800 shares.
Conversion	Each share of our Series A-1 preferred stock is convertible into 1,000 shares of our common stock at any time at the option of the holder, provided that the holder will be prohibited, subject to certain exceptions, from converting 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 our common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to us.
Liquidation preference	In the event of our liquidation, dissolution, or winding up, 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, respectively, before any proceeds are distributed to the holders of our common stock.
Voting rights	Shares of Series A-1 preferred stock will generally have no voting rights, except as required by law and except that the consent of the holders of a majority of the outstanding shares of Series A-1 preferred stock will be required to amend the terms of the Series A-1 preferred stock.
Dividends	Shares of 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 our common stock.
Use of proceeds	We intend to use the aggregate net proceeds from this offering for working capital and general corporate purposes. We will retain broad discretion in determining how we will allocate the net proceeds from this offering. Pending the use of net proceeds, we intend to invest the net proceeds in money market funds and in interest-bearing bank accounts with investment grade U.S. financial institutions. For a more complete description of our intended use of the proceeds from this offering, see "Use of Proceeds" on page S-15.

Risk factors	This investment involves a high degree of risk. You should carefully read "Risk Factors" on page S-8 of this prospectus supplement and the risk or otherwise incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors that you should consider before deciding to invest in our common stock or the Series A-1 preferred stock.
Nasdaq Global Select Market Symbol for our common stock	"HOOK"
Listing	There is no established public trading market for the Series A-1 preferred stock, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Series A-1 preferred stock on The Nasdaq Global Select Market or on any national securities or other nationally recognized trading system.

There were 2,987 shares of Series A preferred stock outstanding as of September 30, 2021.

The above discussion is based on 26,084,065 shares of our common stock and 3,819,732 shares of Class A common stock outstanding as of September 30, 2021 and excludes:

- 4,226,857 shares of common stock issuable upon the exercise of outstanding stock options outstanding as of September 30, 2021, at a weighted-average exercise price of $9.23 per share;
- 337,886 shares of common stock that are available for future issuance under our 2019 Stock Option and Incentive Plan, as of September 30, 2021;
- 260,804 shares of our common stock available for future issuance as of September 30, 2021 under our 2019 Employee Stock Purchase Plan;
- 2,987,000 shares of our common stock issuable upon conversion of 2,987 shares of our Series A convertible preferred stock outstanding as of September 30, 2021; and
- 15,800,000 shares of our common stock issuable upon conversion of Series A-1 preferred stock being offered by us in this offering.

Except as otherwise indicated, the information in this prospectus supplement assumes:

- no exercise of the outstanding stock options described above;
- no additional sales of common stock to Gilead pursuant to the Stock Purchase Agreement; and
- no exercise by the underwriters of their option to purchase additional shares of our common stock in this offering.

Following September 30, 2021, we have issued:

- 1,666,666 shares of our common stock to Gilead pursuant to the Stock Purchase in February 2022; and
- options to purchase 188,687 shares of our common stock pursuant to our 2019 Stock Option and Incentive Plan, at a weighted-average exercise price of $1.79 per share.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described below, as well as the other information in this prospectus and the documents incorporated by reference into this prospectus, including the risks identified under "Item 1A. Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2020, before deciding whether to invest in our securities. The occurrence of any of the events or developments described therein and below could harm our business, financial condition, results of operations and growth prospects. In such an event, the market price of our securities could decline and you may lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently deem immaterial also may impair our business operations.

Risks Related to Our Financial Position and Capital Needs

We are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. We have incurred significant losses since inception. We expect to incur losses for at least the next several years and may never achieve or maintain profitability. These factors raise substantial doubt about our ability to continue as a going concern absent obtaining significant additional funding.

We are a clinical-stage biopharmaceutical company with no approved products and a limited operating history. Investment in biopharmaceutical product development is highly speculative because it entails substantial upfront capital expenditures and significant risk that any potential product candidate will fail to demonstrate adequate efficacy or an acceptable safety profile, gain regulatory approval and become commercially viable. Since inception, we have incurred significant net losses and may continue to incur net losses in the future. Our recurring losses from operations together with the factors described below raise substantial doubt about our ability to continue as a going concern. As a result, our independent public accounting firm may include an explanatory paragraph regarding the same in its report to our Annual Report on Form 10-K for the year ended December 31, 2021. Substantial doubt about our ability to continue as a going concern may create negative reactions to the price of our common stock and we may have a more difficult time obtaining financing in the future as a result.

We have no products approved for commercial sale and have not generated any revenue from product sales. 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, securing related intellectual property rights and conducting discovery, research and development activities for our programs. As a result, we are not profitable and have incurred losses in each period since our inception in 2011. For the years ended December 31, 2019 and 2020, we reported a net loss of $43.0 million and $44.1 million, respectively. As of December 31, 2020, we had an accumulated deficit of $147.1 million. We expect to continue to incur significant losses for the foreseeable future. We anticipate that our expenses will increase substantially if, and 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;
- 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;
- establish our manufacturing capabilities through third parties or by ourselves and scale-up manufacturing to provide adequate supply for clinical trials and commercialization;
- 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.

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 and we may never generate revenue that is significant or large enough to achieve profitability. We may also 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.

If we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Accordingly, our failure to become and remain profitable would decrease the value of our company and could impair our ability to raise capital, maintain our research and development efforts, expand our business or continue our operations. A decline in the value of our company also could cause you to lose all or part of your investment.

Risks Related to Our Reliance on Third Parties

We are fully dependent on our collaboration with Gilead for the development of our hepatitis B virus programs, rely on funding from Gilead for development of our human immunodeficiency virus, and may depend on Gilead or additional third parties for the development and commercialization of our other programs and future product candidates. Our current and future collaborators may control aspects of our clinical trials, which could result in delays or other obstacles in the commercialization of the product candidates we develop. If our collaborations are not successful, we may not be able to capitalize on the market potential of these product candidates.

In June 2018, we entered into a research collaboration and license agreement, or the Original Collaboration Agreement, with Gilead Sciences, Inc., or Gilead, which was amended and restated in February 2022, the Restated Collaboration Agreement. The Original Collaboration Agreement was entered into to evaluate potential vaccine products using or incorporating our Arenavirus technology platforms for the treatment, cure, diagnosis, or prevention of human immunodeficiency virus, or HIV, and hepatitis B virus, or HBV.

The Restated Collaboration Agreement, among other things, allocated to us additional research and development responsibility with respect to our HIV candidate and provided for later stage development and commercial milestone payments. The Restated Collaboration Agreement involves a complex allocation of rights, provides for milestone payments to us based on the achievement of specified clinical development, regulatory and commercial milestones, and provides us with royalty-based revenue if certain product candidates are successfully commercialized. Gilead is solely responsible for the preclinical and clinical development of the HBV program. In connection with the Restated Collaboration Agreement, we entered into a Stock Purchase Agreement, the Stock Purchase Agreement, with Gilead. Pursuant to, and subject to the terms and conditions of, the Stock Purchase Agreement, Gilead will be required, at our option, to purchase up to $35,000,000 of our common stock, the proceeds of which we intend to use to fund additional research and development activities of our HIV program. Our lack of control over the clinical development of the HBV program under the Collaboration Agreement could result in delays or other difficulties in the development and commercialization of product candidates, which may prevent completion of intended investigational new drug applications in a timely fashion, if at all. Additionally, Gilead has the right to terminate the Restated Collaboration Agreement at any time for convenience. In the event Gilead terminates the Restated Collaboration Agreement, we would be prevented from receiving any milestone payments, royalty payments and other benefits under that agreement, as well as terminating our rights to future funding under the Stock Purchase Agreement with Gilead, any of which would have a materially adverse effect on our results of operations. We cannot provide any assurance with respect to the success of the Collaboration Agreement.

In the future, we may form or seek other strategic alliances, joint ventures, or collaborations, or enter into additional licensing arrangements with third parties that we believe will complement or augment our development and commercialization efforts with respect to product candidates we develop.

Our current collaboration with Gilead poses, and potential future collaborations involving our product candidates may pose, the following risks to us:

- collaborators have significant discretion in determining the efforts and resources that they will apply to these collaborations;
- collaborators may not perform their obligations as expected;
- collaborators may not pursue development and commercialization of any product candidates that achieve regulatory approval or may elect not to continue or renew development or commercialization programs or license arrangements based on clinical trial results, changes in the collaborators' strategic focus or available funding, or external factors, such as a strategic transaction that may divert resources or create competing priorities;
- collaborators may delay clinical trials, provide insufficient funding for a clinical trial program, stop a clinical trial or abandon a product candidate, repeat or conduct new clinical trials or require a new formulation of a product candidate for clinical testing;
- collaborators could independently develop, or develop with third parties, including technology we in-license, products that compete directly or indirectly with our products or product candidates;
- product candidates discovered in collaboration with us may be viewed by our collaborators as competitive with their own product candidates or products, which may cause collaborators to cease to devote resources to the commercialization of our product candidates;
- collaborators may fail to comply with applicable regulatory requirements regarding the development, manufacture, distribution or marketing of a product candidate or product;
- collaborators may not properly enforce, maintain or defend our intellectual property rights or may use our proprietary information in a way that gives rise to actual or threatened litigation that could jeopardize or invalidate our intellectual property or proprietary information or expose us to potential litigation, or other intellectual property proceedings;
- collaborators may infringe the intellectual property rights of third parties, which may expose us to litigation and potential liability;
- disputes may arise between a collaborator and us that cause the delay or termination of the research, development or commercialization of the product candidate, or that result in costly litigation or arbitration that diverts management attention and resources;
- if a present or future collaborator of ours were to be involved in a business combination, the continued pursuit and emphasis on our product development or commercialization program under such collaboration could be delayed, diminished or terminated;
- collaboration agreements may restrict our right to independently pursue new product candidates. For example, under the Collaboration Agreement, we are prohibited from, directly or indirectly, researching, developing, manufacturing or commercializing product candidates targeted to HIV or HBV; and
- collaborations may be terminated by the collaborator, and, if terminated, we may suffer reputational harm, find it more difficult to attract new collaborators and be required to raise additional capital to pursue further development or commercialization of the applicable product candidates.

As a result, if we enter into additional collaboration agreements and strategic partnerships or license our intellectual property, products or businesses, we may not be able to realize the benefit of such transactions if we are unable to successfully integrate them with our existing operations, which could delay our timelines or otherwise adversely affect our business. We also cannot be certain that, following a strategic transaction or license, we will achieve the revenue or specific net income that justifies such transaction. Any delays in entering into new collaborations or strategic partnership agreements related to any product candidate we develop could delay the development and commercialization of our other product candidates, which would harm our business prospects, financial condition, and results of operations.

Risks Related to Government Regulation

The FDA or comparable foreign regulatory authorities could require the clearance or approval of a companion diagnostic device as a condition of approval for our product candidates. Failure to successfully validate, develop and obtain regulatory clearance or approval for companion diagnostics on a timely basis or at all could harm our drug development strategy.

Our success may depend, in part, on the development and commercialization of companion diagnostic tests to select patients for our drug candidates. If safe and effective use of any of our product candidates depends on an in vitro diagnostic that is not otherwise commercially available, then the FDA generally will require approval or clearance of that diagnostic, known as a companion diagnostic, at the same time that the FDA approves our product candidates. The process of obtaining or creating such diagnostic is time consuming and costly.

Companion diagnostics, which provide information that is essential for the safe and effective use of a corresponding therapeutic product, are subject to regulation by the FDA and comparable foreign regulatory authorities as medical devices and require separate regulatory approval from therapeutic approval prior to commercialization. The FDA previously has required in vitro companion diagnostics intended to select the patients who will respond to a product candidate to obtain pre-market approval, or PMA, simultaneously with approval of the therapeutic candidate. The PMA process, including the gathering of preclinical and clinical data and the submission and review by the FDA, can take several years or longer. It involves a rigorous premarket review during which the applicant must prepare and provide FDA with reasonable assurance of the device's safety and effectiveness and information about the device and its components regarding, among other things, device design, manufacturing, and labeling. After a device is placed on the market, it remains subject to significant regulatory requirements, including requirements governing development, testing, manufacturing, distribution, marketing, promotion, labeling, import, export, record-keeping, and adverse event reporting. We will be subject to additional obligations and regimes with respect to such companion diagnostic tests with regulators outside the United States.

Given our limited experience in developing and commercializing diagnostics, we do not plan to develop companion diagnostics internally and thus will be dependent on the sustained cooperation and effort of third-party collaborators in developing and obtaining approval for these companion diagnostics. We and our collaborators may encounter difficulties in developing and obtaining approval for the companion diagnostics, including issues relating to selectivity/specificity, analytical validation, reproducibility, or clinical validation. Any delay or failure by our collaborators to develop or obtain regulatory approval of the companion diagnostics could delay or prevent approval of our product candidates. In addition, we, our collaborators or third parties may encounter production difficulties that could constrain the supply of the companion diagnostics, and both they and we may have difficulties gaining acceptance of the use of the companion diagnostics in the medical community. If such companion diagnostics fail to gain market acceptance, it would have an adverse effect on our ability to derive revenues from sales, if any, of any product candidate for which we obtain approval and that requires a companion diagnostic test. In addition, any companion diagnostic collaborator or third party with whom we contract may decide not to commercialize or to discontinue selling or manufacturing the companion diagnostic that we anticipate using in connection with development and commercialization of our product candidates, or our relationship with such collaborator or third party may otherwise terminate. We may not be able to enter into arrangements with another provider to obtain supplies of an alternative diagnostic test for use in connection with the development and commercialization of our product candidates or do so on commercially reasonable terms, which could adversely affect and/or delay the development or commercialization of our product candidates.

Risks Related to this Offering and Other Matters

There is no public market for our Series A-1 preferred stock.

There is no established public trading market for our Series A-1 preferred stock, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Series A-1 preferred stock on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the Series A-1 preferred stock will be limited.

We have broad discretion in the use of our existing cash, cash equivalents and the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of our existing cash, cash equivalents and the net proceeds from this offering, including for any of the purposes described in the section entitled "Use of Proceeds," and you will not have the right or opportunity as part of your investment decision to assess whether such proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of our existing cash, cash equivalents and the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our management might not apply our existing cash, cash equivalents and the net proceeds from this offering in ways that ultimately increase the value of your investment. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, investment-grade, interest- bearing securities. These investments may not yield a favorable return to our stockholders. If we do not invest or apply the net proceeds from this offering in ways that enhance stockholder value, we may fail to achieve expected financial results, which could cause our stock price to decline.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. We may sell shares or other securities in any other offering at a price per share that is less than the price per share paid by any investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by any investors in this offering.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “seek,” “should,” “target,” “will,” “would,” and similar expressions, or the negative of these terms, or similar expressions. Accordingly, these statements involve estimates, assumptions and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus, and in particular those factors referenced in the section “Risk Factors.”

This prospectus supplement and the accompanying prospectus contain forward-looking statements that are based on our management’s belief and assumptions and on information currently available to our management. These statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- our expectations related to the use of proceeds from this offering;
- the success, cost and timing of our product development activities and clinical trials;
- the timing, scope or likelihood of regulatory filings and approvals, including timing of Investigational New Drug Application and Biological Licensing Application filings for our current and future product candidates, and final U.S. Food and Drug Administration, European Medicines Agency or other foreign regulatory authority approval of our current and future product candidates;
- our ability to develop and advance our current product candidates and programs into, and successfully complete, clinical studies;
- our manufacturing, commercialization and marketing capabilities and strategy;
- the potential benefits of and our ability to maintain our collaboration with Gilead Sciences, Inc., and establish or maintain future collaborations or strategic relationships or obtain additional funding;
- the rate and degree of market acceptance and clinical utility of our current and future product candidates;
- our intellectual property position, including the scope of protection we are able to establish and maintain for intellectual property rights covering our 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;
- our ability to successfully identify and enter into collaborations to advance the breadth of our programs, and the commercial success of any such collaboration;
- 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 ongoing coronavirus pandemic 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 expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012, as amended.

We have included important factors in the cautionary statements included in this prospectus and the documents we incorporate by reference herein, particularly in the "Risk Factors" sections of these documents, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make. No forward-looking statement is a guarantee of future performance.

You should read this prospectus and the documents that we incorporate by reference in this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements in this prospectus and the documents we incorporate by reference herein represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

USE OF PROCEEDS

We estimate that the net proceeds from the sale of common stock and Series A-1 preferred stock that we are offering, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately $70.0 million, or approximately $80.7 million if the underwriters exercise in full their option to purchase an additional 5,625,000 shares of common stock.

The principal purpose of this offering is to obtain additional capital to support our operations. We expect to use the aggregate net proceeds of this offering, in addition to our existing cash and cash equivalents for working capital and general corporate purposes. We will retain broad discretion in determining how we will allocate the net proceeds from this offering.

Our expected use of the net proceeds from this offering represents our current intentions based upon our present plans and business condition. The amounts and timing of our actual use of the net proceeds will vary depending on numerous factors, including our ability to access additional financing, the relative success and cost of our research and development programs and commercialization efforts, and whether we are able to enter into future licensing arrangements. In addition, we might decide to postpone, scale down or not pursue certain clinical or commercial activities if the net proceeds from this offering, and any other sources of cash are less than expected.

Until we use the net proceeds from this offering, we intend to invest the net proceeds in money market funds and in interest-bearing bank accounts with investment grade U.S. financial institutions.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering shares of Series A-1 preferred stock. The common stock issuable upon conversion of the Series A-1 preferred stock offered by this prospectus supplement and the accompanying prospectus is described in the accompanying prospectus under the heading "Description of Our Capital Stock." The Series A-1 preferred stock offered by this prospectus supplement and the accompanying prospectus are described in the immediately following section of this prospectus supplement.

Series A-1 Preferred Stock

The following summary of certain terms and provisions of our Series A-1 preferred stock offered in this offering is subject to, and qualified in its entirety by reference to, the terms and provisions set forth in our certificate of designation of preferences, rights and limitations of Series A-1 preferred stock.

General. Our certificate of incorporation authorizes our board of directors to issue up to 10,000,000 shares of our preferred stock, par value $0.0001 per share.

Subject to the limitations prescribed by our certificate of incorporation, our board of directors is authorized to establish the number of shares constituting each series of preferred stock and to fix the designations, powers, preferences and rights of the shares of each of those series and the qualifications, limitations and restrictions of each of those series, all without any further vote or action by our stockholders. Our board of directors has designated 15,800 of the 10,000,000 authorized shares of preferred stock as Series A-1 preferred stock. When issued, the shares of Series A-1 preferred stock will be validly issued, fully paid and non-assessable.

Rank. The Series A-1 preferred stock will rank:

- on parity with our common stock, Class A common stock and Series A preferred stock;
- on parity with any class or series of capital stock hereafter created specifically ranking by its terms on parity with the Series A-1 preferred stock;
- senior to any class or series of our capital stock hereafter created specifically ranking by its terms junior to the Series A-1 preferred stock; and
- junior to any class or series of capital stock hereafter created specifically ranking by its terms senior to the Series A-1 preferred stock;

in each case, as to distributions of assets upon our liquidation, dissolution or winding up whether voluntarily or involuntarily.

Conversion. Each share of the Series A-1 preferred stock is convertible into 1,000 shares of our common stock (subject to adjustment as provided in the related certificate of designation of preferences rights and limitations) at any time at the option of the holder, provided that the holder will be prohibited, subject to certain exceptions, from converting 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 our common stock then issued and outstanding, which percentage may be changed at the holder's election to any other number less than or equal to 19.99% upon 61 days' notice to us.

Liquidation Preference. In the event of our liquidation, dissolution or winding up, holders of the Series A-1 preferred stock will receive a payment equal to $0.001 per share of Series A-1 preferred stock *pari passu* with the common stock, Class A common stock and Series A preferred stock.

Fundamental Transaction. Upon consummation of a Fundamental Transaction (as defined below) pursuant to which holders of shares of our common stock are entitled to receive securities, cash or property, then upon any subsequent conversion of the Series A-1 preferred stock, the holder thereof shall have the right to receive, in lieu of the right to receive the shares of our common stock underlying the Series A-1 preferred stock, for each share of common stock that it would have otherwise been entitled to receive upon such conversion immediately prior to the occurrence of such Fundamental Transaction, the same kind and amount of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the

holder of one share of our common stock. If holders of our common stock are given a choice as to the securities, cash or property to be received in a

Fundamental Transaction, then the holder of the Series A-1 preferred stock shall be given the same choice as to the consideration it receives upon any exercise of the Series A-1 preferred stock following such Fundamental Transaction.

A "Fundamental Transaction" means:

- we effect any merger or consolidation with or into another person or any stock sale to, or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, share exchange or scheme of arrangement) with or into another person (other than such a transaction in which we are the surviving or continuing entity and our common stock is not exchanged for or converted into other securities, cash or property);
- we effect any sale of all or substantially all of our assets in one transaction or a series of related transactions;
- any tender offer or exchange offer (whether by us or another person) is completed pursuant to which more than 50% of the common stock not held by us or such person is exchanged for or converted into other securities, cash or property; or
- we effect any reclassification of our common stock or any compulsory share exchange pursuant (other than specified dividends, subdivisions or combinations) to which our common stock is effectively converted into or exchanged for other securities, cash or property.

Voting Rights. Shares of Series A-1 preferred stock will generally have no voting rights, except as required by law and except that the consent of the holders of a majority of the outstanding shares of Series A-1 preferred stock will be required to amend the terms of the Series A-1 preferred stock.

Dividends. Shares of 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 common stock.

Redemption. We are not obligated to redeem or repurchase any shares of Series A-1 preferred stock. Shares of Series A-1 preferred stock are not otherwise entitled to any redemption rights or mandatory sinking fund or analogous fund provisions.

Exchange Listing. We do not plan on making an application to list the Series A-1 preferred stock on The Nasdaq Global Select Market, any national securities exchange or other nationally recognized trading system. We expect the common stock issuable upon conversion of the Series A-1 preferred stock to be listed on The Nasdaq Global Select Market.

Transfer Agent and Registrar

The transfer agent and registrar for shares of our Series A-1 preferred stock (and the underlying shares of common stock) is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Ave, Brooklyn, New York 11219.

Listing on The Nasdaq Global Select Market

Our common stock is listed on Nasdaq under the symbol "HOOK." There is no established public trading market for the Series A-1 preferred stock, and we do not expect a market to develop. We do not plan on making an application to list the Series A-1 preferred stock on Nasdaq, any securities exchange or any recognized trading system.

UNDERWRITING

SVB Securities LLC and RBC Capital Markets, LLC are acting as representatives of each of the underwriters named below and as joint book-running managers for this offering. Subject to the terms and conditions set forth in the underwriting agreement among us and the underwriters, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us, the number of shares of common stock and Series A-1 convertible preferred stock set forth opposite its name below.

Name	Number of Shares of Common Stock	Number of Shares of Series A-1 Convertible Preferred Stock
SVB Securities LLC	17,360,000	12,640
RBC Capital Markets, LLC	4,340,000	3,160
Total:	21,700,000	15,800

Subject to the terms and conditions set forth in the underwriting agreement, each underwriter, severally and not jointly, has agreed to purchase all of the shares of common stock and Series A-1 convertible preferred stock sold under the underwriting agreement, together the "securities," if any of the securities are purchased. If an underwriter defaults, the underwriting agreement provides that the purchase commitments of the non-defaulting underwriters may be increased up to 10% without the consent of the non-defaulting underwriters and more only with the consent of the non-defaulting underwriters. If the non-defaulting underwriters do not purchase the defaulted securities, the underwriting agreement, or the remaining purchase commitments thereunder, will terminate.

We have agreed to indemnify the underwriters against certain liabilities, including liabilities under the Securities Act, or to contribute to payments the underwriters may be required to make in respect of those liabilities.

The underwriters are offering the securities, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of legal matters by their counsel, including the validity of the shares, and subject to other conditions contained in the underwriting agreement, such as the receipt by the underwriters of officers' certificates and legal opinions. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part.

Discounts and Commissions

The representatives have advised us that the underwriters propose initially to offer the shares to the public at the public offering price set forth on the cover page of this prospectus supplement and to dealers at that price less a concession not in excess of $0.072 per share of common stock and $72.00 per share of Series A-1 preferred stock. After the offering of the shares, the public offering price, concession or any other term of this offering may be changed by the representatives.

The following table shows the per share public offering price, underwriting discounts and commissions and proceeds, before expenses, to us. The information assumes either no exercise or full exercise by the underwriters of their option to purchase additional shares of our common stock.

	Per Share of Common Stock	Per Share of Series A-1 Convertible Preferred Stock	Total	
			No Exercise	Full Exercise
Public offering price	$2.00	$2,000.00	$75,000,000	$86,250,000
Underwriting discounts and commissions to be paid by us:	$0.12	$ 120.00	$ 4,500,000	$ 5,175,000
Proceeds, before expenses, to us	$1.88	$1,880.00	$70,500,000	$81,075,000

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately $1.25 million. The underwriters have agreed to reimburse us for certain expenses in connection with the offering, subject to offset against up to $30,000 of FINRA counsel fees for which we have agreed to reimburse the underwriters. In accordance with FINRA Rule 5110, this reimbursed FINRA counsel fee is deemed underwriting compensation for this offering.

Option to Purchase Additional Shares

We have granted an option to the underwriters, exercisable for 30 days after the date of this prospectus supplement, to purchase up to 5,625,000 additional shares of common stock at the public offering price listed on the cover page of this prospectus supplement, less underwriting discounts and commissions. If the underwriters exercise this option, each underwriter will be obligated, subject to the conditions contained in the underwriting agreement, to purchase a number of additional shares proportionate to that underwriter's initial amount reflected in the above table.

No Sales of Similar Securities

We, our officers and directors have agreed not to sell or transfer any common stock or securities convertible into or exchangeable or exercisable for common stock, for 90 days after the date of this prospectus supplement without first obtaining the written consent of SVB Securities LLC on behalf of the underwriters. Specifically, we and these other persons have agreed, with certain limited exceptions, not to directly or indirectly:

- offer, pledge, sell or contract to sell any securities;
- sell any option or contract to purchase any securities;
- purchase any option or contract to sell any securities;
- grant any option, right or warrant for the sale of any securities;
- otherwise dispose of or transfer any securities;
- request or demand that we file a registration statement related to the securities;
- enter into any swap or other agreement or any transaction that transfers, in whole or in part, the economic consequence of ownership of any securities, whether any such swap, agreement or transaction is to be settled by delivery of shares or other securities, in cash or otherwise; or
- publicly disclose an intention to do any of the foregoing.

The lock-up provisions apply to common stock and Series A-1 convertible preferred stock and to securities convertible into or exchangeable or exercisable for common stock. With limited exceptions, they also apply to securities owned now or acquired later by the person executing the lock-up agreement or for which the person executing the lock-up agreement later acquires the power of disposition. Subject to certain conditions, our directors and officers may transfer the securities:

- as a bona fide gift or gifts;
- to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this lock-up agreement, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin);
- as a distribution to limited or general partners, stockholders or members of the undersigned;
- to the undersigned's affiliates or to any investment fund or other entity controlled or managed by the undersigned;
- by will or intestacy;
- to the Company in connection with the exercise of options, warrants or other rights to acquire securities or any security convertible into or exercisable for the securities of the Company by way of net exercise and/or to cover withholding tax obligations in connection with such exercise pursuant to

an employee benefit plan, option, warrant or other right disclosed in the prospectus for the public offering, provided that any such shares issued upon exercise of such option, warrant or other right shall be subject to the restrictions set forth herein;

- pursuant to a court order or settlement agreement related to the distribution of assets in connection with the dissolution of a marriage or civil union;
- to the Company pursuant to agreements under which the Company has the option to repurchase such shares or a right of first refusal with respect to transfers of such shares upon termination of service of the undersigned; or
- to a bona fide third party pursuant to a merger, consolidation, tender offer or other similar transaction made to all holders of securities and involving a Change of Control of the Company and approved by the Company's board of directors; provided that, in the event that such Change of Control is not completed, the securities shall remain subject to the restrictions contained herein, provided further, that any securities not transferred in such merger, consolidation, tender offer or similar transaction shall remain subject to the restrictions contained herein. "Change of Control" shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an underwriter pursuant to the public offering), of the Company's voting securities if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity).

provided that, (i) in the case of any transfer or distribution as described in the bullet points above, the donee, trustee, distributee, or transferee, as the case may be, shall agree to be subject to the restrictions described in the immediately preceding paragraph and (ii) in the case of any transfer or distribution described in the first, second, third and fourth bullet point above, such transfers are not dispositions for value or required to be reported with the SEC on Form 4 in accordance with Section 16 of the Exchange Act, (iii) in the case of any transfer or distribution described in the fifth, sixth, seventh, eighth and ninth bullet point above, such required Form 4 filed in accordance with Section 16 of the Exchange Act shall state the reason for such transfer and (iv) directors and officers and holders of our outstanding stock affiliated with one of our directors do not otherwise voluntarily effect any public filing or report regarding such transfers described above.

In addition, the restrictions described in the paragraph above do not apply to:

- the securities to be sold by us in this offering; or
- the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of securities, provided that such plan does not provide for the transfer securities during the applicable restricted period and is not required to and does not otherwise effect any public filing or report regarding the establishment of such plan.

SVB Securities LLC, in its sole discretion, may release the common stock and other securities subject to the lock-up agreements described above in whole or in part at any time.

Nasdaq Global Select Market Listing

Our common stock is listed on the Nasdaq Global Select Market under the symbol "HOOK."

There is no established public trading market for our Series A-1 convertible preferred stock, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the Series A-1 convertible preferred stock on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the Series A-1 convertible preferred stock will be limited.

Price Stabilization, Short Positions and Penalty Bids

Until the distribution of the securities is completed, SEC rules may limit underwriters and selling group members from bidding for and purchasing our securities. However, the representatives may engage in transactions that stabilize the price of our common stock, such as bids or purchases to peg, fix or maintain that price.

In connection with this offering, the underwriters may purchase and sell our shares in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilizing transactions. Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in this offering. "Covered" short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares described above. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the option to purchase additional shares granted to them under the underwriting agreement described above. "Naked" short sales are sales in excess of such option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of our shares in the open market after pricing that could adversely affect investors who purchase in this offering. Stabilizing transactions consist of various bids for or purchases of our shares made by the underwriters in the open market prior to the closing of this offering.

The underwriters may also impose a penalty bid. This occurs when a particular underwriter repays to the underwriters a portion of the underwriting discount received by it because the representatives have repurchased shares sold by or for the account of such underwriter in stabilizing or short covering transactions.

Similar to other purchase transactions, the underwriters' purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. The underwriters may conduct these transactions on the Nasdaq Global Select Market, in the over-the-counter market or otherwise.

Neither we nor any of the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. In addition, neither we nor any of the underwriters make any representation that the representatives will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

The underwriters may also engage in passive market making transactions in our common stock on the Nasdaq Global Select Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our securities in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid, that bid must then be lowered when specified purchase limits are exceeded.

Electronic Distribution

In connection with this offering, certain of the underwriters or securities dealers may distribute prospectuses by electronic means, such as e-mail.

Other Relationships

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. Some of the underwriters and certain of their affiliates may in the future engage in investment banking and other commercial dealings in the ordinary course of business with us and our affiliates, for which they may in the future receive customary fees, commissions and expenses.

In addition, in the ordinary course of their business activities, the underwriters and their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Such investments and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriters and their affiliates may also make investment recommendations and/or

publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Selling Restrictions

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area (each, a "Relevant State"), no shares have been offered or will be offered pursuant to the offering to the public in that Relevant State prior to the publication of a prospectus in relation to the shares which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, all in accordance with the Prospectus Regulation, except that shares may be offered to the public in that Relevant State at any time:

A. to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;

B. to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

C. in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of shares shall require us or any of the representatives to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares, and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129, as amended.

Notice to Prospective Investors in the United Kingdom

No shares have been offered or will be offered pursuant to the offering to the public in the United Kingdom prior to the publication of a prospectus in relation to the Shares which has been approved by the Financial Conduct Authority, except that the shares may be offered to the public in the United Kingdom at any time:

A. to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

B. to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the representatives for any such offer; or

C. in any other circumstances falling within Section 86 of the Financial Services and Markets Act 2000 (the "FMSA"), provided that no such offer of the shares shall require us or any representative to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation. For the purposes of this provision, the expression an "offer to the public" in relation to the shares in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any shares and the expression "UK Prospectus Regulation" means Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018.

Notice to Prospective Investors in Canada

The shares may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 Prospectus Exemptions or

subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the shares must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 (or, in the case of securities issued or guaranteed by the government of a non-Canadian jurisdiction, section 3A.4) of National Instrument 33-105 Underwriting Conflicts (NI 33-105), the underwriters are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

Notice to Prospective Investors in Hong Kong

The Securities have not been offered or sold and will not be offered or sold in Hong Kong, by means of any document, other than (a) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made under that Ordinance; or (b) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong or which do not constitute an offer to the public within the meaning of that Ordinance. No advertisement, invitation, or document relating to the Securities has been or may be issued or has been or may be in the possession of any person for the purposes of issuance, whether in Hong Kong or elsewhere, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Securities which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance and any rules made under that Ordinance.

LEGAL MATTERS

The validity of the common stock being offered hereby will be passed upon by Goodwin Procter LLP, Boston, Massachusetts. Ropes & Gray LLP, Boston, Massachusetts, is acting as counsel for the underwriters in connection with certain legal matters related to this offering.

EXPERTS

The financial statements incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2020 have been so incorporated in reliance on the report (which contains an emphasis of matter paragraph relating to the Company's requirement for additional financing to fund future operations as described in Note 2 to the financial statements) of PwC Wirtschaftsprüfung GmbH, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. PwC Wirtschaftsprüfung GmbH is a member of the Austrian Chamber of Tax Advisors and Public Accountants (Kammer der Steuerberater und Wirtschaftsprüfer).

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents also may be accessed through the SEC's electronic data gathering, analysis and retrieval system, or EDGAR, via electronic means, including the SEC's home page on the Internet (*www.sec.gov*).

We maintain a website at www.hookipapharma.com. Information contained on our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus supplement or the accompanying prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information that we file later with the SEC will automatically update and supersede this information. We filed a registration statement on Form S-3 under the Securities Act of 1933, as amended, with the SEC with respect to the securities being offered pursuant to this prospectus supplement and the accompanying prospectus. This prospectus supplement and the accompanying prospectus omit certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement, including the exhibits, for further information about us and the securities being offered pursuant to this prospectus supplement and the accompanying prospectus. Statements in this prospectus supplement and the accompanying prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained upon payment of the prescribed rates at the offices of the SEC listed above in "Where You Can Find More Information." The documents we are incorporating by reference are:

- our Annual Report on Form 10-K for the year ended December 31, 2020, filed with the SEC on March 18, 2021;
- our Definitive Proxy Statement filed with the SEC on April 20, 2021, to the extent the information therein is filed and not furnished;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2021 filed with the SEC on May 12, 2021, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 filed with the SEC on August 12, 2021 and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 filed with the SEC on November 10, 2021;
- our Current Reports on Form 8-K filed with the SEC on April 20, 2021, June 7, 2021, November 9, 2021, February 1, 2022 and February 15, 2022, to the extent the information in such reports is filed and not furnished; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on April 15, 2019, and any further amendment or report filed hereafter for the purpose of updating such description pursuant to Section 12(b) of the Exchange Act.

In addition, all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed in such forms that are related to such items unless such Form 8-K expressly provides to the contrary) subsequently filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, before the date our offering is terminated or completed are deemed to be incorporated by reference into, and to be a part of, this prospectus supplement and the accompanying prospectus.

Any statement contained in this prospectus supplement and the accompanying prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained in this prospectus supplement and the accompanying prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement and the accompanying prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement and the accompanying prospectus.

You may request a copy of these filings, at no cost, by contacting us, either orally or in writing, at the following:

HOOKIPA Pharma Inc.
350 Fifth Avenue, 72nd Floor, Suite 7240
New York, New York 10118
+43 1 890 63 60

You should rely only on information contained in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus supplement and the accompanying prospectus or incorporated by reference in this prospectus supplement and the accompanying prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

PROSPECTUS

$200,000,0000

Common Stock
Preferred Stock
Debt Securities
Warrants
Units

From time to time, we may offer up to $200,000,000 of any combination of the securities described in this prospectus in one or more offerings. We may also offer securities as may be issuable upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including any applicable anti-dilution provisions.

This prospectus provides a general description of the securities we may offer. Each time we offer securities, we will provide specific terms of the securities offered in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference, before you invest in any of the securities being offered.

This prospectus may not be used to consummate a sale of any securities unless accompanied by a prospectus supplement.

Our common stock is traded on the Nasdaq Global Select Market under the symbol “HOOK.” On May 13, 2020, the last reported sale price of our common stock was $9.05 per share. The applicable prospectus supplement will contain information, where applicable, as to any other listing on the Nasdaq Global Select Market or any securities market or other exchange of the securities, if any, covered by the prospectus supplement.

We may sell these securities directly to investors, through agents designated from time to time, or to or through underwriters or dealers, on a continuous or delayed basis. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any agents or underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such agents or underwriters and any applicable fees, commissions, discounts or over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Investing in our securities involves a high degree of risk. You should review carefully the risks and uncertainties described under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus as described on page 4 of this prospectus.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is May 27, 2020.

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ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total aggregate offering price of $200,000,000. This prospectus provides you with a general description of the securities we may offer.

Each time we sell securities under this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading "Incorporation of Certain Information by Reference," before investing in any of the securities offered.

THIS PROSPECTUS MAY NOT BE USED TO CONSUMMATE A SALE OF SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

Neither we, nor any agent, underwriter or dealer has authorized any person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus prepared by or on behalf of us or to which we have referred you. This prospectus, any applicable supplement to this prospectus or any related free writing prospectus do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, any applicable supplement to this prospectus or any related free writing prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered, or securities are sold, on a later date.

This prospectus and the information incorporated herein by reference contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the heading "Where You Can Find More Information."

HOOKIPA PHARMA INC.

This summary highlights selected information from this prospectus and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, the applicable prospectus supplement and any related free writing prospectus, including the risks of investing in our securities discussed under the heading "Risk Factors" contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus. You should also carefully read the information incorporated by reference into this prospectus, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part.

Unless the context indicates otherwise, as used in this prospectus, the terms "HOOKIPA Pharma," "HOOKIPA," "the Company," "we," "us" and "our" refer to HOOKIPA Pharma Inc. and our consolidated

subsidiaries. We use HOOKIPA and the HOOKIPA logo as trademarks in the United States and other countries. All other trademarks or trade names referred to in this prospectus are the property of their respective owners.

Overview

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

Our lead infectious disease product candidate, HB-101, is in a randomized, double-blinded Phase 2 clinical trial in patients awaiting kidney transplantation who are at risk for pathology associated with Cytomegalovirus, or CMV, infections. Due to the COVID-19 pandemic, nearly all of the Phase 2 trial sites we utilize have suspended enrollment of patients. Kidney transplant patients have a significantly higher mortality than other COVID-19 patient populations. It is hence unclear when kidney organ transplants will be resumed at all of the trial sites. By the end of July 2020, we expect to report on the safety data of approximately one-third of the total 150 patients to be enrolled in the trial and on the immunogenicity data for approximately one-quarter of the total patients to be enrolled in the trial. This immunogenicity data read-out will focus on CMV-neutralizing antibody responses. Analyses of cellular immune responses, including CD8+ T cells, have been limited to date by sample transport logistics problems. Preliminary efficacy data, which is independent of immunogenicity analysis, remains on track to be delivered by the end of 2020.

Our lead oncology product candidates, HB-201 and HB-202, are in development for the treatment of Human Papillomavirus-positive cancers. In December 2019, we initiated the Phase $^{1}/2$ clinical trial for HB-201 and expect preliminary results in late 2020 or early 2021. The open label, dose escalating Phase $^{1}/2$ clinical trial is evaluating HB 201 in HPV16+ cancers, alone and in combination with an approved checkpoint inhibitor and plan to enroll 100 patients in total with 20 patients in each dose escalation and expansion group, respectively. Enrollment of the first group of patients, receiving the intravenously administered first dose level, has been completed and the trial is accruing patients at the next higher dose level. We plan to file an investigational new drug, or IND, application with the U.S. Food and Drug Administration, or FDA, for HB-202 in the first half 2020. At the present time based on currently available information about COVID-19, we do not anticipate that the COVID-19 pandemic will materially impact the clinical programs for HB-201 or HB-202, but we cannot rule out that changes in the course of the COVID-19 pandemic or public health responses to the pandemic could potentially impact the development program for HB-201 or HB-202.

We have also entered into a strategic partnership with Gilead Sciences, Inc., or Gilead, to develop infectious disease product candidates intended to support functional cures for chronic Hepatitis B virus, or HBV, and human immunodeficiency virus, or HIV, infections. Based on preclinical data generated to date, Gilead has committed to preparations to advance the HBV and HIV candidates toward development.

Corporate Information

We were originally incorporated as Hookipa Biotech AG under the laws of Austria in 2011. In February 2017, we reorganized to become a corporation under the laws of the State of Delaware as Hookipa Biotech, Inc., which was a fully-owned subsidiary of Hookipa Biotech AG. In June 2018, Hookipa Biotech, Inc. changed its name to HOOKIPA Pharma Inc. and acquired all of the shares of Hookipa Biotech AG, now Hookipa Biotech GmbH.

Our principal executive offices are located at 350 Fifth Avenue, 72nd Floor, Suite 7240, New York, New York 10118 and our telephone number is +43 1 890 63 60. Our website address is www.hookipapharma.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus or any accompanying prospectus supplement.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012. For so long as we remain an emerging growth company, we are permitted and intend to rely on certain exemptions from various public company reporting requirements, including not being required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. In particular, in this prospectus, we have not included or incorporated by reference all of the executive compensation-related information that would be required if we were not an emerging growth company. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

We will remain an emerging growth company until the earlier to occur of (1) the last day of the fiscal year (a) following April 18, 2024, (b) in which we have total annual gross revenues of at least $1.07 billion or (c) in which we are deemed to be a "large accelerated filer," under the rules of the SEC, which means the market value of our equity securities that is held by non-affiliates exceeds $700 million as of the prior June 30th, and (2) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of some accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of delayed adoption of new or revised accounting standards and, therefore, we will be subject to the same requirements to adopt 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.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully review the risks and uncertainties described under the heading “Risk Factors” contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, before deciding whether to purchase any of the securities being registered pursuant to the registration statement of which this prospectus is a part. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. Any statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and may be forward-looking. These statements are often, but are not always, made through the use of words or phrases such as "may," "will," "could," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "projects," "potential," "continue," and similar expressions, or the negative of these terms, or similar expressions. Accordingly, these statements involve estimates, assumptions, risks and uncertainties which could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus, and in particular those factors referenced in the section "Risk Factors."

This prospectus, including the documents that we incorporate by reference, contain forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. These statements relate to future events or our future financial performance, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements include, but are not limited to, statements about:

- 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 FDA, 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;
- potential impacts due to the coronavirus pandemic such as delays, interruptions or other adverse effects to clinical trials, delays in regulatory review, manufacturing and supply chain interruptions, adverse effects on healthcare systems and disruption of the global economy, and the overall impact of the coronavirus pandemic on our business, financial condition and results of operations;
- our manufacturing, commercialization and marketing capabilities and strategy;
- the potential benefits of and our ability to maintain our collaboration with Gilead Sciences, Inc., and establish or maintain future collaborations or strategic relationships or obtain additional funding;
- the rate and degree of market acceptance and clinical utility of our current and future product candidates;
- our intellectual property position, including the scope of protection we are able to establish and maintain for intellectual property rights covering our VaxWave and TheraT technologies and the product candidates based on these technologies, the validity of intellectual property rights held by third parties, and our ability not to infringe, misappropriate or otherwise violate any third-party intellectual property rights;
- future agreements with third parties in connection with the commercialization of our product candidates and any other approved product;
- regulatory developments in the United States and foreign countries;
- competitive companies, technologies and our industry and the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- our ability to obtain funding for our operations, including funding necessary to complete further development and commercialization of our product candidates;

- the accuracy of our estimates of our annual total addressable market, future revenue, expenses, capital requirements and needs for additional financing;
- our expectations about market trends; and
- our expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012, as amended.

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

You should read this prospectus and the documents that we incorporate by reference in this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. The forward-looking statements in this prospectus and the documents we incorporate by reference herein represent our views as of their respective dates. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

USE OF PROCEEDS

We intend to use the net proceeds from the sale of any securities offered under this prospectus for general corporate purposes unless otherwise indicated in the applicable prospectus supplement. General corporate purposes may include, but are not limited to, research and development costs, including the conduct of one or more clinical trials and process development and manufacturing of our product candidates, potential strategic acquisitions of complementary businesses, services or technologies, expansion of our technology infrastructure and capabilities, working capital, capital expenditures and other general corporate purposes. We may temporarily invest the net proceeds in a variety of capital preservation instruments, including investment grade, interest bearing instruments and U.S. government securities, until they are used for their stated purpose. We have not determined the amount of net proceeds to be used specifically for such purposes. As a result, management will retain broad discretion over the allocation of net proceeds.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms of our amended and restated certificate of incorporation and amended and restated bylaws. We refer in this section to our amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws.

General

Our authorized capital stock consists of one hundred million (100,000,000) shares of common stock, three million nine hundred thousand (3,900,000) shares of Class A common stock, par value $0.0001 per share and ten million (10,000,000) shares of undesignated preferred stock, par value $0.0001 per share.

Common Stock

We have two classes of common stock: common stock and Class A common stock. The common stock is voting common stock and the Class A common stock is non-voting common stock. The holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of the stockholders. The holders of our common stock do not have any cumulative voting rights. Holders of both classes of our common stock are entitled to receive ratably any dividends declared by our board of directors out of funds legally available for that purpose, subject to any preferential dividend rights of any outstanding preferred stock or that we may designate or issue in the future.

In the event of our liquidation, dissolution, or winding up, holders of our common stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. The shares to be issued by us in this offering will be, when issued and paid for, validly issued, fully paid and non-assessable.

Voting Common Stock

As of March 31, 2020, 21,824,990 shares of our common stock were outstanding and held by 11 stockholders of record. In addition, as of March 31, 2020, we had outstanding options to purchase 2,903,977 shares of our common stock under our 2019 Stock Option and Incentive Plan, at a weighted average exercise price of $7.84 per share, 842,678 of which were exercisable. All common stock is fully paid and non-assessable. Our common stock has no preemptive rights, conversion rights, or other subscription rights or redemption or sinking fund provisions.

Non-Voting Class A Common Stock

As of March 31, 2020, 3,819,732 shares of our Class A common stock were outstanding and held by two stockholders of record. Each holder of Class A common stock may elect to convert any portion of its Class A common stock into voting common stock at any time, unless, as a result of such conversion, the holder and its affiliates would own more than 4.99% of the combined voting power of our outstanding share capital. A holder of Class A common stock may increase, decrease or waive this limitation on ownership by providing us with 61-days' notice. Our Class A common stock has no preemptive rights or other subscription rights or redemption or sinking fund provisions.

Preferred Stock

Our board of directors has the authority, without further action by our stockholders, to issue up to ten million (10,000,000) shares of preferred stock in one or more series and to fix the rights, preferences, privileges and restrictions thereof. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms and the number of shares constituting, or the designation of, such series, any or all of which may be greater than the rights of common stock. The issuance of our preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon our liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing a change in control of our company or other corporate action.

No shares of preferred stock are outstanding, and we have no present plan to issue any shares of preferred stock.

Registration Rights

Pursuant to the terms of our shareholders' agreement, dated as of February 15, 2019, certain of our stockholders are entitled to rights with respect to the registration of their shares under the Securities Act.

Demand Registration Rights. Pursuant to the terms of our shareholders' agreement, certain holders of shares of our common stock are entitled to demand registration rights.

Short-Form Registration Rights. Pursuant to the terms of our shareholders' agreement, certain holders of shares of our common stock are entitled to short-form registration rights. If we are eligible to file a registration statement on Form S-3, upon the written request of a majority of our stockholders to sell securities at an anticipated aggregate price of at least $10.0 million, we will be required to use commercially reasonable efforts to effect a registration of such shares.

Piggyback Registration Rights. Pursuant to the terms of our shareholders' agreement, certain holders of shares of our common stock are entitled to piggyback registration rights. If we register any of our securities either for our own account or for the account of other security holders, the holders of these shares are entitled to include their shares in the registration.

Expiration of Registration Rights. The demand registration rights and short form registration rights will terminate as to a given stockholder at such time as Rule 144 or another similar exemption under the Securities Act is available for the sale of all of such stockholder's shares without limitation during a three-month period without registration.

Anti-Takeover Effects of our Certificate of Incorporation and Bylaws and Delaware Law

Our certificate of incorporation and bylaws include a number of provisions that may have the effect of delaying, deferring or preventing another party from acquiring control of us and encouraging persons considering unsolicited tender offers or other unilateral takeover proposals to negotiate with our board of directors rather than pursue non-negotiated takeover attempts. These provisions include the items described below.

Board Composition and Filling Vacancies

Our certificate of incorporation provides for the division of our board of directors into three classes serving staggered three-year terms, with one class being elected each year. Our certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders of two thirds (⅔) or more of the shares then entitled to vote at an election of directors. Further, any vacancy on our board of directors, however occurring, including a vacancy resulting from an increase in the size of our board, may only be filled by the affirmative vote of a majority of our directors then in office even if less than a quorum. The classification of directors, together with the limitations on removal of directors and treatment of vacancies, has the effect of making it more difficult for stockholders to change the composition of our board of directors.

No Written Consent of Stockholders

Our certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our bylaws or removal of directors by our stockholders without holding a meeting of stockholders.

Meetings of Stockholders

Our certificate of incorporation and bylaws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the

notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our bylaws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance Notice Requirements

Our bylaws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days nor more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. Our bylaws specify the requirements as to form and content of all stockholders' notices. These requirements may preclude stockholders from bringing matters before the stockholders at an annual or special meeting.

Amendment to Certificate of Incorporation and Bylaws

Any amendment of our certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment and a majority of the outstanding shares of each class entitled to vote thereon as a class, except that the amendment of the provisions relating to stockholder action, board composition, limitation of liability and the amendment of our bylaws and certificate of incorporation must be approved by not less than two thirds (⅔) of the outstanding shares entitled to vote on the amendment, and not less than two thirds (⅔) of the outstanding shares of each class entitled to vote thereon as a class. Our bylaws may be amended by the affirmative vote of a majority of the directors then in office, subject to any limitations set forth in the bylaws; and may also be amended by the affirmative vote of at least two thirds (⅔) of the outstanding shares entitled to vote on the amendment, or, if our board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

Undesignated Preferred Stock

Our certificate of incorporation provides for 10,000,000 authorized shares of preferred stock. The existence of authorized but unissued shares of preferred stock may enable our board of directors to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise. For example, if in the due exercise of its fiduciary obligations, our board of directors were to determine that a takeover proposal is not in the best interests of our stockholders, our board of directors could cause shares of preferred stock to be issued without stockholder approval in one or more private offerings or other transactions that might dilute the voting or other rights of the proposed acquirer or insurgent stockholder or stockholder group. In this regard, our certificate of incorporation grants our board of directors broad power to establish the rights and preferences of authorized and unissued shares of preferred stock. The issuance of shares of preferred stock could decrease the amount of earnings and assets available for distribution to holders of shares of common stock. The issuance may also adversely affect the rights and powers, including voting rights, of these holders and may have the effect of delaying, deterring, or preventing a change in control of us.

Exclusive Jurisdiction for Certain Actions

Our bylaws provide that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware shall be the sole and exclusive forum for state law claims for (1) any derivative action or proceeding brought on behalf of the Company, (2) any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers, or other employees to the Company or our stockholders, (3) any action asserting a claim arising against the Company or any of our current or former directors, officers, or other employees pursuant to any provision of the Delaware General Corporation Law or our certificate of incorporation or our bylaws, (4) any action to interpret, apply, enforce or determine the validity of our certificate of Incorporation or bylaws, or (5) any action asserting a

claim against the Company or any of our current or former directors, officers, or other employees that is governed by the internal affairs doctrine. In addition, our bylaws provide that any person or entity purchasing or otherwise acquiring any interest in shares of our common stock is deemed to have notice of and consented to the foregoing provisions.

Section 203 of the Delaware General Corporation Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions:

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or
- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;
- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; and
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

In general, Section 203 defines an interested stockholder as any entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with or controlling or controlled by the entity or person.

Exchange Listing

Our common stock is listed on the Nasdaq Global Select Market under the trading symbol "HOOK."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. The transfer agent and registrar's address is 6201 15th Ave, Brooklyn, New York 11219.

DESCRIPTION OF DEBT SECURITIES

This section describes the general terms and provisions of our debt securities that we may issue from time to time. We may issue debt securities, in one or more series, as either senior or subordinated debt or as senior or subordinated convertible debt. While the terms we have summarized below will apply generally to any future debt securities we may offer under this prospectus, the applicable prospectus supplement or free writing prospectus will describe the specific terms of any debt securities offered through that prospectus supplement or free writing prospectus. The terms of any debt securities we offer under a prospectus supplement or free writing prospectus may differ from the terms we describe below. Unless the context requires otherwise, whenever we refer to the "indentures," we are also referring to any supplemental indentures that specify the terms of a particular series of debt securities.

We will issue any senior debt securities under the senior indenture that we will enter into with the trustee named in the senior indenture. We will issue any subordinated debt securities under the subordinated indenture that we will enter into with the trustee named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement, of which this prospectus is a part, and supplemental indentures and forms of debt securities containing the terms of the debt securities being offered will be filed as exhibits to the registration statement of which this prospectus is a part or will be incorporated by reference from reports that we file with the SEC.

The indentures will be qualified under the Trust Indenture Act of 1939, as amended, or the Trust Indenture Act. We use the term "trustee" to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all of the provisions of the indenture applicable to a particular series of debt securities. We urge you to read the applicable prospectus supplement or free writing prospectus and any related free writing prospectuses related to the debt securities that we may offer under this prospectus, as well as the complete applicable indenture that contains the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior indenture and the subordinated indenture are identical.

General

We will describe in the applicable prospectus supplement or free writing prospectus the terms of the series of debt securities being offered, including:

- the title;
- the principal amount being offered, and if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;
- whether or not we will issue the series of debt securities in global form, and, if so, the terms and who the depository will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a United States person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- the terms of the subordination of any series of subordinated debt;
- the place where payments will be payable;

- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, the conditions upon which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions and the terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option, to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability or the ability of our subsidiaries, if any at such time, to:
  - incur additional indebtedness;
  - issue additional securities;
  - create liens;
  - pay dividends or make distributions in respect of our capital stock or the capital stock of our subsidiaries;
  - redeem capital stock;
  - place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;
  - make investments or other restricted payments;
  - sell or otherwise dispose of assets;
  - enter into sale-leaseback transactions;
  - engage in transactions with stockholders or affiliates;
  - issue or sell stock of our subsidiaries; or
  - effect a consolidation or merger;
- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;
- a discussion of certain material or special United States federal income tax considerations applicable to the debt securities;
- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- the applicability of the provisions in the indenture on discharge;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an "original issue discount" as defined in paragraph (a) of Section 1273 of the Internal Revenue Code of 1986, as amended;
- the denominations in which we will issue the series of debt securities, if other than denominations of $1,000 and any integral multiple thereof;
- the currency of payment of debt securities if other than U.S. dollars and the manner of determining the equivalent amount in U.S. dollars; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any additional events of default or covenants provided with respect to the debt securities, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

Conversion or Exchange Rights

We will set forth in the applicable prospectus supplement or free writing prospectus the terms on which a series of debt securities may be convertible into or exchangeable for our common stock, our preferred stock or other securities (including securities of a third-party). We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock, our preferred stock or other securities (including securities of a third-party) that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the indentures will not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate. If the debt securities are convertible into or exchangeable for other securities of ours or securities of other entities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default Under the Indenture

Unless we provide otherwise in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, the following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended;
- if we fail to pay the principal, premium or sinking fund payment, if any, when due and payable at maturity, upon redemption or repurchase or otherwise, and the time for payment has not been extended;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

We will describe in each applicable prospectus supplement or free writing prospectus any additional events of default relating to the relevant series of debt securities.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the trustee if notice is given by such holders, may declare the unpaid principal, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the unpaid principal, premium, if any, and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the trustee reasonable indemnity or security satisfactory to it against any loss, liability or expense. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, or exercising any trust or power conferred on the trustee, with respect to the debt securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder has given written notice to the trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the trustee or security satisfactory to it against any loss, liability or expense or to be incurred in compliance with instituting the proceeding as trustee; and
- the trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities, or other defaults that may be specified in the applicable prospectus supplement or free writing prospectus.

We will periodically file statements with the trustee regarding our compliance with specified covenants in the indentures.

Modification of Indenture; Waiver

Subject to the terms of the indenture for any series of debt securities that we may issue, we and the trustee may change an indenture without the consent of any holders with respect to the following specific matters:

- to fix any ambiguity, defect or inconsistency in the indenture;
- to comply with the provisions described above under " — Consolidation, Merger or Sale;"
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act;
- to add to, delete from or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication and delivery of debt securities, as set forth in the indenture;
- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under "Description of Our Debt Securities — General," to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to evidence and provide for the acceptance of appointment hereunder by a successor trustee;
- to provide for uncertificated debt securities and to make all appropriate changes for such purpose;

- to add to our covenants such new covenants, restrictions, conditions or provisions for the benefit of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default or to surrender any right or power conferred to us in the indenture; or
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, subject to the terms of the indenture for any series of debt securities that we may issue or as otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we and the trustee may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the stated maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption or repurchase of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that, subject to the terms of the indenture and any limitation otherwise provided in the prospectus supplement or free writing prospectus applicable to a particular series of debt securities, we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for specified obligations, including obligations to:

- register the transfer or exchange of debt securities of the series;
- replace stolen, lost or mutilated debt securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- recover excess money held by the trustee;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, any premium and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement or free writing prospectus, in denominations of $1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement or free writing prospectus with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement or free writing prospectus, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement or free writing prospectus, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement or free writing prospectus the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series. If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Trustee

The trustee, other than during the occurrence and continuance of an event of default under an indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the trustee must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs.

Subject to this provision, the trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will make interest payments by check that we will mail to the holder or by wire transfer to certain holders. Unless we otherwise indicate in the applicable prospectus supplement or free writing prospectus, we will designate the corporate trust office of the trustee as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement or free writing prospectus any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Ranking of Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement or free writing prospectus. The subordinated indenture does not limit the amount of subordinated debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

The senior debt securities will rank equally in right of payment to all our other senior unsecured debt. The senior indenture does not limit the amount of senior debt securities that we may issue. It also does not limit us from issuing any other secured or unsecured debt.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants in more detail in the applicable prospectus supplement. If we indicate in the prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms described below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement, which includes this prospectus.

General

We may issue warrants for the purchase of common stock, preferred stock and/or debt securities in one or more series. We may issue warrants independently or together with common stock, preferred stock and/or debt securities, and the warrants may be attached to or separate from these securities.

We will evidence each series of warrants by warrant certificates that we will issue under a separate warrant agreement. We will enter into the warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- in the case of warrants to purchase debt securities, the principal amount of debt securities purchasable upon exercise of one warrant and the price at, and currency in which, this principal amount of debt securities may be purchased upon such exercise;
- in the case of warrants to purchase common stock or preferred stock, the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the periods during which, and places at which, the warrants are exercisable;
- the manner of exercise;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

DESCRIPTION OF UNITS

We may issue units comprised of shares of common stock, shares of preferred stock, debt securities and warrants in any combination. We may issue units in such amounts and in as many distinct series as we wish. This section outlines certain provisions of the units that we may issue. If we issue units, they will be issued under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. The information described in this section may not be complete in all respects and is qualified entirely by reference to the unit agreement with respect to the units of any particular series. The specific terms of any series of units offered will be described in the applicable prospectus supplement. If so described in a particular supplement, the specific terms of any series of units may differ from the general description of terms presented below. We urge you to read any prospectus supplement related to any series of units we may offer, as well as the complete unit agreement and unit certificate that contain the terms of the units. If we issue units, forms of unit agreements and unit certificates relating to such units will be incorporated by reference as exhibits to the registration statement, which includes this prospectus.

Each unit that we may issue will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The applicable prospectus supplement may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement;
- the price or prices at which such units will be issued;
- the applicable United States federal income tax considerations relating to the units;
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- any other terms of the units and of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock,” “Description of Debt Securities” and “Description of Warrants” will apply to the securities included in each unit, to the extent relevant and as may be updated in any prospectus supplements.

Issuance in Series

We may issue units in such amounts and in as many distinct series as we wish. This section summarizes terms of the units that apply generally to all series. Most of the financial and other specific terms of a particular series of units will be described in the applicable prospectus supplement.

Unit Agreements

We will issue the units under one or more unit agreements to be entered into between us and a bank or other financial institution, as unit agent. We may add, replace or terminate unit agents from time to time. We will identify the unit agreement under which each series of units will be issued and the unit agent under that agreement in the applicable prospectus supplement.

The following provisions will generally apply to all unit agreements unless otherwise stated in the applicable prospectus supplement:

Modification without Consent

We and the applicable unit agent may amend any unit or unit agreement without the consent of any holder:

- to cure any ambiguity; any provisions of the governing unit agreement that differ from those described below;

- to correct or supplement any defective or inconsistent provision; or
- to make any other change that we believe is necessary or desirable and will not adversely affect the interests of the affected holders in any material respect.

We do not need any approval to make changes that affect only units to be issued after the changes take effect. We may also make changes that do not adversely affect a particular unit in any material respect, even if they adversely affect other units in a material respect. In those cases, we do not need to obtain the approval of the holder of the unaffected unit; we need only obtain any required approvals from the holders of the affected units.

Modification with Consent

We may not amend any particular unit or a unit agreement with respect to any particular unit unless we obtain the consent of the holder of that unit, if the amendment would:

- impair any right of the holder to exercise or enforce any right under a security included in the unit if the terms of that security require the consent of the holder to any changes that would impair the exercise or enforcement of that right; or
- reduce the percentage of outstanding units or any series or class the consent of whose holders is required to amend that series or class, or the applicable unit agreement with respect to that series or class, as described below.

Any other change to a particular unit agreement and the units issued under that agreement would require the following approval:

- If the change affects only the units of a particular series issued under that agreement, the change must be approved by the holders of a majority of the outstanding units of that series; or
- If the change affects the units of more than one series issued under that agreement, it must be approved by the holders of a majority of all outstanding units of all series affected by the change, with the units of all the affected series voting together as one class for this purpose.

These provisions regarding changes with majority approval also apply to changes affecting any securities issued under a unit agreement, as the governing document.

In each case, the required approval must be given by written consent.

Unit Agreements Will Not Be Qualified under Trust Indenture Act

No unit agreement will be qualified as an indenture, and no unit agent will be required to qualify as a trustee, under the Trust Indenture Act. Therefore, holders of units issued under unit agreements will not have the protections of the Trust Indenture Act with respect to their units.

Mergers and Similar Transactions Permitted; No Restrictive Covenants or Events of Default

The unit agreements will not restrict our ability to merge or consolidate with, or sell our assets to, another corporation or other entity or to engage in any other transactions. If at any time we merge or consolidate with, or

sell our assets substantially as an entirety to, another corporation or other entity, the successor entity will succeed to and assume our obligations under the unit agreements. We will then be relieved of any further obligation under these agreements.

The unit agreements will not include any restrictions on our ability to put liens on our assets, nor will they restrict our ability to sell our assets. The unit agreements also will not provide for any events of default or remedies upon the occurrence of any events of default.

Governing Law

The unit agreements and the units will be governed by Delaware law.

Form, Exchange and Transfer

We will issue each unit in global — i.e., book-entry — form only. Units in book-entry form will be represented by a global security registered in the name of a depositary, which will be the holder of all the units represented by the global security. Those who own beneficial interests in a unit will do so through participants in the depositary's system, and the rights of these indirect owners will be governed solely by the applicable procedures of the depositary and its participants. We will describe book-entry securities, and other terms regarding the issuance and registration of the units in the applicable prospectus supplement.

Each unit and all securities comprising the unit will be issued in the same form.

If we issue any units in registered, non-global form, the following will apply to them.

The units will be issued in the denominations stated in the applicable prospectus supplement. Holders may exchange their units for units of smaller denominations or combined into fewer units of larger denominations, as long as the total amount is not changed.

Holders may exchange or transfer their units at the office of the unit agent. Holders may also replace lost, stolen, destroyed or mutilated units at that office. We may appoint another entity to perform these functions or perform them ourselves.

Holders will not be required to pay a service charge to transfer or exchange their units, but they may be required to pay for any tax or other governmental charge associated with the transfer or exchange. The transfer or exchange, and any replacement, will be made only if our transfer agent is satisfied with the holder's proof of legal ownership. The transfer agent may also require an indemnity before replacing any units.

If we have the right to redeem, accelerate or settle any units before their maturity, and we exercise our right as to less than all those units or other securities, we may block the exchange or transfer of those units during the period beginning 15 days before the day we mail the notice of exercise and ending on the day of that mailing, in order to freeze the list of holders to prepare the mailing. We may also refuse to register transfers of or exchange any unit selected for early settlement, except that we will continue to permit transfers and exchanges of the unsettled portion of any unit being partially settled. We may also block the transfer or exchange of any unit in this manner if the unit includes securities that are or may be selected for early settlement.

Only the depositary will be entitled to transfer or exchange a unit in global form, since it will be the sole holder of the unit.

Payments and Notices

In making payments and giving notices with respect to our units, we will follow the procedures as described in the applicable prospectus supplement.

PLAN OF DISTRIBUTION

We may sell securities:

- through underwriters;
- through dealers;
- through agents;
- directly to purchasers; or
- through a combination of any of these methods or any other method permitted by law.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing security holders.

We may directly solicit offers to purchase securities, or agents may be designated to solicit such offers. In the prospectus supplement relating to such offering, we will name any agent that could be viewed as an underwriter under the Securities Act and describe any commissions that we must pay to any such agent. Any such agent will be acting on a best efforts basis for the period of its appointment or, if indicated in the applicable prospectus supplement, on a firm commitment basis. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price, or prices, which may be changed from time to time;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name of the agent or any underwriters;
- the public offering or purchase price;
- any discounts and commissions to be allowed or paid to the agent or underwriters;
- all other items constituting underwriting compensation;
- any discounts and commissions to be allowed or paid to dealers; and
- any exchanges on which the securities will be listed.

If any underwriters or agents are used in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement, sales agreement or other agreement with them at the time of sale to them, and we will set forth in the prospectus supplement relating to such offering the names of the underwriters or agents and the terms of the related agreement with them.

In connection with the offering of securities, we may grant to the underwriters an option to purchase additional securities with an additional underwriting commission, as may be set forth in the accompanying prospectus supplement. If we grant any such option, the terms of such option will be set forth in the prospectus supplement for such securities.

If a dealer is used in the sale of the securities in respect of which the prospectus is delivered, we will sell such securities to the dealer, as principal. The dealer, who may be deemed to be an “underwriter” as that term

is defined in the Securities Act, may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale.

If we offer securities in a subscription rights offering to our existing security holders, we may enter into a standby underwriting agreement with dealers, acting as standby underwriters. We may pay the standby underwriters a commitment fee for the securities they commit to purchase on a standby basis. If we do not enter into a standby underwriting arrangement, we may retain a dealer-manager to manage a subscription rights offering for us.

Agents, underwriters, dealers and other persons may be entitled under agreements which they may enter into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Offered securities may also be offered and sold, if so indicated in the prospectus supplement, in connection with a remarketing upon their purchase, in accordance with a redemption or repayment pursuant to their terms, or otherwise, by one or more remarketing firms, acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the applicable prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with their remarketing of offered securities.

Certain agents, underwriters and dealers, and their associates and affiliates, may be customers of, have borrowing relationships with, engage in other transactions with, or perform services, including investment banking services, for us or one or more of our respective affiliates in the ordinary course of business.

In order to facilitate the offering of the securities, any underwriters may engage in transactions that stabilize, maintain or otherwise affect the price of the securities or any other securities the prices of which may be used to determine payments on such securities. Specifically, any underwriters may overallot in connection with the offering, creating a short position for their own accounts. In addition, to cover overallotments or to stabilize the price of the securities or of any such other securities, the underwriters may bid for, and purchase, the securities or any such other securities in the open market. Finally, in any offering of the securities through a syndicate of underwriters, the underwriting syndicate may reclaim selling concessions allowed to an underwriter or a dealer for distributing the securities in the offering if the syndicate repurchases previously distributed securities in transactions to cover syndicate short positions, in stabilization transactions or otherwise. Any of these activities may stabilize or maintain the market price of the securities above independent market levels. Any such underwriters are not required to engage in these activities and may end any of these activities at any time.

We may engage in at-the-market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions.

If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

Under Rule 15c6-1 of the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. The applicable prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

The securities may be new issues of securities and may have no established trading market. The securities may or may not be listed on a national securities exchange. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

The anticipated date of delivery of offered securities will be set forth in the applicable prospectus supplement relating to each offer.

LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon for us by Goodwin Procter LLP, Boston, Massachusetts. Any underwriters will also be advised about the validity of the securities and other legal matters by their own counsel, which will be named in the prospectus supplement.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2019 have been so incorporated in reliance on the report (which contains an emphasis of matter paragraph relating to the Company’s requirement for additional financing to fund future operations as described in Note 2 to the financial statements) of PwC Wirtschaftsprüfung GmbH, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement. For further information with respect to us and the securities we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. You should rely only on the information contained in this prospectus or incorporated by reference. We have not authorized anyone else to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information

in this prospectus is accurate as of any date other than the date on the front page of this prospectus, regardless of the time of delivery of this prospectus or any sale of the securities offered by this prospectus.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website that contains reports, proxy statements and other information regarding issuers that file electronically with the SEC, including HOOKIPA Pharma Inc. The address of the SEC website is www.sec.gov.

We maintain a website at www.hookipapharma.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus and, therefore, is not part of this prospectus or any accompanying prospectus supplement

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference much of the information we file with the SEC, which means that we can disclose important information to you by referring you to those publicly available documents. The information that we incorporate by reference in this prospectus is considered to be part of this prospectus.

Because we are incorporating by reference future filings with the SEC, this prospectus is continually updated and those future filings may modify or supersede some of the information included or incorporated in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any of the statements in this prospectus or in any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents listed below and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than those documents or the portions of those documents not deemed to be filed) between the date of the initial registration statement and the effectiveness of the registration statement and following the effectiveness of the registration statement until the offering of the securities under the registration statement is terminated or completed:

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 filed with the SEC on March 19, 2020;
- our Definitive Proxy Statement filed with the SEC on April 28, 2020, to the extent the information therein is filed and not furnished;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 filed with the SEC on May 14, 2020; and
- the description of our common stock contained in our Registration Statement on Form 8-A filed with the SEC on April 15, 2019, and any further amendment or report filed hereafter for the purpose of updating such description pursuant to Section 12(b) of the Exchange Act.

We also incorporate by reference into this prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the initial filing of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, and (ii) after the date of this prospectus but prior to the termination of the offering. These documents include, without limitation, Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, as well as proxy statements.

You may request a copy of these filings, at no cost, by contacting us, either orally or in writing, at the following:

HOOKIPA Pharma Inc.
350 Fifth Avenue, 72nd Floor, Suite 7240
New York, New York 10118
+43 1 890 63 60

21,700,000 Shares of Common Stock
and
15,800 Shares of Series A-1 Convertible Preferred Stock

SVB LEERINK
RBC CAPITAL MARKETS

March 1, 2022