Filed Pursuant to Rule 424(b)(3)
Registration Number 333-237991

PROSPECTUS

6,627,685 Shares of Common Stock

This prospectus relates to the proposed resale or other disposition from time to time of up to 6,627,685 shares of DermTech, Inc., or the Company, common stock, $0.0001 par value per share, or the Common Stock, as follows: (i) an aggregate of up to 2,467,724 shares of Common Stock issued in connection with a private placement, or the 2020 PIPE Financing, on March 4, 2020; (ii) an aggregate of up to 2,588 shares of Common Stock issued in connection with the exercise of certain of the Placement Agent Warrants (defined below) and certain of the Series C Warrants (defined below); (iii) an aggregate of up to 3,198,949 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-1 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; (iv) an aggregate of up to 523,814 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-2 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing and (v) an aggregate of up to 434,610 shares of Common Stock underlying the outstanding Placement Agent Warrants and Series C Warrants, or collectively the Warrants, held by certain selling securityholders.

The Company is not selling any securities under this prospectus and will not receive any of the proceeds from the sale of securities by the selling securityholders, except that the Company may receive up to approximately $4,003,916 in aggregate gross proceeds from the exercise of the Warrants, if the Warrants are exercised for cash (and, as applicable, not on a cashless basis), based on the per share exercise price of the Warrants.

The selling securityholders or their assignees or successors-in-interest may offer and sell the shares of Common Stock described in this prospectus in a number of different ways and at varying prices. We provide more information about how a selling securityholder may sell its shares of Common Stock in the section entitled “Plan of Distribution” appearing elsewhere in this prospectus. We will pay the expenses incurred in registering the securities covered by the prospectus, including legal and accounting fees.

Our Common Stock is listed on the Nasdaq Capital Market under the symbol “DMTK.” On May 8, 2020, the last reported sale price of our Common Stock was $13.83 per share.

We are an “emerging growth company” under applicable Securities and Exchange Commission rules and, as such, we are subject to reduced public company reporting requirements.

AN INVESTMENT IN OUR COMMON STOCK INVOLVES RISKS. SEE THE SECTION ENTITLED “RISK FACTORS” BEGINNING ON PAGE 7.

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 11, 2020

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You should rely only on the information contained in this prospectus. We have not, and the selling securityholders have not, authorized anyone to provide you with additional or different information. These securities are not being offered in any jurisdiction where the offer is not permitted. You should assume that the information in this prospectus is accurate only as of the date on the front of the document, regardless of the time of delivery of this prospectus or of any sale of our Common Stock. Unless the context otherwise requires, references to "DermTech," "Company," "we," "us" and "our" refer to DermTech, Inc. and our subsidiaries.

Smaller Reporting Company – Scaled Disclosure

Pursuant to Item 10(f) of Regulation S-K promulgated under the Securities Act of 1933, as indicated herein, we have elected to comply with the scaled disclosure requirements applicable to "smaller reporting companies," including providing two years of audited financial statements.

PROSPECTUS SUMMARY

The following is only a summary. We urge you to read the entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information included elsewhere in this prospectus. Investing in our securities involves risks. Therefore, please carefully consider the information provided in the section entitled "Risk Factors" beginning on page 7.

Company Overview

Business Overview

We are an emerging growth molecular diagnostic company developing and marketing novel non-invasive genomics tests to aid in the diagnosis of various skin conditions, including skin cancer, inflammatory diseases, and aging-related conditions. Our technology provides a highly accurate alternative to surgical biopsy, minimizing patient discomfort, scarring, and risk of infection, while maximizing convenience. Our scalable genomics assays have been designed to work with a proprietary "adhesive patch skin sampling kit" that provides a tissue sample for analysis non-invasively.

We are initially commercializing tests that will address unmet needs in the diagnostic pathway of pigmented skin lesions, such as moles or dark colored skin spots. Our current products facilitate the clinical assessment of pigmented skin lesions for melanoma. We have initially marketed this test directly to a concentrated group of dermatologists. The simple application of the adhesives patches to collect a sample may allow us to eventually market the test to primary care physicians and expand our efforts through telemedicine channels. We process our tests in a high complexity molecular laboratory that is Clinical Laboratory Improvement Amendments of 1988, or CLIA, certified. We also provide laboratory services to large pharmaceutical companies on a contract basis for their use in their clinical trials for new drugs. We have a history of net losses since our inception.

Business Combination, Reverse Split and Domestication

On August 29, 2019, the Company, formerly known as Constellation Alpha Capital Corp., and DermTech Operations, Inc., formerly known as DermTech, Inc., or DermTech Operations, consummated the transactions contemplated by the Agreement and Plan of Merger, dated as of May 29, 2019, by and among the Company, DT Merger Sub, Inc., or Merger Sub, and DermTech Operations. We refer to this agreement, as amended by that certain First Amendment to Agreement and Plan of Merger dated as of August 1, 2019, as the Merger Agreement. Pursuant to the Merger Agreement, Merger Sub merged with and into DermTech Operations, with DermTech Operations surviving as our wholly owned subsidiary. We refer to this transaction as the Business Combination.

Prior to the completion of the Business Combination, the Company was a shell company. Following the Business Combination, the business of DermTech Operations is the business of the Company.

In connection with and two days prior to the completion of the Business Combination, the Company (a) re-domiciled out of the British Virgin Islands and continued as a company incorporated in the State of Delaware pursuant to Section 184 of the BVI Business Companies Act of 2004, or the BVI Companies Act, and Section 388 of the Delaware General Corporations Law, or the DGCL; (b) adopted, upon the domestication taking effect, a certificate of incorporation, or the Interim Charter, in place of our memorandum and articles of association, or the Prior Charter, formerly registered by the Registrar of Corporate Affairs in the British Virgin Islands; (c) filed a notice of continuation out of the British Virgin Islands with the British Virgin Islands Registrar of Corporate Affairs under Section 184 of the BVI Companies Act; and (d) filed the Interim Charter with the Secretary of State of Delaware, under which the Company was domesticated from the British Virgin Islands and continued as a Delaware corporation. This Interim Charter (i) removed or amended those provisions of the Prior Charter that terminated or otherwise ceased to be applicable as a result of the domestication and (ii) provided for a majority of the stockholders to act by written consent.

On August 29, 2019, immediately following the completion of the Business Combination, we amended and restated the Interim Charter to (a) change the name of the Company to DermTech, Inc., (b) remove or amend those provisions of the Interim Charter which terminated or otherwise ceased to be applicable following the completion of the Business Combination, and (c) add new provisions to the Interim Charter which became applicable following the completion of the Business Combination. We refer to the amended and restated Interim Charter as the Amended and Restated Certificate of Incorporation.

On August 29, 2019, in connection with and immediately following the completion of the Business Combination, we filed a certificate of amendment, or the Certificate of Amendment, to the Amended and Restated Certificate of Incorporation to effect a one-for-two reverse stock split of our Common Stock on August 29, 2019, or the Reverse Stock Split. Shares of our Common Stock, which are currently listed on the Nasdaq Capital Market, commenced trading on the Nasdaq Capital Market under the ticker symbol "DMTK" as of market open on August 30, 2019. Our Common Stock was assigned a new CUSIP number, 24984K105. Certain of our warrants, which were then listed on the Nasdaq Capital Market, commenced trading on the Nasdaq Capital Market under the ticker symbol "DMTKW" as of market open on August 30, 2019. Those warrants were assigned a new CUSIP number, 24984K113, and have since been delisted from the Nasdaq Capital Market and are currently available for quotation on the Pink Market.

No fractional shares were issued in connection with the Reverse Stock Split. In lieu of any fractional shares to which a holder of shares of our Common Stock would otherwise have been entitled, we rounded up to the next whole share. As a result of the Reverse Stock Split, the number of issued and outstanding shares of our Common Stock immediately prior to the Reverse Stock Split was reduced into a smaller number of shares, such that every two shares of our Common Stock held by a stockholder immediately prior to the Reverse Stock Split were combined and reclassified into one share of our Common Stock.

Pursuant to the Merger Agreement, we issued shares of our Common Stock to DermTech Operations common stockholders, at an exchange ratio of approximately 1.1615 shares of our Common Stock for each share of DermTech Operations common stock, or the Exchange Ratio. Immediately prior to the completion of the Business Combination, each share of preferred stock of DermTech Operations outstanding as of such time was automatically converted into one share of common stock of DermTech Operations.

In addition, pursuant to the Merger Agreement, we assumed DermTech Operations' Amended and Restated 2010 Stock Plan, or the 2010 Plan, and all of the stock options and restricted stock units outstanding under the 2010 Plan, with these stock options and restricted stock units now representing the right to purchase or receive, as applicable, a number of shares of our Common Stock equal to the Exchange Ratio multiplied by the number of shares of DermTech Operations common stock previously represented by the options and units. The per share exercise price for each assumed DermTech Operations option was determined by dividing (i) the per share exercise price of the underlying DermTech Operations option by (ii) the Exchange Ratio. The Company also assumed all then-outstanding warrants to purchase DermTech Operations common stock, including the Series C Warrants and certain of the Placement Agent Warrants, with these warrants becoming warrants to acquire, on the same terms and conditions as were applicable under such warrants, that number of shares of the Company's Common Stock equal to the Exchange Ratio multiplied by the number of shares of DermTech Operations common stock previously represented by these warrants.

Unless otherwise noted, the share numbers and exercise prices discussed in this prospectus reflect the effects of the Reverse Stock Split and, as applicable, the Exchange Ratio.

2019 PIPE Financing and 2019 Registration Rights Agreement

On August 29, 2019, immediately prior to the completion of the Business Combination and pursuant to the 2019 PIPE Financing (defined below), we issued an aggregate of 3,076,925 shares of Common Stock and 1,230.77 shares of Series A Convertible Preferred Stock, which are convertible into an aggregate of up to 615,385 shares of Common Stock, for an aggregate purchase price of $24.0 million, to certain accredited investors pursuant to the terms of separate Subscription Agreements and Amended and Restated Subscription Agreements, dated between May 22, 2019 and August 1, 2019, entered into by us and such investors. We refer to these agreements collectively as the Subscription Agreements.

In connection with, and as a condition to the completion of the Business Combination, we and certain persons and entities holding shares of Common Stock upon the consummation of the Business Combination, or the Registration Rights Parties, entered into a Registration Rights Agreement, or the 2019 Registration Rights Agreement. Pursuant to the terms of the 2019 Registration Rights Agreement, we were obligated to file a shelf registration statement on Form S-3 or Form S-1 to register the resale by the Registration Rights Parties of Common Stock issued in connection with (i) the 2019 PIPE Financing and (ii) the Business Combination, which resale registration statement on Form S-1 was declared effective by the SEC on February 10, 2020. The 2019 Registration Rights Agreement also provides the Registration Rights Parties with demand, "piggy-back" and Form S-3 registration rights, subject to certain minimum requirements and customary conditions.

Selling Securityholder Overview

2020 PIPE Financing

On February 28, 2020, we entered into a securities purchase agreement, or the Purchase Agreement, with certain institutional investors, or the Investors, which Investors are among the selling securityholders, for a private placement of our equity securities, or the 2020 PIPE Financing, for the purchase and sale of 2,467,724 shares of Common Stock, at a price of $10.50 per share, 3,198.9419 shares of Series B-1 Convertible Preferred Stock, or the Series B-1 Convertible Preferred Stock, at a price of $10,500.00 per share, and 523.8094 shares of Series B-2 Convertible Preferred Stock, or the Series B-2 Convertible Preferred Stock, at a price of $10,500.00 per share, for aggregate gross proceeds of approximately $65.0 million, and net proceeds of approximately $60.0 million, after deducting our estimated offering expenses. The Series B-1 Convertible Preferred Stock and Series B-2 Convertible Preferred Stock are collectively referred to herein as the Preferred Shares. The shares of Common Stock and the Preferred Shares were issued at a closing on March 4, 2020 pursuant to the terms of the Purchase Agreement.

Prior to the closing of the 2020 PIPE Financing, we designated (i) 3,200 shares of our authorized and unissued preferred stock as Series B-1 Convertible Preferred Stock by filing the Certificate of Designation of Preferences, Rights and Limitations of Series B-1 Convertible Preferred Stock, or the Series B-1 Certificate of Designation with the Delaware Secretary of State and (ii) 525 shares of our authorized and unissued preferred stock as Series B-2 Convertible Preferred Stock by filing the Certificate of Designation of Preferences, Rights and Limitations of Series B-2 Convertible Preferred Stock, or the Series B-2 Certificate of Designation with the Delaware Secretary of State.

Each share of Series B-1 Convertible Preferred Stock will be convertible into 1,000 shares of Common Stock, subject to adjustment as provided in the Series B-1 Certificate of Designation. Each share of Series B-1 Convertible Preferred Stock will automatically convert into Common Stock on the first trading day after the approval by our stockholders of our issuance of the shares of Common Stock underlying the Preferred Shares in the 2020 PIPE Financing, or Stockholder Approval, which we agreed to seek at a stockholder meeting to be held on or before June 30, 2020. We are seeking Stockholder Approval at our annual meeting of stockholders scheduled for May 26, 2020. We will not undertake any conversion of the Series B-1 Convertible Preferred Stock, and no stockholder will have the right to convert any portion of its Series B-1 Convertible Preferred Stock, until after we obtain Stockholder Approval.

Each share of Series B-2 Convertible Preferred Stock will be convertible into 1,000 shares of Common Stock, subject to adjustment as provided in the Series B-2 Certificate of Designation. Each share of Series B-2 Convertible Preferred Stock will be convertible into Common Stock at the option of the holder, provided that conversion will be prohibited (i) until the first trading day after Stockholder Approval and (ii) following Stockholder Approval, if, as a result of any such conversion, the holder would beneficially own in excess of 9.99% of the total number of shares of Common Stock outstanding immediately after giving effect to such conversion. We refer to the conversion limitation described in clause (ii) of the preceding sentence as the Beneficial Ownership Limitation. A holder of Series B-2 Convertible Preferred Stock may reset the Beneficial Ownership Limitation to a higher or lower number upon providing written notice to the Company. Any such notice providing for an increase to such holder's Beneficial Ownership Limitation will be effective on the 61st day after its delivery to the Company.

The Preferred Shares have no voting rights, except as required by law and except that (i) the consent of the holders of a majority of the then outstanding shares of Series B-1 Convertible Preferred Stock is required to amend the terms of the Series B-1 Certificate of Designation and (ii) the consent of the holders of a majority of the then outstanding shares of Series B-2 Convertible Preferred Stock is required to amend the terms of the Series B-2 Certificate of Designation. The holders of the Preferred Shares are entitled to receive dividends on an as-converted basis with the holders of Common Stock, when, as and if such dividends are paid on the Common Stock. In the event of any liquidation, dissolution or winding-up of the Company, the holders of the Preferred Shares will participate *pari passu* with the holders of Common Stock, on an as-converted basis.

The Purchase Agreement prohibits the Investors and any of their transferees from voting the Common Stock acquired in the 2020 PIPE Financing on any proposal for Stockholder Approval.

The Purchase Agreement also obligates us to indemnify the Investors and various related parties for certain losses, including those resulting from (i) any misrepresentation or breach of any representation or warranty made by us, (ii) any breach of any obligation of ours, and (iii) certain claims by third parties. The Purchase Agreement contains representations and warranties and covenants of the Company and the Investors that are customary for private placement transactions.

Under the Purchase Agreement, we agreed to hold a meeting of stockholders on or before June 30, 2020 for the purpose of obtaining Stockholder Approval, with the recommendation of the Board that such proposal be approved. We agreed that we would solicit proxies from our stockholders in connection with such proposal in the same manner as all other management proposals in the proxy statement and that all management-appointed proxyholders would vote their proxies in favor of such proposal. We further agreed to use our reasonable best efforts to obtain Stockholder Approval. If we do not obtain Stockholder Approval at the Company's annual meeting of stockholders scheduled for May 26, 2020, we have agreed to call a meeting of stockholders every four months thereafter to seek Stockholder Approval until Stockholder Approval is obtained.

The Company entered into a registration rights agreement, or the 2020 Registration Rights Agreement, with the Investors at the closing of the 2020 PIPE Financing that requires the Company to register the resale of the Common Stock and the shares of Common Stock underlying the Preferred Shares. The 2020 Registration Rights Agreement provides that we shall prepare and file a registration statement with the SEC within 60 days of the closing of the 2020 PIPE Financing, and use commercially reasonable efforts to have such registration statement declared effective within 90 days if there is no review by the SEC, or within 120 days in the event of such a review. The shares of Common Stock and shares of Common Stock underlying the Preferred Shares issued the 2020 PIPE Financing are being registered on the registration statement of which this prospectus forms a part in accordance with the 2020 Registration Rights Agreement.

Certain holders of more than 5% of the Company's capital stock and their affiliates, as well as an affiliate of a director of the Company, participated in the 2020 PIPE Financing. Entities affiliated with RTW Investments, LP purchased an aggregate of 152,456 shares of our Common Stock and 228.4963 shares of Series B-1 Convertible Preferred Stock for a cash purchase price of approximately $4.0 million. Entities affiliated with Farallon Capital Management, L.L.C. purchased an aggregate of 523.8094 shares of Series B-2 Convertible Preferred Stock for a cash purchase price of approximately $5.5 million. HLM Venture Partners IV, L.P. purchased an aggregate of 76,228 shares of our Common Stock and 114.2481 shares of Series B-1 Convertible Preferred Stock for a cash purchase price of approximately $2.0 million. Enrico Picozza, a director of the Company, has a pecuniary interest in HLM Venture Associates IV, LLC, the general partner of HLM Venture Partners IV, L.P. Mr. Picozza disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

Placement Agent Warrants and Series C Warrants

The shares of our Common Stock underlying the outstanding Warrants that are being registered on the registration statement of which this prospectus forms a part consist of (i) 253,827 shares of Common Stock underlying certain of the warrants issued to a registered placement agent, or the Placement Agent, and its designees in connection with the Placement Agent's assistance in marketing and selling common and preferred units of DermTech Operations in offerings conducted between 2015 and 2018, or the Placement Agent Warrants, and (ii) 180,783 shares of Common Stock underlying certain of the warrants that were issued to investors in DermTech Operations' Series C Financing, or the Series C Warrants. Certain of the Placement Agent Warrants and Series C Warrants held by selling securityholders were assigned to such holders by the Placement Agent in April 2020.

The Company and each selling securityholder that holds Placement Agent Warrants and Series C Warrants have entered into a Selling Securityholder Notice, Agreement and Questionnaire, or the Agreement and Questionnaire, that governs the registration of Common Stock issued pursuant to or underlying such Placement Agent Warrants and Series C Warrants. The Agreement and Questionnaire requires that such holders of the Placement Agent Warrants and Series C Warrants or Common Stock issued pursuant to such warrants be bound by certain provisions of the 2020 Registration Rights Agreement, including provisions relating to registration procedures, indemnification and compliance obligations with respect to the registration of their Common Stock issued pursuant to or underlying the Placement Agent Warrants and Series C Warrants.

Risk Factors

Our business is subject to a number of risks of which you should be aware before making an investment decision. These risks are discussed more fully in the "*Risk Factors*" section of this prospectus immediately following this prospectus summary. These risks include, among others, the following:

- We are an emerging growth company with a history of net losses, we expect to incur net losses in the future and we may never achieve sustained profitability.
- If we are unable to execute our marketing strategy for our tests and are unable to gain acceptance in the market, we may be unable to generate sufficient revenue to sustain our business.
- We have a limited operating history and we expect a number of factors to cause our operating results to fluctuate on a quarterly and annual basis, which may make our future performance difficult to predict.

- We will need to raise additional capital in order to fund our existing operations, commercialize our products, and expand our operations.
- Declining general economic and business conditions as a result of the COVID-19 pandemic have had a negative impact on our business, and the extent and duration of the effects of the COVID-19 pandemic and economic downturn are difficult to predict, which makes our future performance more difficult to predict.
- The telemedicine market is immature and unpredictable, and if it does not develop, if it develops more slowly than we expect, if it encounters negative publicity or if limitations on reimbursement or difficulties in obtaining regulatory approvals impede our ability to adopt telemedicine, then the growth of our business will be harmed.
- We expect to continue to incur increased costs as a result of operating as a public company and our management will be required to devote substantial time to compliance initiatives and corporate governance practices.
- There is no assurance that we will continue satisfying the listing requirements of the Nasdaq Capital Market.
- The loss of key members of our executive management team could adversely affect our business.
- Future issuances of equity securities may dilute the interests of our stockholders and reduce the price of our securities.
- If we fail to comply with the complex federal, state, local and foreign laws and regulations that apply to our business, we could suffer severe consequences that could materially and adversely affect our operating results and financial condition.
- If we are unable to maintain intellectual property protection, our competitive position could be harmed.

Corporate Information

Our corporate headquarters are located at 11099 N. Torrey Pines Road, Suite, 100, La Jolla, California 92037, and our telephone number is (858) 450-4222. Our website is located at *www.dermtech.com*. The information contained on, or that can be accessed through, our website is not a part of this prospectus, and our reference to the address for our website is intended to be an inactive textual reference only.

THE OFFERING

Common Stock offered by the selling securityholders	Up to 6,627,685 shares of Common Stock, as follows: (i) an aggregate of up to 2,467,724 shares of Common Stock issued in the 2020 PIPE Financing; (ii) an aggregate of up to 2,588 shares of Common Stock issued in connection with the exercise of certain of the Placement Agent Warrants and certain of the Series C Warrants; (iii) an aggregate of up to 3,198,949 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-1 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; (iv) an aggregate of up to 523,814 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-2 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; and (v) an aggregate of up to 434,610 shares of Common Stock underlying the Warrants.
Use of Proceeds	We will not receive any of the proceeds from the sale of securities by the selling securityholders pursuant to this prospectus. We may receive up to approximately $4,003,916 in aggregate gross proceeds from the exercise of Warrants, if the Warrants are exercised for cash (and, as applicable, not a cashless basis), based on the per share exercise price of the Warrants. Any proceeds we receive from the exercise of the Warrants will be used for working capital and general corporate purposes.
Offering Price	The selling securityholders may sell all or a portion of their shares through public or private transactions at prevailing market prices or privately negotiated prices.
Risk Factors	An investment in our securities involves a high degree of risk. See the section entitled “Risk Factors” of this prospectus.
Nasdaq Capital Market symbol	DMTK

RISK FACTORS

The Company is in a market environment that cannot be predicted and that involves significant risks, many of which are beyond our control. Before making a decision to invest in, hold or sell our common stock, stockholders and potential stockholders should carefully consider the risks and uncertainties described below, in addition to the other information contained in this prospectus, as well as the other information we file with the SEC. If any of the following risks are realized, our business, financial condition, results of operations and prospects could be materially and adversely affected. In that case, the value of our common stock could decline and stockholders may lose all or part of their investment. Furthermore, additional risks and uncertainties of which we are currently unaware, or which we currently consider to be immaterial, could have a material adverse effect on our business, financial condition or results of operations.

Risks Relating to Our Financial Condition and Capital Requirements

We are an emerging growth company with a history of net losses; we expect to incur net losses in the future and may never achieve profitability.

We have historically incurred substantial net losses in each year since our inception, including net losses of $19.7 million for the twelve months ended December 31, 2019. As of December 31, 2019, we had an accumulated deficit of $91.1 million.

We expect our losses to continue as a result of costs relating to ongoing R&D and for increased sales and marketing costs for existing and planned products. These losses have had, and will continue to have, an adverse effect on our working capital, total assets, and stockholders' equity. Because of the numerous risks and uncertainties associated with our commercialization efforts, we are unable to predict when we will become profitable, and we may never become profitable. Even if we achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis. Our inability to achieve and then maintain profitability would negatively affect our business, financial condition, results of operations, and cash flows.

We have a limited operating history and we expect a number of factors to cause our operating results to fluctuate on a quarterly and annual basis, which may make our future performance difficult to predict.

We are an emerging molecular diagnostics company with a limited operating history. Our operations to date have been primarily focused on developing and market testing our technology. We have not obtained regulatory approvals from the Food and Drug Administration, or FDA, for any of our tests as we operate a clinical laboratory under the CLIA guidelines and believe our tests are laboratory developed tests, or LDTs, that are not currently being regulated by the FDA. Consequently, if regulatory approval is determined to be necessary, any predictions made about our future success or viability may not be as accurate as they could be if we had a longer operating history or more commercialized products. Our financial condition and operating results have varied significantly in the past and will continue to fluctuate from quarter-to-quarter or year-to-year due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations include other factors described elsewhere in this report and also include:

- our ability to obtain additional funding to develop and market our products and tests;
- the market adoption and demand for our tests;
- the existence of favorable or unfavorable clinical guidelines for our tests;
- the reimbursement of our tests by Medicare and commercial payors;
- our ability to obtain and maintain any necessary regulatory approval for any of our tests in the United States and foreign jurisdictions, if required;
- potential side effects of our tests that could delay or prevent commercialization, limit the use of any of our tests, or cause any of our commercialized tests to be taken off the market;
- our dependence on third-party suppliers and manufacturers, to supply or manufacture our specimen collection products;
- our ability to establish or maintain collaboration, licensing, or other arrangements;
- our ability to maintain and grow an effective sales and marketing infrastructure, either through the expansion of our commercial infrastructure or through strategic collaborations;
- competition from existing tests or new tests that may emerge;
- the ability of patients or healthcare providers to obtain coverage of or sufficient reimbursement for our tests;
- our ability to leverage our proprietary technology platform to discover and develop additional test candidates;

- our ability to successfully obtain, maintain, defend, and enforce intellectual property rights important to our business;
- our ability to attract and retain key personnel to manage our business effectively;
- our ability to build our finance infrastructure and improve our accounting systems and controls;
- potential product liability claims;
- potential liabilities associated with hazardous materials; and
- our ability to obtain and maintain adequate insurance policies.

Accordingly, the results of any quarterly or annual periods should not be relied upon as indications of future operating performance.

Our financial condition, commercialization efforts and results of operations could be adversely affected by the ongoing COVID-19 pandemic.

Any outbreak of a contagious disease, such as the current COVID-19 pandemic, or other adverse public health developments, could have a material and adverse effect on our business operations. Such adverse effects could include disruptions or restrictions on the ability of our, our collaborators', or our suppliers' personnel to travel, and could result in temporary closures of our facilities or the facilities of our collaborators or suppliers, including our sole laboratory.

As COVID-19 continues to affect individuals and businesses around the globe, we will likely experience disruptions that could severely impact our business, including:

- closure of or reduced access to physician offices, which would limit our ability to market our tests to physicians and limit physicians' ability to offer our tests to patients;
- patient concerns about going to physicians' offices to have our tests administered in person, even if offices are open;
- difficulties in transitioning to marketing our telemedicine option for the PLA or processing test results for our telemedicine option, which we recently initiated on an accelerated basis due to the COVID-19 environment;
- dependence to a substantial extent on the willingness of clinicians and their patients to use our telemedicine option, as well as on our ability to demonstrate the value of our telemedicine option to payors;
- limitations on reimbursement of or difficulties in obtaining regulatory approvals for our telemedicine option, which could impede its adoption by physicians and patients;
- limitations on employee resources that would otherwise be focused on our commercialization and sales efforts, including because of sickness of employees or their families or requirements imposed on employees to avoid contact with large groups of people;
- delays in our third-party suppliers' ability to manufacture our tests, including because of interruptions in shipping that may affect the transport of required materials;
- delays or difficulties marketing our tests to new commercial payers, including due to layoffs, furloughs or diversion of attention of payer employees responsible for negotiating coverage contracts for our PLA;
- interruptions in our laboratory operations, including because of the inability of our suppliers to timely obtain laboratory substances, equipment or other materials due to increased global demand;
- loss of patient insurance coverage due to unemployment caused by COVID-19, which would likely result in a decline in our sales growth if and as we secure additional insurance contracts; and
- interruption of our clinical studies due to quarantines or other limitations on travel or access to facilities imposed or recommended by federal, state or local governments, employers or others.

In addition, the continued spread of COVID-19 globally and implementation of mitigation measures could adversely affect our manufacturing and supply chain. Parts of our direct and indirect supply chain are located overseas and may accordingly be subject to restrictions on export to the U.S. or other disruptions. Additionally, our results of operations have been adversely affected by COVID-19 and such effects could be expected to worsen to the extent that the COVID-19 pandemic persists and continues to harm the U.S. economy in general. The extent to which COVID-19 affects our operations will depend on future developments, which are highly uncertain and cannot be predicted with confidence, including the duration of the pandemic, additional information that may emerge concerning the severity of COVID-19 and ongoing actions to contain COVID-19 or mitigate its impact, among others, which could have a further adverse effect on our business, financial condition, results of operations, and cash flows.

We expect to continue to incur increased costs as a result of operating as a public company and our management will be required to devote substantial time to compliance initiatives and corporate governance practices.

As a public company, we incur and expect to continue to incur additional significant legal, accounting and other expenses in relation to our status as a public reporting company. We expect that these expenses will further increase after we are no longer an "emerging growth company." We may need to hire additional accounting, finance and other personnel in connection with our continuing efforts to comply with the requirements of being a public company, and our management and other personnel will need to continue to devote a substantial amount of time towards maintaining compliance with these requirements. In addition, the Sarbanes-Oxley Act of 2002 and rules subsequently implemented by the SEC and The Nasdaq Stock Market LLC have imposed various requirements on public companies, including establishment and maintenance of effective disclosure and financial controls and corporate governance practices. Our management and other personnel will need to devote a substantial amount of time to these compliance initiatives. Moreover, these rules and regulations will increase our legal and financial compliance costs and will make some activities more time-consuming and costly.

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, or Section 404, we will be required to furnish a report by our management on our internal controls over financial reporting, including an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. However, while we remain an "emerging growth company," we will not be required to include an attestation report on internal control over financial reporting issued by our independent registered public accounting firm. To achieve compliance with Section 404 within the prescribed period, we will be engaged in a process to document and evaluate our internal control over financial reporting, which is both costly and challenging. In this regard, we will need to continue to dedicate internal resources, potentially engage outside consultants and adopt a detailed work plan to assess and document the adequacy of internal control over financial reporting, continue steps to improve control processes as appropriate, validate through testing that controls are functioning as documented and implement a continuous reporting and improvement process for internal control over financial reporting. If we identify one or more material weaknesses, this could result in an adverse reaction in the financial markets due to a loss of confidence in the reliability of our consolidated financial statements.

Our commercial success could be compromised if customers do not pay our invoices or if third-party payors, including managed care organizations and Medicare, do not provide coverage and reimbursement, breach, rescind, or modify their contracts or reimbursement policies, reimburse at a low rate, or delay payments for our current tests and our planned future tests.

Physicians, including dermatologists, may not order our PLA, our Nevome test, or our planned tests unless third-party payors, such as managed care organizations and government payors (e.g., Medicare and Medicaid), pay a substantial portion of the test price. Coverage and reimbursement by a third-party payor may depend on a number of factors, including a payor's determination that tests using our technologies are:

- not experimental or investigational;
- medically necessary;
- appropriate for the specific patient;
- cost-effective;
- supported by peer-reviewed publications; and
- included in clinical practice guidelines.

Uncertainty surrounds third-party payor reimbursement of any test incorporating new technology, including tests developed using our technologies. Technology assessments of new medical tests conducted by research centers and other entities may be disseminated to interested parties for informational purposes. Third-party payors and health care providers may use such technology assessments as grounds to deny coverage for a test or procedure. Technology assessments can include evaluation of clinical utility studies, which define how a test is used in a particular clinical setting or situation. In March 2019, the Draft LCD proposed coverage for the PLA. In late October 2019, the AMA provided us with the PLA Code. Pricing of $760 for the PLA Code was published on December 24, 2019 as part of the CLFS for 2020. The Final LCD was made available on December 26, 2019 and our PLA became eligible for Medicare reimbursement on February 10, 2020. Medicare does not currently cover our Nevome test.

Because each payor generally determines for its own enrollees or insured patients whether to cover or otherwise establish a policy to reimburse our tests, seeking payor approvals is a time-consuming and costly process. We cannot be certain that coverage for our current tests and our planned future tests will be provided in the future by additional third-party payors or that existing policy decisions or reimbursement levels will remain in place or be fulfilled under existing terms and provisions. In addition, the coding procedure used by all third-party payors with respect to establishing payment rates for various procedures, including our tests, is complex, does not currently adapt well to the genetic tests we perform and may not enable coverage or adequate

reimbursement rates for our tests. If we cannot obtain or maintain coverage and reimbursement from private and governmental payors such as Medicare and Medicaid for our current tests, or new tests or test enhancements that we may develop in the future, our ability to generate revenues could be limited, which may have a material adverse effect on our financial condition, results of operations, and cash flows. Measures have been undertaken to reduce payment rates for and decrease utilization of the clinical laboratory testing generally, including PAMA, which has resulted in reduced rates on the CLFS. These reductions may also impact our PLA and Nevome test and may also impact tests we develop in the future. Because of the cost-trimming trends, third-party payors that cover and provide reimbursement for our tests and our planned tests may suspend, revoke, or discontinue coverage at any time, or may reduce the reimbursement rates payable to us. Any such action could have a negative impact on our revenues, which may have a material adverse effect on our financial condition, results of operations, and cash flows. Additionally, if we are not able to obtain sufficient clinical information in support of our tests, third-party payors could designate our tests as experimental or investigational and decline to cover and reimburse our tests because of this designation. As a result of these factors, obtaining approvals from third-party payors to cover our tests and establishing adequate reimbursement levels is an unpredictable, challenging, time-consuming, and costly process, and we may never be successful. Further, we have experienced in the past, and will likely experience in the future, delays and interruptions in the receipt of payments from third-party payors due to missing documentation and/or other issues, which could cause delay in recognizing our revenue.

Additionally, we are currently considered a “non-contracted provider” or “out of network” by most private third-party payors because we have not entered into a specific contract to provide tests to their insured patients at specified rates of reimbursement. If we were to become a contracted provider with one or more payors in the future, the amount of overall reimbursement we receive would likely decrease because we could be reimbursed less money per test performed at a contracted rate than at a non-contracted rate, which could have a negative impact on our revenues. Further, we pursue payment of patient co-payments, co-insurance and deductibles, but we typically do not collect substantial payments from patients and therefore experience overall loss to revenue as a result.

Billing and collections processing for our tests is complex and time-consuming, and any delay in transmitting and collecting claims could have an adverse effect on our revenue.

Billing for our tests is complex, time-consuming, and expensive. Depending on the billing arrangement and applicable law, we bill, or plan to bill, various different parties for our tests, including Medicare, Medicaid, insurance companies, and patients, all of which may have different billing requirements. We may face increased risk in our collection efforts due to the complexities of these billing requirements, including long collection cycles and lower collection rates, which could adversely affect our business, results of operations and financial condition.

Several factors make the billing process complex, including:

- differences between the list price for our tests and the reimbursement rates of payors;
- compliance with complex federal and state regulations related to billing government health care programs, including Medicare and Medicaid;
- disputes among payors as to which party is responsible for payment;
- differences in coverage among payors and the effect of patient co-payments or co-insurance;
- differences in information and billing requirements among payors;
- incorrect or missing billing information; and
- the resources required to manage the billing and claims appeals process.

We are developing internal systems and procedures to handle these billing and collections functions and have engaged third parties to assist with some of these functions, but we will need to make significant efforts and expend substantial resources to further develop our systems and procedures to handle these aspects of our business. As a result, these billing complexities, along with the related uncertainty in obtaining payment for our tests, could negatively affect our revenue and cash flow, our ability to achieve or sustain profitability, and the consistency and comparability of our results of operations. In addition, if claims for our tests are not submitted to payors on a timely basis, or if we are required to switch to a different provider to handle our processing and collections functions, our revenue and business could be adversely affected.

We will need to raise additional capital to fund our existing operations, commercialize our products, and expand our operations.

As of December 31, 2019, our cash and cash equivalents totaled approximately $15.4 million. On February 28, 2020, we entered into a securities purchase agreement with certain institutional investors for a private placement, which closed on March 4, 2020, of our equity securities for aggregate gross proceeds of approximately $65.0 million, and net proceeds to the Company of approximately $60.0 million, after deducting estimated offering expenses payable by the Company. Based on our current business operations and the additional financing completed in March 2020, we believe our current cash and cash equivalents, will be sufficient to meet our anticipated cash requirements for at least the next twelve months. We anticipate that we will need to raise additional capital through equity offerings, debt financings, collaborations, or licensing arrangements in the future in order to satisfy our anticipated liquidity requirements. We may also consider raising additional capital in the future to expand our business, to pursue strategic investments, to take advantage of financing opportunities, or for other reasons, including to:

- increase our efforts to drive market adoption of our tests and address competitive developments;
- fund research and development activities and efforts of commercializing future products;
- acquire, license, or invest in technologies;
- acquire or invest in complementary businesses or assets; and
- finance capital expenditures and general and administrative expenses.

Our present and future funding requirements will depend on many factors, including:

- our revenue growth rate and ability to generate cash flows from operating activities;
- our sales and marketing and R&D activities;
- effects of competing technological and market developments;
- costs of and potential delays in product development;
- changes in regulatory oversight applicable to our tests; and
- timing of and costs related to future international expansion.

The various ways we could raise additional capital carry potential risks. If we raise funds by issuing equity securities, dilution to our stockholders could result. Any equity securities issued also could provide for rights, preferences, or privileges senior to those of holders of our common stock. If we raise funds by issuing debt securities, those debt securities would have rights, preferences, and privileges senior to those of holders of our common stock. The terms of debt securities issued or borrowings pursuant to a credit agreement could impose significant restrictions on our operations. If we raise funds through collaborations and licensing arrangements, we might be required to relinquish significant rights to our platform technologies or products, or grant licenses on terms that are not favorable to us. Additional equity or debt financing might not be available on reasonable terms, if at all. If we cannot secure additional funding when needed, we may have to delay, reduce the scope of, or eliminate one or more R&D programs or sales and marketing initiatives. In addition, we may have to work with a partner on one or more of our development programs, which could lower the economic value of those programs to us. We will also need to raise additional capital to expand our business to meet our long-term business objectives. Additional financing may be from the sale of equity or convertible or other debt securities in a public or private offering, from a credit facility or strategic partnership coupled with an investment in us, or a combination of both. For further discussion of our liquidity requirements as they relate to our long-term plans, see the section entitled "*Management's Discussion and Analysis of Financial Condition and Results of Operations –Liquidity and Capital Resources*."

If physicians, including dermatologists, decide not to order the PLA, the Nevome test, or our future tests, we may be unable to generate sufficient revenue to sustain our business.

To generate demand for our current tests and our planned tests, we will need to educate dermatologists and other health care professionals on the clinical utility, benefits, and value of the tests we provide through published papers, presentations at scientific conferences, educational programs, and one-on-one education sessions by members of our sales force. In addition, we need to assure dermatologists of their ability to obtain and maintain adequate reimbursement coverage from third-party payors for the adhesive patch sample collection method. Medical professionals are influenced by standard-setting bodies that influence and/or dictate the standard of care. If we are not successful in changing current guidelines from legacy standards to new molecular-based approaches our market adoption will suffer. If we cannot convince medical practitioners to order our current tests and our planned tests, we will likely be unable to create demand in sufficient volume for us to achieve profitability or meet our anticipated revenue projections.

We expect to continue to incur significant expenses to develop and market our tests, which could make it difficult for us to achieve and sustain profitability.

In recent years, we have incurred significant costs in connection with the development of our tests. For the twelve months ended December 31, 2019, our R&D expenses were $2.5 million, our sales and marketing expenses were $6.3 million and our general and administrative expenses were $8.9 million. For the year ended December 31, 2018, our R&D expenses were $2.1 million, our sales and marketing expenses were $2.8 million and our general and administrative expenses were $3.5 million. We expect our expenses to continue to increase for the foreseeable future as we conduct studies of our current tests and our planned other tests, grow our sales and marketing organization, drive adoption of and reimbursement for our tests, and develops new tests. As a result, we need to generate significant revenues in order to achieve profitability.

We may not be able to generate sufficient revenue from the commercialization of PLA and the Nevome test, or successfully develop and commercialize other tests to achieve or sustain profitability.

We launched the PLA assay during the first half of 2016. We launched the Nevome test in 2018. We are in varying stages of R&D for other tests that we may offer in the future. We believe that our commercialization success is dependent upon our ability to significantly increase the number of customers who are using our tests. In addition, demand for our tests may not increase as quickly as planned and we may be unable to increase our revenue levels as expected. We are currently not profitable. Even if we succeed in increasing adoption of PLA and the Nevome test by dermatologists, in maintaining and creating relationships with our existing and new customers, and developing and commercializing additional molecular diagnostic testing products, we may not be able to generate sufficient revenue to achieve or sustain profitability.

If we are unable to execute our marketing strategy for PLA and are unable to gain acceptance in the market, we may be unable to generate sufficient revenue to sustain our business.

Although we believe that our current tests and planned future tests represent a promising commercial opportunity, our tests may never gain significant acceptance in the marketplace and therefore may never generate substantial revenue or profits for us. We will need to establish a market for our tests and build that market through physician education, awareness programs, and the publication of clinical trial results. Gaining acceptance in medical communities requires publication in leading peer-reviewed journals of results from studies using our current tests and/or our planned future tests. The process of publication in leading medical journals is subject to a peer-review process and peer-reviewers may not consider the results of our studies sufficiently novel or worthy of publication. Failure to have our studies published in peer-reviewed journals would limit the adoption of our current tests and our planned tests.

Our ability to successfully market the tests that we develop will depend on numerous factors, including:

- conducting clinical utility studies of such tests in collaboration with key thought leaders to demonstrate their use and value in important medical decisions such as treatment selection;
- the success of our sales force;
- whether health care providers believe such tests provide clinical utility;
- whether the medical community accepts that such tests are sufficiently sensitive and specific to be meaningful in patient care and treatment decisions; and
- whether health insurers, government health care programs, and other third-party payors will cover and pay for such tests and, if so, whether they will adequately reimburse us.

Failure to achieve widespread market acceptance of our current tests and our planned future tests would materially harm our business, financial condition, and results of operations.

The telemedicine market is immature and unpredictable, and if it does not develop, if it develops more slowly than we expect, if it encounters negative publicity or if limitations on reimbursement or difficulties in obtaining regulatory approvals impede our ability to adopt telemedicine, the growth of our business will be harmed.

With respect to our telemedicine solution, the telemedicine market is relatively new and unproven, and it is uncertain whether it will achieve and sustain high levels of demand, consumer acceptance and market adoption. Our success will depend to a substantial extent on the willingness of clinicians and their patients to use our telemedicine solution, as well as on our ability to demonstrate the value of our telemedicine solution to health plans and other purchasers of healthcare for beneficiaries. Negative publicity concerning our telemedicine solution or the telemedicine market as a whole could limit market acceptance of our solution. If clinicians or their patients do not believe that our telemedicine solution can provide melanoma testing as accurate as our clinical studies have already proven, or if clinicians or their patients are not willing to utilize the at-home supervised collection process then a market for our solution may be slow to develop, or may not develop at all. Changes by state professional licensing boards to the standards of care or other requirements governing the practice telemedicine could impact the success of our

telemedicine solution. Additionally, reimbursement may not be available from government and third party payors for the teledermatology services or at home collection supervision services that are provided by clinicians as part of our telemedicine solution. Similarly, individual and healthcare industry concerns or negative publicity regarding patient confidentiality and privacy in the context of telemedicine could limit market acceptance of our solution. If any of these events occurs, it could have a material adverse effect on our business, financial condition or results of operations, especially given the ongoing COVID-19 pandemic and patients' reduced access to physician offices for testing.

If we cannot develop tests to keep pace with rapid advances in technology, medicine and science, our operating results and competitive position could be harmed.

In recent years, there have been numerous advances in technologies relating to the molecular diagnosis for cancer and other medical conditions. Several new cancer drugs have been approved, including several for melanoma, and a number of new drugs in clinical development may increase patient survival time. There have also been advances in methods used to identify patients likely to benefit from these drugs based on analysis of biomarkers. We must continuously develop new tests and enhance any existing tests to keep pace with evolving standards of care. Our current tests and our planned tests could become obsolete unless we continually innovate and expand them to demonstrate benefit in the diagnosis, monitoring, or prognosis of patients with cancer and other dermatologic conditions. If we cannot adequately demonstrate the applicability of our current tests and our planned future tests to new diagnostic and treatment developments, sales of our tests could decline, which would have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our future success will depend in part upon our ability to enhance PLA, and to develop, introduce, and commercialize other novel innovative and non-invasive diagnostics tests and services. New test development involves a lengthy and complex process and we may be unable to commercialize new or improved tests or any other products we may develop on a timely basis, or at all.

Our future success will depend in part upon our ability to enhance PLA, and to develop new innovative products. Our failure to successfully develop new products on a timely basis could have a material adverse effect on our revenue, results of operations, and business.

The development of new or enhanced tests is a complex and uncertain process requiring precise technological execution. In addition, the successful development of new products may depend on the development of new technologies. We may be required to undertake time-consuming and costly development activities. We may experience difficulties that could delay or prevent the successful development, commercialization, and marketing of these new products. Before we can commercialize any new products, we will need to expend significant funds in order to conduct substantial R&D, including validation studies.

Our product development process involves a high degree of risk, and product development efforts may fail for many reasons, including a failure to demonstrate the performance of the product or an inability to obtain any required certification or regulatory approval, if required.

As we develop new tests and other products, we will have to make significant investments in product development, as well as sales and marketing resources. In addition, competitors may develop and commercialize competing products faster than we are able to do so, which could have a material adverse effect on our revenue, results of operations and business.

We rely on a limited number of suppliers and, in some cases, a single supplier, for certain of our laboratory substances, equipment and other materials, and any delays or difficulties securing these materials could disrupt our laboratory operations and materially harm our business.

We rely on a limited number of suppliers for certain of our laboratory substances, including reagents, as well as for the sequencers and various other equipment and materials we use in our laboratory operations. In particular, we rely on Fisher Scientific and VWR for supplies and Adhesive Research for our adhesive tape material. We do not have long-term agreements with any of our suppliers and, as a result, they could cease supplying these materials and equipment to us at any time due to an inability to reach agreement with us on supply terms, disruptions in their operations, a determination to pursue other activities or lines of business, or for other reasons, or they could fail to provide us with sufficient quantities of materials that meet our specifications. Transitioning to a new supplier or locating a temporary substitute, if any are available, would be time-consuming and expensive, could result in interruptions in or otherwise affect the performance specifications of our laboratory operations, or could require that we revalidate our tests. In addition, the use of equipment or materials provided by a replacement supplier could require us to alter our laboratory operations and procedures. Moreover, we believe there are currently only a few manufacturers that are capable of supplying and servicing some of the equipment and other materials necessary for our laboratory operations, including sequencers and various associated reagents. As a result, replacement equipment and materials that meet our quality control and performance requirements may not be available on reasonable terms, in a timely manner or at all. If we encounter delays or difficulties securing, reconfiguring or revalidating the equipment, reagents and other materials we require for our tests, our operations could be materially disrupted and our business, financial condition, results of operations, and reputation could be adversely affected.

Our tests employ a novel diagnostic platform and may never be accepted by their intended markets.

Our future success depends on our ability to successfully commercialize PLA, as well as our ability to develop and market other tests that use our proprietary technology platform. The scientific discoveries that form the basis of our proprietary technology platform and our tests are relatively new. We are not aware of any other gene expression tests such as ours and there can be no assurance that physicians will be willing to use them. If we do not successfully develop and commercialize our tests based upon our technological approach, we may not become profitable and the value of our common stock may decline.

The novel nature of our tests also means that fewer people are trained in or experienced with products of this type, which may make it difficult to find, hire, and retain capable personnel for research, development, and clinical laboratory positions.

Further, our focus solely on gene expression tests, as opposed to multiple, more proven technologies for patient diagnosis, increases the risks associated with the ownership of our common stock. If we do not achieve market acceptance for our tests, we may be required to change the scope and direction of our product development activities. In that case, we may not be able to identify and implement successfully an alternative product development strategy.

If our current tests and our planned tests do not to perform as expected, as a result of human error or otherwise, it could have a material adverse effect on our operating results, reputation, and business.

Our success depends on the market's confidence that we can provide reliable, high-quality diagnostic results. There is no guarantee that any accuracy we have demonstrated to date will continue, particularly as the number of tests using our assays increases and as the number of different tests that we develop and commercialize expands. We believe that our customers are likely to be particularly sensitive to test defects and errors. As a result, the failure of our current or planned tests to perform as expected could significantly impair our reputation and the public image of our tests. As a result, the failure or perceived failure of our products to perform as expected could have a material adverse effect on our business, financial condition, results of operation and cash flows.

We may be unable to manage our future growth effectively, which could make it difficult to execute our business strategy.

As part of our strategy, we expect to increase our number of employees as our business grows. This future growth could create strain on our organizational, administrative, and operational infrastructure, including laboratory operations, quality control, customer service, and sales and marketing. Our ability to manage our growth properly will require us to continue to improve our operational, financial, and management controls, as well as our reporting systems and procedures. If our current infrastructure is unable to handle our growth, we may need to further expand our infrastructure and staff and implement new reporting systems. The time and resources required to implement such expansion and systems could adversely affect our operations. Our expected future growth will impose significant added responsibilities on members of management, including the need to identify, recruit, maintain, and integrate additional employees. Our future financial performance and our ability to commercialize our products and to compete effectively will depend, in part, on our ability to manage this potential future growth effectively, without compromising quality.

If our sole laboratory facility becomes damaged or inoperable, or we are required to vacate the facility, our ability to sell and provide molecular tests and pursue our R&D efforts may be jeopardized.

We do not have any clinical reference laboratory facilities outside of our facility in La Jolla, California. Our facilities and equipment could be harmed or rendered inoperable by natural or man-made disasters, including fire, earthquake, flooding, and power outages, which may render it difficult or impossible for us to perform our diagnostic tests for some period of time. The inability to perform our current tests, our planned tests, or the backlog of tests that could develop if our facility is inoperable for even a short period of time may result in the loss of customers or harm to our reputation or relationships with scientific or clinical collaborators, and we may be unable to regain those customers or repair our reputation in the future. Furthermore, our facilities and the equipment we use to perform our R&D work could be costly and time-consuming to repair or replace.

The San Diego area has recently experienced serious fires and power outages, and is considered to lie in an area with earthquake risk.

Additionally, a key component of our R&D process involves using biological samples as the basis for the development of our diagnostic tests. In some cases, these samples are difficult to obtain. If the parts of our laboratory facility where we store these biological samples were damaged or compromised, our ability to pursue our R&D projects, as well as our reputation, could be jeopardized. We carry insurance for damage to our property and the disruption of our business, but this insurance may not be sufficient to cover all of our potential losses and may not continue to be available to us on acceptable terms, if at all.

Further, if our CLIA certified laboratory became inoperable we may not be able to license or transfer our technology to another facility with the necessary state licensure and CLIA certification under which our current tests and our planned future tests could be performed. Even if we find a facility with such qualifications to perform our tests, it may not be available to us on commercially reasonable terms. In addition, the use of a third-party laboratory to perform our tests could affect their classification as LDTs and require us to seek FDA market authorization for the tests prior to the completion of such a transfer.

If we cannot compete successfully with our competitors, we may be unable to increase or sustain our revenues or achieve and sustain profitability.

Our principal competition comes from mainstream clinical diagnostic methods, used by dermatologists for many years, which focus on visual tumor tissue analysis. It may be difficult to change the methods or behavior of dermatologists to incorporate our PLA, Nevome test, and Adhesive Skin Sample Collection Kits into their practices in conjunction with, or instead of, tissue biopsies and analysis. In addition, companies offering capital equipment and kits or reagents to local dermatologists represent another source of potential competition. These tests are used directly by the dermatologists, which can facilitate adoption. We plan to focus our marketing and sales efforts on medical dermatologists rather than pathologists.

We also face competition from companies that offer device products or are conducting research to develop device products for analysis of pigmented lesions. In particular, MELA Sciences, Inc., used to market its MelaFind® device to dermatologists, but we believe they no longer actively market this product. Scibase AB and Verisante Technology, Inc. have devices under development and may market their medical products directly to dermatologists if and when they obtain FDA, approval. In addition to these companies, our competitors also include other device companies selling photographic technologies, whole body photography services, dermatoscopes, or confocal microscopy, such as Fotofinder, Molemate, Canfield Scientific, MedX, and Caliber I.D. Many of these groups, in addition to operating R&D laboratories, are selling equipment and devices.

In addition to these device companies, Myriad Genetics, Inc. offers an expression test for melanoma that is used on surgical biopsy specimens. Myriad Genetics, Inc. could also try and market their test as a biopsy aid at the point-of-care. Gene expression testing is a relatively new area of science, especially in dermatology and we cannot predict what tests others will develop that may compete with or provide results similar or superior to the results we are able to achieve with the tests we develop. There are a number of companies that are focused on the oncology diagnostic market and expression tests including Exact Sciences Corporation, Veracyte, Inc., Genomic Health, Inc. and others.

Additionally, projects related to cancer diagnostics and particularly genomics have received increased government funding, both in the United States and internationally. As more information regarding cancer genomics becomes available to the public, we anticipate that more products aimed at analyzing pigmented lesions and identifying melanoma may be developed and that these products may compete with ours. In addition, competitors may develop their own versions of our current or planned tests in countries where we did not apply for patents or where our patents have not issued or have expired and may compete with us in those countries, including encouraging the use of their test by physicians or patients in other countries. In addition, one or more competitors may seek to invalidate or render unenforceable any of our patents in a court of competent jurisdiction or at the United States Patent and Trademark Office, or USPTO. If any such proceeding were to be successful and result in the invalidation or unenforceability of one or more patents in our intellectual property portfolio, we may be unable to prevent unlicensed third-party competition in the marketplace with respect to our current and planned future tests.

Some of our present and potential competitors have widespread brand recognition and substantially greater financial and technical resources and development, production, and marketing capabilities than we do. Others may develop lower-priced, less complex tests that payors and dermatologists could view as functionally equivalent to our current or planned tests, which could force us to lower the list price of our tests and impact our operating margins and ability to achieve and maintain profitability. In addition, technological innovations that result in the creation of enhanced diagnostic tools that are more sensitive or specific than ours may enable other clinical laboratories, hospitals, physicians, or medical providers to provide specialized diagnostic tests similar to ours in a more patient-friendly, efficient, or cost-effective manner than is currently possible. If we cannot compete successfully against current or future competitors, we may be unable to increase or create market acceptance and sales of our current or planned tests, which could prevent us from increasing or sustaining our revenues or achieving or sustaining profitability.

Our competitors may be able to respond more quickly and effectively than we can to new or changing opportunities, technologies, standards, or customer requirements. We anticipate that we will face increased competition in the future as existing companies and competitors develop new or improved products and distribution strategies and as new companies enter the market with new technologies and distribution strategies. We may not be able to compete effectively against these organizations. Our ability to compete successfully and to increase our market share is dependent upon our reputation for providing responsive, professional, and high-quality products and services and achieving strong customer satisfaction. Increased competition in the future could adversely affect our revenue, revenue growth rate, if any, margins and market share.

If we are unable to identify collaborators willing to work with us to conduct clinical utility studies, or the results of those studies do not demonstrate that a test provides clinically meaningful information and value, commercial adoption of our tests may be slow, which would negatively impact our business.

We believe clinical utility studies will show how the PLA changes the decision-making of the dermatologist when making a surgical biopsy decision, particularly to avoid performing a surgical biopsy when the test is negative. Clinical utility studies also show the impact of the test results on patient care and management. Clinical utility studies are typically performed with collaborating dermatologists at medical centers and hospitals, analogous to a clinical trial, and generally result in peer-reviewed publications.

We are currently conducting a variety of clinical trials for the PLA and other non-melanoma tests with investigators at multiple sites in the U.S. We will need to conduct additional studies for these tests, as well as other tests we may offer in the future, to drive test adoption in the marketplace and reimbursement. Should we not be able to perform these studies, or should their results not provide clinically meaningful data and value for physicians, including dermatologists and oncologists, adoption of our tests could be impaired and we may not be able to obtain reimbursement for them.

We are undergoing a management transition.

We have recently added new executives including a Chief Commercial Officer, Chief Financial Officer, Chief Operating Officer and Senior Vice President of Payor Access. Our management reporting structure may continue to change. Such a management transition subjects us to a number of risks, including risks pertaining to coordination of responsibilities and tasks, creation of new management systems and processes, differences in management style, effects on corporate culture, and the need for transfer of historical knowledge. In addition, our operations will be adversely affected if our management does not work together harmoniously, efficiently allocate responsibilities between themselves, or implement and abide by effective controls.

The loss of key members of our executive management team could adversely affect our business.

Our success in implementing our business strategy depends largely on the skills, experience, and performance of key members of our executive management team and others in key management positions, including John Dobak, M.D., the Company's Chief Executive Officer. The collective efforts of our executive management team are critical to us as we continue to develop our technologies, tests, and R&D and sales programs. As a result of the difficulty in locating qualified new management, the loss or incapacity of existing members of our executive management team could adversely affect our operations. If we were to lose one or more of these key employees, we could experience difficulties in finding qualified successors, competing effectively, developing our technologies, and implementing our business strategy. Our Chief Executive Officer, Chief Financial Officer, Chief Operating Officer, Chief Commercial Officer, Chief Medical Officer, and Chief Scientific Officer have employment agreements; however, the existence of an employment agreement does not guarantee retention of members of our executive management team and we may not be able to retain those individuals for the duration of or beyond the end of their respective terms. We do not maintain "key person" life insurance on any of our employees.

In addition, we rely on collaborators, consultants, and advisors, including scientific and clinical advisors, to assist us in formulating our R&D commercialization strategy. Our collaborators, consultants, and advisors are generally employed by employers other than us and may have commitments under agreements with other entities that may limit their availability to us.

The loss of a key employee, the failure of a key employee to perform in his or her current position, or our inability to attract and retain skilled employees could result in our inability to continue to grow our business or to implement our business strategy.

Most of our management has limited experience in operating a public company.

Most of our management team has limited experience in the management of a publicly traded company. Our management team may not successfully or effectively manage our transition to operating as a public company that is subject to significant regulatory oversight and reporting obligations under federal securities laws. Our limited experience in dealing with the increasingly complex laws pertaining to public companies could be a significant disadvantage in that it is likely that an increasing amount of our time may be devoted to these activities which will result in less time being devoted to the management and growth of the Company. It is possible that we will be required to expand our employee base and hire additional employees to support our operations as a public company which will increase our operating costs in future periods.

There is a scarcity of experienced professionals in our industry. If we are not able to retain and recruit personnel with the requisite technical skills, we may be unable to successfully execute our business strategy.

The specialized nature of our industry results in an inherent scarcity of experienced personnel in the field. Our future success depends upon our ability to attract and retain highly skilled personnel, including scientific, technical, laboratory, sales, marketing, business, regulatory, and administrative personnel necessary to support our anticipated growth, develop our business, and perform certain contractual obligations. Given the scarcity of professionals with the scientific knowledge that we require and the competition for qualified personnel among life science businesses, we may not succeed in attracting or retaining the personnel we require to continue and grow our operations.

Our inability to attract, hire, and retain a sufficient number of qualified sales professionals would hamper our ability to launch and increase demand for our PLA, to expand geographically, and to successfully commercialize any other tests or products we may develop.

To succeed in selling our PLA, and any other tests or products that we are able to develop, we must expand our sales force in the United States and/or internationally by recruiting sales representatives with extensive experience in dermatology and close relationships with medical dermatologists, dermatopathologists, and other hospital personnel. To achieve our marketing and sales goals, we will need to substantially build our sales and commercial infrastructure, with which to date we have had little experience. Sales professionals with the necessary technical and business qualifications are in high demand, and there is a risk that we may be unable to attract, hire, and retain the number of sales professionals with the right qualifications, scientific backgrounds, and relationships with decision-makers and potential customers needed to achieve our sales goals. We expect to face competition from other companies in our industry, some of whom are much larger than us and who can pay greater compensation and benefits than we can, in seeking to attract and retain qualified sales and marketing employees. If we are unable to hire and retain qualified sales and marketing personnel, our business will suffer.

We may encounter manufacturing problems or delays that could result in lost revenue.

The Adhesive Skin Sample Collection Kits we distribute are manufactured by a third party supplier. This manufacturer assembles several components, including the key adhesive patch trifold, into a finished product, then labels, stores, and ships this finished product. The adhesive tape subcomponent of the adhesive patches is provided by a single-source third party. This tape is assembled into the individual adhesive patches by another third-party supplier.

We believe we have arranged for adequate manufacturing capacity for the Adhesive Skin Sample Collection Kits through our third-party manufacturer. If demand for our current tests and our planned future tests increases significantly, we will need to either expand manufacturing capabilities through our third-party manufacturer or outsource to other manufacturers. If our third-party or other manufacturers engaged by us fail to manufacture and deliver the Adhesive Skin Sample Collection Kits or certain reagents in a timely manner, or they are unable to fulfil our orders due to regulatory non-compliance or other quality-related issues, our relationships with our customers could be seriously harmed. We cannot assure you that manufacturing or quality control problems will not arise as we attempt to increase the production of the Adhesive Skin Sample Collection Kit or that we can increase our manufacturing capabilities and maintain quality control in a timely manner or at commercially reasonable costs. If we cannot have the Adhesive Skin Sample Collection Kits manufactured consistently on a timely basis because of these or other factors, it could have a significant negative impact on our ability to perform tests and generate revenues.

If we cannot support demand for our current tests and our planned future tests, including successfully managing the evolution of our technology and manufacturing platforms, our business could suffer.

As our test volume grows, we will need to increase our testing capacity, implement automation, increase our scale and related processing, customer service, billing, collection, and systems process improvements, and expand our internal quality assurance program and technology to support testing on a larger scale. We will also need additional technicians, certified laboratory scientists, and other scientific and technical personnel to process these additional tests. Any increases in scale, related improvements and quality assurance may not be successfully implemented and appropriate personnel may not be available. As additional tests are commercialized, we may need to implement new equipment, systems, technology, controls and procedures, and hire personnel with different qualifications. Failure to implement necessary procedures or to hire the necessary personnel could result in a higher cost of processing or an inability to meet market demand. We cannot assure you that we will be able to perform tests on a timely basis at a level consistent with demand, that our efforts to scale our commercial operations will not negatively affect the quality of our test results or that we will respond successfully to the growing complexity of our testing operations. If we encounter difficulty meeting market demand or quality standards for our current tests and our planned future tests, our reputation could be harmed and our future prospects and business could suffer, which may have a material adverse effect on our financial condition, results of operations, and cash flows.

If we were to be sued for product liability or professional liability, we could face substantial liabilities that exceed our resources.

The marketing, sale, and use of our current tests and our planned future diagnostic tests could lead to the filing of product liability claims against us if someone alleges that our tests failed to perform as designed. We may also be subject to liability for errors in the test results we provide to physicians or for a misunderstanding of, or inappropriate reliance upon, the information we provide. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for us to defend.

Although we believe that our existing product and professional liability insurance is adequate, our insurance may not fully protect us from the financial impact of defending against product liability or professional liability claims. Any product liability or professional liability claim brought against us, with or without merit, could increase our insurance rates or prevent us from securing insurance coverage in the future. Additionally, any product liability lawsuit could damage our reputation, result in the recall of tests, or cause current partners to terminate existing agreements and potential partners to seek other partners, any of which could impact our results of operations.

If we use biological and hazardous materials in a manner that causes injury or violates laws or regulations, we could be liable for damages or subject to enforcement actions.

Our activities currently require the controlled use of potentially harmful biological and hazardous materials and chemicals. We cannot eliminate the risk of accidental contamination or injury to employees or third parties from the use, storage, handling or disposal of these materials. In the event of contamination or injury, we could be held liable for any resulting damages, and any liability could exceed our resources or any applicable insurance coverage we may have. Additionally, we are subject to, on an ongoing basis, federal, state, and local laws and regulations governing the use, storage, handling, and disposal of these materials and specified waste products. The cost of compliance with these laws and regulations may become significant and could have a material adverse effect on our financial condition, results of operations and cash flows. In the event of an accident or if we otherwise fail to comply with applicable regulations, we could lose our permits or approvals or be held liable for damages or penalized with fines.

We may acquire other businesses, form joint ventures, or make investments in other companies or technologies that could harm our operating results, dilute our stockholders' ownership, increase our debt, or cause us to incur significant expense.

As part of our business strategy, we may pursue acquisitions of businesses and assets. We also may pursue strategic alliances and joint ventures that leverage our core technology and industry experience to expand our offerings or distribution. We have no experience with acquiring other companies and limited experience with forming strategic alliances and joint ventures. We may not be able to find suitable partners or acquisition candidates, and we may not be able to complete such transactions on favorable terms, if at all. If we make any acquisitions, we may not be able to integrate these acquisitions successfully into our existing business, and we could assume unknown or contingent liabilities. Any future acquisitions also could result in significant write-offs or the incurrence of debt and contingent liabilities, any of which could have a material adverse effect on our financial condition, results of operations and cash flows. Integration of an acquired company also may disrupt ongoing operations and require management resources that would otherwise focus on developing our existing business. We may experience losses related to investments in other companies, which could have a material negative effect on our results of operations. We may not identify or complete these transactions in a timely manner, on a cost-effective basis, or at all, and we may not realize the anticipated benefits of any acquisition, technology license, strategic alliance, or joint venture.

To finance any acquisitions or joint ventures, we may choose to issue shares of our common stock as consideration, which would dilute the ownership of our stockholders. If the price of our common stock is low or volatile, we may not be able to acquire other companies or fund a joint venture project using our stock as consideration. Alternatively, it may be necessary for us to raise additional funds for acquisitions through public or private financings. Additional funds may not be available on terms that are favorable to us, or at all.

International expansion of our business would expose us to business, regulatory, political, operational, financial, and economic risks associated with doing business outside of the United States.

Our business strategy contemplates possible international expansion, including partnering with academic and commercial testing laboratories, and introducing the PLA or other future products outside the United States and exporting the Adhesive Skin Sample Collection Kit. We are currently testing samples through a distributor in Canada. Doing business internationally involves a number of risks, including:

- multiple, conflicting, and changing laws and regulations such as tax laws, export and import restrictions, privacy, data security and data transfer laws, employment laws, intellectual property laws, regulatory requirements, and other governmental approvals, permits and licenses;
- failure by us or our distributors to obtain regulatory approvals for the sale or use of our current tests and our planned future tests in various countries, if required;
- difficulties in managing foreign operations;
- complexities associated with managing government payor systems, multiple payor-reimbursement regimes, or self-pay systems;
- logistics and regulations associated with shipping blood samples, including infrastructure conditions and transportation delays;
- limits on our ability to penetrate international markets if our current tests and our planned future diagnostic tests cannot be processed by an appropriately qualified local laboratory;
- financial risks, such as longer payment cycles, difficulty enforcing contracts and collecting accounts receivable and exposure to foreign currency exchange rate fluctuations;
- reduced protection for intellectual property rights, or lack of them in certain jurisdictions, forcing more reliance on any trade secrets we may have, if such protection is available;
- natural or man-made disasters, political and economic instability, including wars, terrorism and political unrest, outbreak of disease (such as the ongoing COVID-19 pandemic), boycotts, curtailment of trade, and other business restrictions; and
- failure to comply with the Foreign Corrupt Practices Act, including its books and records provisions and its anti-bribery provisions, by maintaining accurate information and control over sales activities and distributors' activities, as well as similar foreign anti-bribery and anti-corruption laws that may become applicable to our business.

Any of these risks, if encountered, could significantly harm our future international expansion and operations and, consequently, have a material adverse effect on our financial condition, results of operations, and cash flows.

Declining general economic and business conditions as a result of the COVID-19 pandemic have had a negative impact on our business, and the extent and duration of the effects of the COVID-19 pandemic and economic downturn are difficult to predict, which makes our future performance more difficult to predict.

Economic and business prospects in the United States and other countries have declined rapidly due to the COVID-19 pandemic and resulting restrictions on individual and business activity to mitigate the pandemic. These factors, coupled with decreased business and consumer confidence and substantial unemployment resulting from the declared global pandemic of COVID-19 and restrictions on activity, have precipitated a sharp economic slowdown and recession, and the economic climate may deteriorate further. The extent and duration of the effects of the COVID-19 pandemic and economic downturn are difficult to predict, which makes our future performance more difficult to predict. If the COVID-19 pandemic and economic downturn persist, or if they worsen, we expect that our business, including our access to patient samples and the addressable market for our tests will continue to be adversely affected, resulting in a further negative impact on our business, financial condition, results of operations and cash flows.

Intrusions into our computer systems could result in compromise of confidential information and our ability to continue operations (in event of a cyber-attack).

Despite the implementation of security measures, our technology or systems that we interface with, including the Internet and related systems, may be vulnerable to physical break-ins, hackers, improper employee or contractor access, computer viruses, programming errors, or similar problems. Any of these might result in confidential medical, business, or payment information, including as may be disclosed as part of a credit card transaction, or other information of other persons or of us, including employees, being revealed to unauthorized persons. Additional use of remote working technology as a result of the COVID-19 pandemic may increase these vulnerabilities.

We may have to comply with laws governing the use and disclosure of genetic testing information.

Many states have adopted laws governing genetic testing and the use and disclosure of genetic test results. These laws impose specific testing consent requirements, patient authorization requirements for the use and disclosure of test results and some impose limits on the retention and secondary use of patient samples. Many of these laws are vaguely written and some are overly broad. We must analyze and ensure compliance with the genetic testing laws in the jurisdictions from which we obtain samples and may be required to expend significant capital and other resources to ensure ongoing compliance. Our failure to comply could interfere with our ability to operate and/or lead to sanctions, fines, or other regulatory actions as well as civil claims.

We depend on our information technology and telecommunications systems, and any failure of these systems could harm our business.

We depend on information technology and telecommunications systems for significant aspects of our operations. In addition, our third-party billing and collections provider depends upon telecommunications and data systems provided by outside vendors and information we provide on a regular basis. These information technology and telecommunications systems support a variety of functions, including test processing, sample tracking, quality control, customer service and support, billing and reimbursement, R&D activities, and our general and administrative activities. Information technology and telecommunications systems are vulnerable to damage from a variety of sources, including telecommunications or network failures, malicious human acts, and natural disasters. Moreover, despite network security and back-up measures, some of our servers are potentially vulnerable to physical or electronic break-ins, computer viruses, and similar disruptive problems. Despite the precautionary measures we have taken to prevent unanticipated problems that could affect our information technology and telecommunications systems, failures or significant downtime of our information technology or telecommunications systems, or those used by our third-party service providers could prevent us from processing tests, providing test results to oncologists, pathologists, billing payors, processing reimbursement appeals, handling patient or physician inquiries, conducting R&D activities, and managing the administrative aspects of our business. Any disruption or loss of information technology or telecommunications systems on which critical aspects of our operations depend could have a material effect on our business, financial condition, results of operation and cash flows.

We rely on Federal Express Corporation, or FedEx, and United Parcel Service of America, Inc., or UPS, for the distribution of our Adhesive Skin Sample Collection Kits to customers and to transport specimens back to our laboratory facility and, if FedEx or UPS incurs any damage to their facilities or is unable to deliver our products as needed, it could have a material adverse effect on our results of operations and business.

We rely on FedEx and UPS for the distribution of our Adhesive Skin Sample Collection Kits to customers, as well as to transport patient specimens back to our laboratory facility for processing. The FedEx or UPS facilities involved in such distribution may be harmed or rendered inoperable by natural or man-made disasters, including earthquakes, power outages, communications failure, infectious disease outbreaks, or terrorism. Any material destruction to their facilities could adversely affect the ability of FedEx or UPS to meet the needs of our customers. In addition, a disruption or slowdown in the operations of FedEx or UPS, including as a result of the COVID-19 pandemic and restrictions on business activity, damage to the facilities of FedEx or UPS or a strike by FedEx or UPS employees, could cause delays in our ability to fulfill customer orders and may cause orders to be cancelled, lost, or delivered late, our shipments to be returned, or receipt of shipments to be refused, any of which could adversely affect our business and our results of operations. If our shipping costs were to increase as a result of an increase by FedEx or UPS or as a result of obtaining a new third-party logistics company and if we are unable to pass on these higher costs to our customers, it could have a material adverse effect on our results of operations and business, financial condition, results of operation and cash flows.

Regulatory Risks Related to Our Business

Changes in health care law and policy may have a material adverse effect on our financial condition, results of operations, and cash flows.

In March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, collectively called the ACA, became law. This law substantially changed the way health care is financed by both governmental and commercial payors, and continues to significantly impact our industry. Since its enactment, there have been judicial and Congressional challenges to certain aspects of the ACA. Both the current Congress and President Trump have expressed their intention to repeal or repeal and replace the ACA, and as a result, certain sections of the ACA have not been fully implemented or were effectively repealed. In December 2019, the Fifth Circuit Court of Appeals upheld a district court's finding that the individual mandate in the Affordable Care Act is unconstitutional following removal of the penalty provision from the law. However, the Fifth Circuit reversed and remanded the case to the district court to determine if other reforms enacted as part of the Affordable Care Act but not specifically related to the individual mandate or health insurance could be severed from the rest of the Affordable Care Act so as not to have the law declared invalid in its entirety. It is unclear how this decision, subsequent appeals including potentially to the U.S. Supreme Court, and other efforts to repeal and replace the Affordable Care Act will affect the implementation of that law and our business. The uncertainty around the future of the ACA, and in particular the impact to reimbursement levels and the number of insured individuals, may lead to delay in the purchasing decisions of our customers, which may in turn negatively impact our product sales. Further, if reimbursement levels are inadequate, our business and results of operations could be adversely affected.

Further, the ACA established the Physician Payments Sunshine Act, or the Sunshine Act, which imposes reporting and disclosure requirements for applicable device manufacturers of covered products and those entities under common ownership that provide assistance and support to applicable manufacturers, with regard to payments or other transfers of value made to certain practitioners (including physicians and teaching hospitals) and certain investment ownership interests held by physicians in the reporting entity. We are not subject to the Physician Payments Sunshine Act provisions at this time. However, if the FDA later determines that the Adhesive Skin Sample Collection Kit or any of our current or future products are subject to premarket clearance or approval process and such products are considered to be reimbursable by Medicare or Medicaid, we would be subject to the Physician Payments Sunshine Act and thus its reporting requirements.

In addition to the ACA, there will continue to be proposals by legislators at both the federal and state levels, regulators and commercial payors to reduce costs while expanding individual health care benefits. Certain of these changes could impose additional limitations on the prices we will be able to charge for our tests or the amounts of reimbursement available for our tests from governmental or commercial payors. Any future changes to legal or regulatory requirements or new cost containment initiatives could have a materially adverse effect on our business, financial condition, results of operation, and cash flows.

Our business could be adversely impacted by our failure or the failure of physicians to comply with the ICD-10-CM Code Set.

Compliance with ICD-10-CM is required for all claims with dates of service on or after October 1, 2015. We believe we have fully implemented ICD-10-CM. However, our failure to effectively implement and apply the new code set could adversely impact our business. In addition, if physicians fail to provide appropriate codes for desired tests, we may not be reimbursed for tests we perform.

Billing for our tests is complex and we must dedicate substantial time and resources to the billing process to be paid for our tests; long payment cycles of Medicare, Medicaid, and/or other third-party payors, or other payment delays, could hurt our cash flows and increase our need for working capital.

Billing for clinical laboratory testing services is complex, time-consuming, and expensive. Depending on the billing arrangement and applicable law, we will bill various payors, including Medicare, Medicaid, and commercial payors, all of which have different billing requirements. As required by law or contract, we routinely bill patients for co-payments, co-insurance, and deductible amounts owed. We may also face increased risks in our collection efforts, including potential write-offs of doubtful accounts, long collection cycles, and failure by third parties to properly process payment of claims in a timely manner that could adversely affect our business, results of operations, and financial condition. Several factors make the billing practice complex, including:

- compliance with complex federal and state regulations related to Medicare billing;
- disputes among payors as to which party is responsible for payment; resistance by patients to cover any substantial amount of the payment;
- differences in coverage among payors and effect of patient co-payments, co-insurance, or deductibles;
- differences in information and billing requirements among payors;

- incorrect or missing billing information; and
- the resources required to manage the billing and claims appeals process.

Additionally, our billing activities require us to implement compliance procedures and oversight, train and monitor our employees, challenge coverage and payment denials, assist patients in appealing claims, and undertake internal audits to evaluate compliance with applicable laws and regulations as well as internal compliance policies and procedures. Payors also conduct external audits to evaluate payments, which adds further complexity to the billing process.

Failure to comply with these billing requirements may result in non-payment, refunds, exclusion from government healthcare programs, and civil or criminal liabilities, any of which may have a material adverse effect on our revenues and earnings. These billing complexities and the related uncertainties in obtaining reimbursement could negatively affect our cash flow and our ability to achieve profitability.

Our business could be harmed by the loss, suspension, or other restriction on a license, certification, or accreditation, or by the imposition of a fine or penalties, under CLIA, its implementing regulations, or other state, federal, and foreign laws and regulations affecting licensure or certification, or by future changes in these laws or regulations.

The diagnostic testing industry is subject to extensive laws and regulations, many of which have not been interpreted by the courts. CLIA requires virtually all laboratories to be certified by the federal government and mandates compliance with various operational, personnel, facilities administration, quality, and proficiency testing requirements intended to ensure that testing services are accurate, reliable, and timely. Our clinical laboratory must be certified under CLIA in order for us to perform testing on human specimens. CLIA certification is also a prerequisite to be eligible to bill state and federal health care programs. Further, many commercial payors require CAP accreditation as a condition to contracting with clinical laboratories to cover their tests. In addition, some countries outside the United States require CAP accreditation as a condition to permitting clinical laboratories to test samples taken from their citizens.

We have a current certificate of accreditation from CMS to perform high-complexity testing, which is managed by California Laboratory Field Services, or CA LFS. To renew this certificate, we are subject to survey and inspection every two years. We hold a certificate of accreditation because we are accredited by the College of American Pathologists, or CAP, which sets standards than are higher than the CLIA regulations. CAP is an independent, non-governmental organization of board-certified pathologists that accredits laboratories nationwide on a voluntary basis. Because CAP has deemed status with CA LFS, our biennial inspections will be performed by teams formed by CAP. Sanctions for failure to comply with CAP or CLIA requirements, including proficiency testing violations, may include suspension, revocation, or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, as well as the imposition of significant fines or criminal penalties. In addition, we are subject to regulation under state laws and regulations governing laboratory licensure. Two states, one of which is New York, have enacted state licensure laws that are more stringent than CLIA.

Failure to maintain CLIA certification, CAP accreditation, or required state licenses could have a material adverse effect on the sales of our tests and the results of our operations. If we were to lose our CLIA certification, CAP accreditation or California laboratory license, whether as a result of a revocation, suspension, or limitation, we would no longer be able to offer our tests, which would limit our revenues and harm our business. If we were to lose our license in any other state where we are required to hold a license, we would not be able to test specimens from those states. In addition, state and foreign requirements for laboratory certification may be costly or difficult to meet and could affect our ability to receive specimens from certain states or foreign countries. We have received samples from all 50 U.S. states and certain provinces in Canada. Each state maintains independent licensure, registration, or certification procedures with which we must maintain compliance in order to receive and test samples from that location. Maintaining compliance with the myriad of state and foreign requirements is time consuming and resource intensive and failure to maintain compliance could result in sanctions.

Any sanction imposed under CLIA, its implementing regulations, or state or foreign laws or regulations governing licensure, or our failure to renew a CLIA certificate, a state or foreign license, or accreditation, could have a material adverse effect on our business, financial condition, results of operation and cash flows. If the CLIA certificate of our laboratory is revoked, that could also impact our licensure or certification in the states or in foreign jurisdictions.

If the FDA were to begin requiring approval or clearance of our current tests and our planned future tests, or our proprietary specimen collection kit, we could incur substantial costs and time delays associated with meeting requirements for premarket clearance or approval.

The laws and regulations governing the marketing of diagnostic products are evolving, extremely complex and in many instances, there are no significant regulatory or judicial interpretations of these laws and regulations. Pursuant to its authority under the federal Food, Drug, and Cosmetic Act, or FDCA, the FDA has jurisdiction over medical devices, including in vitro diagnostics and, therefore, potentially our clinical laboratory tests. Among other things, pursuant to the FDCA and its implementing regulations, the FDA regulates the research, testing, manufacturing, safety, labeling, storage, recordkeeping, premarket clearance

or approval, marketing and promotion, and sales and distribution of medical devices in the United States to ensure that medical products distributed domestically are safe and effective for their intended uses. Although the FDA has asserted that it has authority to regulate the development and use of LDTs, such as our and many other laboratories' tests, as medical devices, it has generally exercised enforcement discretion and is not otherwise regulating most tests developed and performed within a single high complexity CLIA-certified laboratory. The FDA could, at any time, change its policy with regard to this matter or Congress could take action to amend the law to change the current regulatory framework for in vitro diagnostics and LDTs. For example, the Verifying Accurate, Leading-edge IVCT Development (VALID) Act recently introduced in Congress would codify into law the term "in vitro clinical test" in order to create a new medical product category separate from medical devices that would include products currently regulated as in vitro diagnostics as well as LDTs.

We believe that our tests, as utilized in our clinical laboratory, are and would be LDTs. As a result, we believe that pursuant to the FDA's current policies and guidance, the FDA does not require that we obtain regulatory clearances or approvals for our LDTs. In addition, we believe the Adhesive Skin Sample Collection Kit we provide for collection and transport of skin samples from a health care provider to our clinical laboratory is considered a Class I medical device subject to the FDA's general device controls but exempt from premarket review. However, the FDA could assert the specimen collection kit is non-exempt or is a Class II device, which would subject it to premarket clearance or approval processes, which could be time-consuming and expensive. While we believe that we are currently in material compliance with applicable laws and regulations, we cannot assure you that the FDA, or other regulatory agencies, would agree with our determinations, and any determination by the government that we have violated the FDCA or any FDA regulations, or a public announcement that we are being investigated for possible violations of these laws, could adversely affect our business, prospects, results of operations, or financial condition.

Even though we commercialize our tests as LDTs, our tests may in the future become subject to more onerous regulation by the FDA. For example, the FDA may disagree with our assessment that our tests fall within the definition of an LDT and seek to regulate our tests as medical devices. The FDA has, for over the past decade, been introducing proposals to end enforcement discretion and to bring LDTs clearly under existing FDA regulatory frameworks and Congress has recently been working on legislation to create an LDT and in vitro diagnostic regulatory framework that would be separate and distinct from the existing medical device regulatory framework. On March 5, 2020, U.S. Representatives Diana DeGette (D-CO) and Dr. Larry Bucshon (R-IN) formally introduced the VALID Act in the House and an identical version of the bill was introduced in the U.S. Senate by Senators Michael Bennet (D-CO) and Richard Burr (R-NC). As anticipated from a discussion draft of the legislation released for or stakeholder comment in December 2018, the VALID Act would codify into law the term "in vitro clinical test" (IVCT) to create a new medical product category separate from medical devices, and bring all such products within the scope of FDA's oversight. It is unclear whether the VALID Act would be passed by Congress in its current form or signed into law by the President.

Absent any Congressional action, if the FDA begins to enforce its medical device requirements for LDTs, or if the FDA disagrees with our assessment that our tests are LDTs, our tests could for the first time be subject to a variety of regulatory requirements, including registration and listing, medical device reporting, and quality control, and we could be required to obtain premarket clearance or approval for our existing tests and any new tests we may develop, which may force us to cease marketing our tests until we obtain the required clearance or approval. The premarket review process for diagnostic products can be lengthy, expensive, time-consuming, and unpredictable. Further, obtaining premarket clearance or approval may involve, among other things, successfully completing clinical trials. Clinical trials require significant time and cash resources and are subject to a high degree of risk, including risks of experiencing delays, failing to complete the trial or obtaining unexpected or negative results. If we are required to obtain premarket clearance or approval and/or conduct premarket clinical trials, our development costs could significantly increase, our introduction of any new tests we may develop may be delayed, and sales of our existing tests could be interrupted or stopped. Any of these outcomes could reduce our revenue or increase our costs and materially adversely affect our business, prospects, results of operations, or financial condition. Moreover, any cleared or approved labeling claims may not be consistent with our current claims or adequate to support continued adoption of and reimbursement for our tests. For instance, if we are required by the FDA to label our tests as investigational, or if labeling claims the FDA allows us to make are limited, order levels may decline and reimbursement may be adversely affected. As a result, we could experience significantly increased development costs and a delay in generating additional revenue from our existing tests or from tests we may develop. Until the FDA finalizes its regulatory position regarding LDTs, or federal legislation is passed concerning regulation of LDTs, it is unknown how the FDA may regulate our tests in the future and what testing and data may be required to support any required clearance or approval as an medical device or an "in vitro clinical test" (as that category is being defined in the VALID Act, as introduced).

The requirement of premarket review could negatively affect our business until such review is completed and regulatory clearance or approval is obtained. The FDA could require that we stop selling our tests pending premarket clearance or approval. The regulatory approval process may involve, among other things, successfully completing additional clinical trials and making a premarket submission, such as a 510(k) notification, a premarket approval, or PMA, application or a de novo device classification request to the FDA. If the FDA requires any form of premarket review, our tests may not be cleared or approved on a timely basis, if at all. We may also decide voluntarily to pursue FDA premarket review and authorization of our tests if we determine that doing so would be appropriate.

Additionally, should future regulatory actions affect any of the reagents we obtain from suppliers and use in conducting our tests, our business could be adversely affected in the form of increased costs of testing or delays, limits, or prohibitions on the purchase of reagents necessary to perform our testing. While we qualify all materials used in our products in accordance with the regulations and guidelines of CLIA, the FDA could promulgate regulations or guidance documents impacting our ability to purchase materials necessary for the performance of our tests. If any of the reagents we obtain from suppliers and use in our tests are affected by future regulatory actions, our business could be adversely affected, including by increasing the cost of testing or delaying, limiting, or prohibiting the purchase of reagents necessary to perform testing with our products.

Failure to comply with any applicable FDA requirements could trigger a range of enforcement actions by the FDA, including warning letters, civil monetary penalties, injunctions, criminal prosecution, recall or seizure, operating restrictions, partial suspension or total shutdown of operations and denial of or challenges to applications for clearance or approval, as well as significant adverse publicity.

If we were to be required by the FDA to conduct additional clinical studies or trials before continuing to offer tests that we have developed or may develop as LDTs, those studies or trials could lead to delays or failure to obtain necessary regulatory clearance or approval, which could cause significant delays in commercializing any future products and harm our ability to achieve profitability.

If the FDA decides to require that we obtain 510(k) clearance, premarket approvals pursuant to a PMA, or any other type of premarket authorization in order for us to commercialize our current PLA, the Nevome test, or our planned future tests, we may be required to conduct additional clinical testing before submitting a regulatory submission for commercial marketing authorization. In addition, as part of our long-term strategy we may plan to seek FDA clearance or approval for certain gene expression tests in order to permit them to be offered by other clinical laboratories in addition to our own; however, we would need to conduct additional clinical validation activities on our tests before we could submit an application for FDA approval or clearance. Clinical trials must be conducted in compliance with FDA regulations or the FDA may take certain enforcement actions or reject the data. We believe it would likely take two years or more to conduct the clinical studies and trials necessary to obtain approval from the FDA to commercially launch our current tests and our planned future tests outside of our clinical laboratory.

Even if clinical trials are completed as planned, we cannot be certain that their results would be able to support our test claims or that the FDA or foreign authorities will agree with our conclusions regarding the results of our clinical trials. Success in early clinical trials does not ensure that later clinical trials will be successful, and we cannot be sure that the later trials will replicate the results of prior clinical trials and studies. If we are required to conduct clinical trials to support a premarket submission to the FDA, whether using prospectively acquired samples or archival samples, delays in the commencement or completion of clinical testing could significantly increase our test development costs and delay commercialization. Many of the factors that may cause or lead to a delay in the commencement or completion of clinical trials may also ultimately lead to delay or denial of regulatory clearance or approval. The commencement of clinical trials may be delayed due to insufficient patient enrollment, which is a function of many factors, including the size of the patient population, the nature of the protocol, the proximity of patients to clinical sites and the eligibility criteria for the clinical trial. Moreover, the clinical trial process may fail to demonstrate that our current tests and our planned future tests are effective for the proposed indications for use, which could cause us to abandon a test candidate and may delay development of other tests.

We may find it necessary to engage contract research organizations to perform data collection and analysis and other aspects of our clinical trials, which would increase the cost and complexity of our trials. We may also depend on clinical investigators, medical institutions, and contract research organizations to perform the trials properly. If these parties do not successfully carry out their contractual duties or obligations or meet expected deadlines, or if the quality, completeness, or accuracy of the clinical data they obtain is compromised due to the failure to adhere to our clinical protocols or for other reasons, our clinical trials may have to be extended, delayed or terminated. Many of these factors would be beyond our control. We may not be able to enter into replacement arrangements without undue delays or considerable expenditures. If there are delays in testing or approvals as a result of the failure to perform by third parties, our R&D costs would increase, and we may not be able to obtain regulatory clearance or approval for our current tests and our planned future tests, if needed. In addition, we may not be able to establish or maintain relationships with these parties on favorable terms, if at all. Each of these outcomes would harm our ability to market our tests outside of the LDT context or to achieve profitability.

We are subject to numerous federal, local and foreign laws and regulations; complying with laws pertaining to our business is an expensive and time-consuming process, and any failure to comply could result in substantial penalties and a material adverse effect to our business and operations.

Our operations are subject to extensive federal, state, local and foreign laws and regulations, all of which are subject to change. These laws and regulations currently include, among other things:

- CLIA, which requires that laboratories obtain certification from the federal government, and state licensure laws;
- FDA laws and regulations;
- HIPAA, which imposes comprehensive federal standards with respect to the privacy and security of protected health information, or PHI, and requirements for the use of certain standardized electronic transactions; amendments to HIPAA under the Health Information Technology for Economic and Clinical Health Act, or HITECH, which strengthened and expanded HIPAA privacy and security compliance requirements, increased penalties for violators, extended enforcement authority to state attorneys general and imposed requirements for breach notification;
- state laws regulating genetic testing and protecting the privacy of genetic test results, as well as state laws protecting the privacy and security of health information and personal data and mandating reporting of breaches to affected individuals and state regulators;
- the federal Anti-Kickback Statute, which prohibits knowingly and willfully offering, paying, soliciting, receiving, or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing, arranging for, or recommending of an item or service that is reimbursable, in whole or in part, by a federal health care program;
- the federal False Claims Act, which imposes liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment to the federal government;
- the federal Civil Monetary Penalties Law, which prohibits, among other things, the offering or transfer of remuneration to a Medicare or state health care program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state health care program, unless an exception applies;
- other federal and state fraud and abuse laws, such as anti-kickback laws, prohibitions on self-referral, and false claims acts, which may extend to services reimbursable by any third-party payor, including private insurers;
- Section 216 of the PAMA, which requires applicable laboratories to report commercial payor data in a timely and accurate manner beginning in 2017 and every three years thereafter (and in some cases annually);
- state laws that impose reporting and other compliance-related requirements; and
- similar foreign laws and regulations that apply to us in the countries in which we operate.

In addition, in October 2018, EKRA was enacted as part of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act, or SUPPORT Act. EKRA is an all-payor anti-kickback law that makes it a criminal offense to pay any remuneration to induce referrals to, or in exchange for, patients using the services of a recovery home, a substance use clinical treatment facility, or laboratory. Although it appears that EKRA was intended to reach patient brokering and similar arrangements to induce patronage of substance use recovery and treatment, the language in EKRA is broadly written. Further, certain of EKRA's exceptions, such as the exception applicable to relationships with employees that effectively prohibits incentive compensation, are inconsistent with the federal anti-kickback statute and regulations, which permit payment of employee incentive compensation, a practice that is common in the industry. Significantly, EKRA permits the U.S. Department of Justice to issue regulations clarifying EKRA's exceptions or adding additional exceptions, but such regulations have not yet been issued. Laboratory industry stakeholders are reportedly seeking clarification regarding EKRA's scope and/or amendments to its language.

As a clinical laboratory, our business practices may face heightened scrutiny from government enforcement agencies such as the Department of Justice, the U.S. Department of Health and Human Services Office of Inspector General, or OIG, and CMS. The OIG has issued fraud alerts in recent years that identify certain arrangements between clinical laboratories and referring physicians as implicating the Anti-Kickback Statute. The OIG has stated that it is particularly concerned about these types of arrangements because the choice of laboratory, as well as the decision to order laboratory tests, typically are made or strongly influenced by the physician, with little or no input from the patient. Moreover, the provision of payments or other items of value by a clinical laboratory to a referral source could be prohibited under the federal self-referral prohibition, commonly known as the Stark Law or the Physician Self-Referral Law, unless the arrangement meets all criteria of an applicable exception. The government has actively enforced these laws against clinical laboratories in recent years.

These laws and regulations are complex and are subject to interpretation by the courts and by government agencies. Our failure to comply could lead to significant civil or criminal penalties, exclusion from participation in state and federal health care programs, individual imprisonment, disgorgement of profits, contractual damages, reputational harm, diminished profits and future earnings, additional reporting or oversight obligations if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with the law, curtailment or restructuring of our operations, or prohibitions or restrictions on our laboratories' ability to provide or receive payment for our services, any of which could adversely affect our ability to operate our business and pursue our strategy. We believe that we are in material compliance with all statutory and regulatory requirements, but there is a risk that one or more government agencies could take a contrary position, or that a private party could file suit under the qui tam provisions of the federal False Claims Act or a similar state law. Such occurrences, regardless of their outcome, could damage our reputation and adversely affect important business relationships with third parties, including managed care organizations, and other private third-party payors.

Numerous states have enacted laws prohibiting business corporations, such as us, from practicing medicine and other professions and from employing or engaging physicians and other professionals to practice medicine, generally referred to as the prohibition against the corporate practice of medicine and the professions, which could include physician laboratory directors. These laws are designed to prevent interference in the medical decision-making process by anyone who is not a licensed professional. For example, California's Medical Board has indicated that determining the appropriate diagnostic tests for a particular condition and taking responsibility for the ultimate overall care of a patient, including providing treatment options available to the patient, would constitute the unlicensed practice of medicine if performed by an unlicensed person. Violation of these corporate practice of medicine laws may result in civil or criminal fines, as well as sanctions imposed against the business corporation and/or the professional through licensure proceedings and criminal penalties.

The growth of our business and our expansion outside of the United States may increase the potential of violating similar foreign laws or our internal policies and procedures. The risk of us being found in violation of these or other laws and regulations is further increased by the fact that many have not been fully interpreted by the regulatory authorities or the courts, and their provisions are open to a variety of interpretations. Any action brought against us for violation of these or other laws or regulations, even if we successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. Any of the foregoing consequences could seriously harm our business and our financial results.

We must comply with complex and overlapping laws protecting the privacy and security of health information and personal data.

There are a number of state, federal and international laws protecting the privacy and security of health information and personal data. Under the administrative simplification provisions of HIPAA, HHS has issued regulations which establish uniform standards governing the conduct of certain electronic health care transactions and protecting the privacy and security of PHI used or disclosed by health care providers and other covered entities.

The privacy regulations regulate the use and disclosure of PHI by health care providers engaging in certain electronic transactions or "standard transactions." They also set forth certain rights that an individual has with respect to his or her PHI maintained by a covered health care provider, including the right to access or amend certain records containing PHI or to request restrictions on the use or disclosure of PHI. The HIPAA security regulations establish administrative, physical, and technical standards for maintaining the integrity and availability of PHI in electronic form. These standards apply to covered health care providers and also to "business associates" or third parties providing services involving the use or disclosure of PHI. The HIPAA privacy and security regulations establish a uniform federal "floor" and do not supersede state laws that are more stringent or provide individuals with greater rights with respect to the privacy or security of, and access to, their records containing PHI. As a result, we may be required to comply with both HIPAA privacy regulations and varying state privacy and security laws.

Moreover, HITECH, among other things, established certain health information security breach notification requirements. In the event of a breach of unsecured PHI, a covered entity must notify each individual whose PHI is breached, federal regulators and in some cases, must publicize the breach in local or national media. Breaches affecting 500 individuals or more are publicized by federal regulators who publicly identify the breaching entity, the circumstances of the breach and the number of individuals affected.

These laws contain significant fines and other penalties for wrongful use or disclosure of PHI. Given the complexity of HIPAA and HITECH and their overlap with state privacy and security laws, and the fact that these laws are rapidly evolving and are subject to changing and potentially conflicting interpretation, our ability to comply with the HIPAA, HITECH and state privacy requirements is uncertain and the costs of compliance are significant. Adding to the complexity is that our operations are evolving and the requirements of these laws will apply differently depending on such things as whether or not we bill electronically for our services, or provide services involving the use or disclosure of PHI and incur compliance obligations as a business associate. The costs of complying with any changes to the HIPAA, HITECH and state privacy restrictions may have a negative impact on our operations. Noncompliance could subject us to criminal penalties, civil sanctions and significant monetary penalties as well as reputational damage.

We also are required to collect and maintain personal information about our employees, and we collect information about customers as part of some of our marketing programs, as well as receive and transfer certain payment information, to accept payments from our customers, including credit card information. Most states have adopted laws requiring notification of affected individuals and state regulators in the event of a breach of personal information, which is a broader class of information than the health information protected by HIPAA. Many state laws impose significant data security requirements, such as encryption or mandatory contractual terms to ensure ongoing protection of personal information. Activities outside of the United States implicate local and national data protection standards, impose additional compliance requirements, and generate additional risks of enforcement for non-compliance. The collection and use of such information may be subject to contractual obligations as well. If the security and information systems that we or our outsourced third-party providers use to store or process such information are compromised or if we, or such third parties, otherwise fail to comply with these laws, regulations, and contractual obligations, we could face litigation and the imposition of penalties that could adversely affect our financial performance.

We must comply with all applicable privacy and data security laws in order to operate our business and may be required to expend significant capital and other resources to ensure ongoing compliance, to protect against security breaches and hackers or to alleviate problems caused by such breaches. Breaches of health information and/or personal data may be extremely expensive to remediate, may prompt federal or state investigation, fines, civil and/or criminal sanctions and significant reputational damage.

Our services present the potential for embezzlement, identity theft or other similar illegal behavior by our employees, consultants, service providers or commercial partners.

Our operations involve the use and disclosure of personal and business information that could be used to impersonate third parties or otherwise gain access to their data or funds. If any of our employees, consultants, service providers or commercial partners takes, converts or misuses these funds or data, we could be liable for any resulting damages, which could harm our financial condition and damage our business reputation.

Clinical research is heavily regulated and failure to comply with human subject protection regulations may disrupt our research program leading to significant expense, regulatory enforcement, private lawsuits, and reputational damage.

Clinical research is subject to federal, state, and, for studies conducted outside of the United States, international regulation. At the federal level, the Department of Health and Human Services imposes regulations for the protection of human subjects and requirements such as initial and ongoing institutional review board review, informed consent requirements, adverse event reporting and other protections to minimize the risk and maximize the benefit to research participants. Clinical studies done under an investigational device exemption for purposes of an anticipated FDA premarket submission are subject to an additional layer of human subject protection regulations. Many states also impose human subject protection laws that mirror or in some cases exceed federal requirements. HIPAA and other privacy laws also regulate the use and disclosure of PHI in connection with research activities. Research conducted overseas is subject to a variety of national protections such as mandatory ethics committee review, as well as laws regulating the use, disclosure and cross-border transfer of personal data. The costs of compliance with these laws may be significant and compliance with regulatory requirements may result in delay. Noncompliance may disrupt our research and result in data that is unacceptable to regulatory authorities, data lock, or other sanctions that may significantly disrupt our operations.

Violation of a state's prohibition on the corporate practice of medicine could result in a material adverse effect on our business, financial condition, results of operation and cash flows.

A number of states, including California, do not allow business corporations, such as us, to employ physicians to provide professional services. This prohibition against the "corporate practice of medicine" is aimed at preventing corporations such as us from exercising control over the medical judgments or decisions of physicians. The state licensure statutes and regulations and agency and court decisions that enumerate the specific corporate practice rules vary considerably from state to state and are enforced by both the courts and regulatory authorities, each with broad discretion. If regulatory authorities or other parties in any jurisdiction successfully assert that we are engaged in the unauthorized corporate practice of medicine, we could be required to restructure our contractual and other arrangements. In addition, violation of these laws may result in sanctions imposed against us and/or the professional through licensure proceedings, and we could be subject to civil and criminal penalties that could result in exclusion from state and federal health care programs.

We could be adversely affected by alleged violations of the Federal Trade Commission Act or other truth-in-advertising and consumer protection laws.

Our advertising for laboratory services and tests is subject to federal truth-in-advertising laws enforced by the Federal Trade Commission, or FTC, as well as comparable state consumer protection laws. Under the Federal Trade Commission Act, the FTC is empowered, among other things, to (a) prevent unfair methods of competition and unfair or deceptive acts or practices in or

affecting commerce; (b) seek monetary redress and other relief for conduct injurious to consumers; and (c) gather and compile information and conduct investigations relating to the organization, business, practices, and management of entities engaged in commerce. The FTC has very broad enforcement authority, and failure to abide by the substantive requirements of the FTC Act and other consumer protection laws can result in administrative or judicial penalties, including civil penalties, injunctions affecting the manner in which we would be able to market services or products in the future, or criminal prosecution. Our direct-to-consumer advertising and social media presence, as well as our physician-directed advertising, are subject to these federal and state truth-in-advertising laws. Any actual or perceived non-compliance with those laws could lead to an investigation by the FTC or a comparable state agency, or could lead to allegations of misleading advertising by private plaintiffs. Any such action against us would disrupt our business operations, cause damage to our reputation, and result in a material adverse effects on our business, financial condition, results of operation, and cash flows.

Medical product manufacturers' use of social media platforms presents new risks.

We believe that our customer base and potential patient populations are active on social media and intend to engage through those platforms to elevate our national marketing presence. Social media practices in the pharmaceutical, biotechnology and medical device industries are evolving, which creates uncertainty and risk of noncompliance with regulations applicable to our business. For example, patients may use social media platforms to comment on the effectiveness of, or adverse experiences with, one of our products, which could result in reporting obligations or the need for us to conduct an investigation. In addition, there is a risk of inappropriate disclosure of sensitive information or negative or inaccurate posts or comments about us or our products on any social networking website. If any of these events were to occur or we otherwise fail to comply with any applicable regulations, we could incur liability, face restrictive regulatory actions or incur other harm to our business.

Intellectual Property Risks Related to Our Business

Our collaborators may assert ownership or commercial rights to inventions we develop from our use of the biological materials which they provide to us, or otherwise arising from the collaboration.

We collaborate with several institutions, physicians, and researchers in scientific matters. Also, we rely on numerous third parties to provide us with adhesive patch samples and biological materials that we use to develop tests. If we cannot successfully negotiate sufficient ownership, licensing, and/or commercial rights to any inventions that result from our use of a third-party collaborator's materials, or if disputes arise with respect to the intellectual property developed with the use of a collaborator's samples, or data developed in a collaborator's study, our ability to capitalize on the market potential of these inventions or developments may be limited or precluded altogether.

If we are unable to maintain intellectual property protection, our competitive position could be harmed.

Our ability to protect our discoveries and technologies affects our ability to compete and to achieve profitability. Currently, we rely on a combination of U.S. and foreign patents and patent applications, copyrights, trademarks and trademark applications, confidentiality or non-disclosure agreements, material transfer agreements, licenses, consulting agreements, work-for-hire agreements, and invention assignment agreements to protect our intellectual property rights. We also maintain certain company know-how, trade secrets, and technological innovations designed to provide us with a competitive advantage in the marketplace as trade secrets. Currently, we own five issued U.S. patents, seven pending U.S. patent applications (two provisional and five non-provisional), several corresponding foreign counterpart patents and applications, and four PCT applications, relevant to our testing methodology and expression profiles. While we intend to pursue additional patent applications, it is possible that our pending patent applications and any future applications may not result in issued patents. Even if patents are issued, third parties may independently develop similar or competing technology that avoids our patents. Further, we cannot be certain that the steps we have taken will prevent the misappropriation of our trade secrets and other confidential information as well as the misuse of our patents and other intellectual property, particularly in foreign countries where we have not filed for patent protection.

From time-to-time the U.S. Supreme Court, other federal courts, the USPTO, may change the standards of patentability and any such changes could have a negative impact on our business. For instance, in 2008, the Court of Appeals for the Federal Circuit issued a decision that methods or processes cannot be patented unless they are tied to a machine or involve a physical transformation. The U.S. Supreme Court later reversed that decision in *Bilski v. Kappos*, finding that the "machine-or-transformation" test is not the only test for determining patent eligibility. The Court, however, declined to specify how and when processes are patentable. In 2012, in the case *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, the U.S. Supreme Court reversed the Federal Circuit's application of *Bilski* and invalidated a patent focused on a diagnostic process because the patent claim embodied a law of nature.

In 2013, in *Association for Molecular Pathology v. Myriad Genetics*, the Supreme Court unanimously ruled that, "[a] naturally occurring DNA segment is a product of nature and not patent eligible merely because it has been isolated," thereby invalidating Myriad Genetics' patents on the BRCA1 and BRCA2 breast cancer genes. However, the Supreme Court also held that

manipulation of a gene to create something not found in nature, such as a strand of synthetically-produced complementary DNA, or cDNA, could still be eligible for patent protection. The Supreme Court noted that method patents, which concern technical procedures for carrying out a certain process, are not affected by the ruling.

More recently, the Federal Circuit has ruled on several patent cases—such as *Univ. of Utah Research Found. v. Ambry Genetics Corp.*, 774 F.3d 755 (Fed. Cir. 2014), *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (Fed. Cir. 2015), *Genetic Tech. Ltd. v. Merial LLC*, 818 F.3d 1369 (Fed. Cir. 2016), and *Cleveland Clinic Found. v. True Health Diagnostics*, 859 F.3d 1352 (Fed. Cir. 2017)—that some diagnostic method claims are patent ineligible. These decisions have narrowed the scope of patent protection available in certain circumstances or weakened the rights of patent owners in certain situations. Some aspects of our technology involve processes that may be subject to this evolving standard and we cannot guarantee that any of our pending process claims will be patentable as a result of such evolving standards. In addition, this combination of decisions has created uncertainty as to the value of certain issued patents, in particular patents in the molecular biology analysis and diagnostic space. Moreover, there is additional uncertainty around the evolving standard in light of the USPTO Revised Patent Subject Matter Eligibility Guidance issued in Jan. 2019.

It should also be noted that in 2010, the Secretary's Advisory Committee on Genetics, Health and Society voted to approve a report entitled "*Gene Patents and Licensing Practices and Their Impact on Patient Access to Genetic Tests*." That report defines "patent claims on genes" broadly to include claims to isolated nucleic acid molecules as well as methods of detecting particular sequences or mutations. The report also contains six recommendations, including the creation of an exemption from liability for infringement of patent claims on genes for anyone making, using, ordering, offering for sale, or selling a test developed under the patent for patient care purposes, or for anyone using the patent-protected genes in the pursuit of research. The report also recommended that HHS should explore, identify, and implement mechanisms that will encourage more voluntary adherence to current guidelines that promote nonexclusive in-licensing of diagnostic genetic and genomic technologies. It is unclear whether HHS will act upon these recommendations, or if the recommendations would result in a change in law or process that could negatively impact our patent portfolio or future R&D. If acted upon, implementation of such provisions could have a material negative impact on our business.

We may face intellectual property infringement claims that could be time-consuming and costly to defend, and could result in the loss of significant rights, the implementation of an injunction, and the assessment of treble damages.

From time-to-time we may face intellectual property infringement or misappropriation claims from third parties. Some of these claims may lead to litigation. The outcome of any such litigation can never be guaranteed, and an adverse outcome could affect us negatively. For example, were a third party to succeed on an infringement claim against us, we may be required to pay substantial damages, including treble damages if such infringement were found to be willful. In addition, we could face an injunction barring us from conducting the allegedly infringing activity, including an order preventing us from offering our current tests and future planned tests in the marketplace. The outcome of the litigation could require us to enter into a license agreement which may not be pursuant to acceptable or commercially reasonable or practical terms or which may not be available at all.

It is also possible that an adverse finding of infringement against us may require us to dedicate substantial resources and time in developing non-infringing alternatives, which may or may not be possible. In the case of diagnostic tests, we would also need to include non-infringing technologies, which would require us to re-validate the test. Any such re-validation, in addition to being costly and time-consuming, may be unsuccessful. Finally, we may initiate claims to assert or defend our own intellectual property against third parties. Any intellectual property litigation, irrespective of whether we are the plaintiff or the defendant, and regardless of the outcome, is expensive and time-consuming, and could divert and distract our management's attention from our business and negatively affect our operating results or financial condition.

Tax Risks Related to Our Business

Our ability to use our net operating losses to offset future taxable income may be subject to certain limitations.

Our net operating loss, or NOL, carryforwards, may be unavailable to offset future taxable income because of restrictions under U.S. tax law. Our NOLs generated in tax years ending on or prior to December 31, 2017 are only permitted to be carried forward for 20 taxable years under applicable U.S. federal tax law, and therefore could expire unused. Under tax legislation commonly referred to as the Tax Cuts and Jobs Act, or TCJA, as modified by the Coronavirus Aid, Relief, and Economic Security Act, or CARES Act, our federal NOLs generated in tax years ending after December 31, 2017 may be carried forward indefinitely and NOLs arising in taxable years beginning after December 31, 2017 and before January 1, 2021 may be carried back to each of the five taxable years preceding the tax year of such loss, but NOLs arising in taxable years beginning after December 31, 2020 may not be carried back. In addition, under the TCJA, as modified by the CARES Act, for taxable years beginning after December 31, 2020, the deductibility of federal NOLs generated in taxable years beginning after December 31, 2017 is limited to 80% of current year taxable income. It is uncertain if and to what extent various states will conform to the TCJA, as modified by the Cares Act.

In addition, under Section 382 of the Internal Revenue Code of 1986, as amended, or the IRC, a corporation that undergoes an "ownership change" is subject to limitations on its ability to utilize its carryforwards to offset future taxable income. Our existing NOLs may be subject to limitations arising from previous ownership changes, and if we underwent an ownership change in connection with or after the Business Combination, our ability to utilize NOLs could be further limited by Section 382 of the IRC. Future changes in our stock ownership, some of which are outside of our control, could result in an ownership change under Section 382 of the IRC. There is also a risk that due to regulatory changes, such as suspensions on the use of NOLs, or other unforeseen reasons, our existing and any future NOLs could expire or otherwise be unavailable to offset future income tax liabilities. We have not conducted a study to assess whether an ownership change has occurred or whether there have been multiple ownership changes since inception due to the significant complexity and cost associated with such a study.

U.S. federal income tax reform could adversely affect our business and financial condition.

On December 22, 2017, President Trump signed into law the TCJA that significantly reforms the IRC. The TCJA, among other things, contains significant changes to corporate taxation, including reduction of the corporate tax rate from a top marginal rate of 35% to a flat rate of 21%, limitation on the deductibility of interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for NOLs generated in taxable years beginning after December 31, 2017 to 80% of current year taxable income, elimination of NOL carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, reduction or elimination of U.S. tax on foreign earnings (subject to certain important exceptions), immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits. The CARES Act modifies certain provisions of the TCJA. Under the CARES Act, NOLs arising in taxable years beginning after December 31, 2017 and before January 1, 2021 may be carried back to each of the five taxable years preceding the tax year of such loss, but NOLs arising in taxable years beginning after December 31, 2020 may not be carried back. In addition, the CARES Act eliminates the limitation on the deduction of NOLs to 80% of current year taxable income for taxable years beginning before January 1, 2021, and increases the amount of interest expense that may be deducted to 50% of adjusted taxable income for taxable years beginning in 2019 or 2020. Notwithstanding the reduction in the corporate income tax rate, the overall impact of the TCJA, as modified by the CARES Act, is uncertain and our business and our financial condition could be adversely affected. In addition, it is uncertain if and to what extent various states will conform to the TCJA, as modified by the CARES Act. The impact of the TCJA, as modified by the CARES Act, on holders of our common stock is also uncertain and could be adverse. You are urged to consult with your legal and tax advisors with respect to such legislation and the potential tax consequences of investing in our common stock.

Risks Related to Our Securities

There is no assurance that we will continue satisfying the listing requirements of the Nasdaq Capital Market.

Our common stock is listed on the Nasdaq Capital Market. To maintain our listing we are required to satisfy continued listing requirements. There can be no assurance we will continue satisfying such continued listing requirements, which include that the closing bid price of our common stock be at least $1 per share, that we have at least 300 round lot holders and at least 500,000 publicly held shares, that the market value of our publicly held securities be at least $1 million, and that we meet one of these standards: stockholders' equity of at least $2.5 million; market value of listed securities of at least $35 million; or net income from continuing operations of $500,000 in the most recently completed fiscal year or in two of the three most recently completed fiscal years. The delisting of our common stock for whatever reason could, among other things, substantially impair our ability to raise additional capital; result in the loss of interest from institutional investors, the loss of confidence in our company by investors and employees, and in fewer financing, strategic and business development opportunities; and result in potential breaches of agreements under which we made representations or covenants relating to our compliance with applicable listing requirements. Claims related to any such breaches, with or without merit, could result in costly litigation, significant liabilities and diversion of our management's time and attention and could have a material adverse effect on our financial condition, business and results of operations. In addition, the delisting of our common stock for whatever reason may materially impair our stockholders' ability to buy and sell shares of our common stock and could have an adverse effect on the market price of, and the efficiency of the trading market for, our common stock.

We are an emerging growth company, and a smaller reporting company, and the reduced disclosure requirements applicable to emerging growth companies and smaller reporting companies may make our securities less attractive to investors.

We are an emerging growth company, under the Jumpstart Our Business Startups Act and a smaller reporting company under SEC regulations. For so long as we remain an emerging growth company or smaller reporting company, we will be permitted to and intend to rely on exemptions from certain disclosure requirements applicable to other public companies that are not emerging growth companies or smaller reporting companies. These exemptions include:

- for so long as we are an emerging growth company, not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;
- not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the consolidated financial statements;
- reduced disclosure obligations regarding executive compensation; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved for so long as we are an emerging growth company.

We may choose to take advantage of some, but not all, of the available exemptions. Emerging growth companies may take advantage of an extended transition period for complying with new or revised accounting standards, allowing emerging growth companies to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies.

We will continue to be an emerging growth company until the earliest to occur of (i) the last day of the fiscal year during which we had total annual gross revenues of at least $1.07 billion, (ii) the day we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeds $700 million, measured as of our most recently completed second fiscal quarter, (iii) the date on which we have issued more than $1.0 billion in non-convertible debt during the prior three-year period, and (iv) December 31, 2022. In addition, we are eligible to remain a smaller reporting company for so long as we have a public float (based on our common equity) of less than $250 million measured as of the last business day of our most recently completed second fiscal quarter or, a public float (based on our common equity) of less than $700 million as of this date and annual revenues of less than $100 million during the most recently completed fiscal year.

We cannot predict whether investors will find our securities less attractive if we rely on these exemptions. If some investors find our securities less attractive as a result, there may be a less active trading market for our securities and the price of our securities price may be more volatile.

Future issuances of equity securities may dilute the interests of our security holders and reduce the price of our securities.

Any future issuance of our equity securities could dilute the interests of our then existing security holders and could substantially decrease the trading price of our securities. We may issue equity or equity-linked securities for a number of reasons, including to finance our operations and business strategy, to adjust our ratio of debt to equity, to satisfy our obligations upon the exercise of then-outstanding options or other equity-linked securities, if any, or for other reasons.

We may amend the terms of our publicly traded warrants currently trading on the Pink Market under the ticker symbol "DMTKW," or the publicly traded warrants, in a manner that may be adverse to holders with the approval by the holders of a majority of the then outstanding publicly traded warrants. As a result, the exercise price of the publicly traded warrants could be increased, the exercise period could be shortened and the number of shares purchasable upon exercise of a publicly traded warrant could be decreased, all without your approval.

Our publicly traded warrants are subject to the Warrant Agreement. The Warrant Agreement provides that the terms of the publicly traded warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but requires the approval by the holders of a majority of the then outstanding publicly traded warrants to make any change that adversely affects the interests of the registered holders. Accordingly, we may amend the terms of the publicly traded warrants in a manner adverse to a holder if holders of a majority of the then outstanding publicly traded warrants approve of such amendment. Although our ability to amend the terms of the publicly traded warrants with the consent of a majority of the then outstanding publicly traded warrants is unlimited, examples of such amendments could be amendments to, among other things, increase the exercise price of the publicly traded warrants, shorten the exercise period or decrease the number of shares of common stock purchasable upon exercise of the publicly traded warrants.

We may redeem your unexpired publicly traded warrants prior to their exercise at a time that is disadvantageous to you, thereby making your publicly traded warrants worthless.

We will have the ability to redeem our outstanding publicly traded warrants at any time after they become exercisable and prior to their expiration, at a price of $0.01 per warrant, provided that the last reported sales price of our common stock equals or exceeds $36.00 per share for any 20 trading days within a 30-trading day period ending on the third trading day prior to the date we give notice of redemption. If and when the publicly traded warrants become redeemable by us, we may exercise our redemption right even if we are unable to register or qualify the underlying securities for sale under all applicable state securities laws. Redemption of the outstanding publicly traded warrants could force you (i) to exercise your publicly traded warrants and pay the exercise price therefor at a time when it may be disadvantageous for you to do so, (ii) to sell your publicly traded warrants at the then-current market price when you might otherwise wish to hold your publicly traded warrants or (iii) to accept the nominal redemption price which, at the time the outstanding publicly traded warrants are called for redemption, is likely to be substantially less than the market value of your publicly traded warrants.

Because we have no current plans to pay cash dividends on our shares for the foreseeable future, you may not receive any return on investment unless you sell your shares for a price greater than that which you paid for it.

We may retain future earnings, if any, for future operations, expansion and debt repayment and have no current plans to pay any cash dividends for the foreseeable future. Any decision to declare and pay dividends as a public company in the future will be made at the discretion of our board of directors and will depend on, among other things, our results of operations, financial condition, cash requirements, contractual restrictions and other factors that our board of directors may deem relevant. In addition, our ability to pay dividends may be limited by covenants of any existing and future outstanding indebtedness we or our subsidiaries incur. As a result, you may not receive any return on an investment in our shares unless you sell your shares of the Company for a price greater than that which you paid for them.

If securities or industry analysts do not publish or cease publishing research or reports about us, our business, or our market, or if they change their recommendations regarding our securities adversely, the price and trading volume of our securities could decline.

The trading market for our securities will be influenced by the research and reports that industry or securities analysts may publish about us, our business, market or competitors. If no securities or industry analysts publish reports about us, our share price and trading volume would likely be negatively impacted. If any of the analysts who may cover us change their recommendation regarding our shares of common stock adversely, or provide more favorable relative recommendations about our competitors, the price of our shares of common stock would likely decline. If any analyst who may cover us were to cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause our share price or trading volume to decline.

Provisions of our charter documents or Delaware law could delay or prevent an acquisition of us, even if the acquisition would be beneficial to our stockholders, and could make it more difficult for you to change our management.

Provisions in our Amended and Restated Certificate of Incorporation and our bylaws may discourage, delay or prevent a merger, acquisition or other change in control that our stockholders may consider favorable, including transactions in which our stockholders might otherwise receive a premium for their shares. In addition, these provisions may frustrate or prevent any attempt by our stockholders to replace or remove our current management by making it more difficult to replace or remove our board of directors. These provisions include:

- a classified board of directors so that not all directors are elected at one time;
- a prohibition on stockholder action through written consent;
- no cumulative voting in the election of directors;
- the exclusive right of our board of directors to elect a director to fill a vacancy however created, whether by the expansion of our board of directors, the resignation, death or removal of a director, or otherwise;
- a requirement that special meetings of our stockholders be called only by our board of directors, the chairman of our board of directors, the chief executive officer or, in the absence of a chief executive officer, the president;
- an advance notice requirement for stockholder proposals and nominations;

- the authority of our board of directors to issue preferred stock with such terms as our board of directors may determine; and
- a requirement of approval of at least 75% of all outstanding shares of our capital stock entitled to vote to amend any bylaws by stockholder action, or to amend specific provisions of our certificate of incorporation.

In addition, Delaware law prohibits a publicly held Delaware corporation from engaging in a business combination with an interested stockholder, generally a person who, together with his, her or its affiliates, owns or within the last three years has owned 15% or more of the company's voting stock, for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. Accordingly, Delaware law may discourage delay or prevent a change in control of the Company.

In addition, our Amended and Restated Certificate of Incorporation, to the fullest extent permitted by law, provides that the Court of Chancery of the State of Delaware will be the exclusive forum, or the Delaware Chancery forum provision, for: any derivative action or proceeding brought on our behalf; any action or proceeding asserting a breach of fiduciary duty owed to us, our stockholders, or any of our current or former directors, officers or other employees; any action or proceeding asserting a claim against us or any of our current or former directors, officers or other employees, arising out of or pursuant to the Delaware General Corporation Law, our Amended and Restated Certificate of Incorporation, or our bylaws; any action or proceeding to interpret apply, enforce or determine the validity of our Amended and Restated Certificate of Incorporation or our Bylaws; any action or proceeding as to which the Delaware General Corporation Law confers jurisdiction to the Court of Chancery of the State of Delaware; or any action asserting a claim against us that is governed by the internal affairs doctrine. This exclusive forum provision does not apply to suits brought to enforce a duty or liability created by the Securities Act of 1933, as amended, or the Securities Act, the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any claim for which the federal courts have exclusive jurisdiction.

The Delaware Chancery forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, or other employees, which may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the exclusive forum provisions contained in our Amended and Restated Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations and financial condition.

Further, on March 18, 2020, the Delaware Supreme Court ruled that provisions of a Delaware corporation's certificate of incorporation that designate a federal forum for securities claims brought pursuant to the Securities Act, or federal forum provisions, are valid and enforceable under Delaware law, or the March 2020 Ruling. Consistent with the March 2020 Ruling, on April 12, 2020, our board of directors approved a Certificate of Amendment to the Amended and Restated Certificate of Incorporation, or the 2020 Certificate of Amendment, which was submitted to our stockholders for their approval at our upcoming 2020 annual meeting of stockholders. If the 2020 Certificate of Amendment is approved by our stockholders, we will file the 2020 Certificate of Amendment with the Delaware Secretary of State to add a federal forum provision to our Amended and Restated Certificate of Incorporation which provides that, unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall, to the fullest extent permitted by law, be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. Various U.S. Supreme Court cases offer support for the argument that federal forum provisions do not violate federal policy. However, the March 2020 Ruling applies only to claims brought in Delaware state courts, and it is not binding on any other state court or the federal courts. Therefore, we are unable to predict whether a state court in any other state or a federal court would enforce a federal forum provision such as the one set forth in the 2020 Certificate of Amendment.

We proposed adoption of the 2020 Certificate of Amendment to reduce the costs and inefficiencies to the Company that would result from a Securities Act claim being litigated in both state and federal courts, which is permissible under our Amended and Restated Certificate of Incorporation. Such simultaneous state and federal litigation could also result in inconsistent judgments and rulings, and adopting the 2020 Certificate of Amendment could reduce this risk. However, the federal forum provision set forth in the 2020 Certificate of Amendment may discourage Securities Act claims or limit a stockholder's ability to submit claims in a judicial forum that the stockholder finds favorable, and may result in additional costs for a stockholder seeking to bring such a claim.

Provisions in our charter and other provisions of Delaware law could limit the price that investors are willing to pay in the future for shares of our common stock.

We expect the price of our common stock may be volatile and may fluctuate substantially.

The stock market in general and the market for life sciences companies in particular, have experienced extreme volatility that has often been unrelated to companies' operating performance. In addition, the stock market in general has recently experienced

relatively large price and volume fluctuations in response to the COVID-19 pandemic. The market price for our common stock may be influenced by many factors, including:

- the results of our efforts to develop and commercialize our tests;
- actual or anticipated results from, and any delays in, any future clinical trials, as well as results of regulatory reviews relating to the approval of any test candidates we may choose to develop that require such approval;
- commencement or termination of any collaboration or licensing arrangement;
- disputes or other developments relating to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technology;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures and capital commitments;
- additions or departures of key scientific or management personnel;
- variations in our financial results or those of companies that are perceived to be similar to us;
- new products, product candidates or new uses for existing products introduced or announced by our competitors, and the timing of these introductions or announcements;
- results of clinical trials of product candidates of our competitors;
- general economic and market conditions and other factors that may be unrelated to our operating performance or the operating performance of our competitors, including changes in market valuations of similar companies;
- regulatory or legal developments in the United States and other countries;
- changes in the structure of healthcare payment systems;
- conditions or trends in the life sciences industry;
- actual or anticipated changes in earnings estimates, development timelines or recommendations by securities analysts;
- announcement or expectation of additional financing efforts;
- sales of common stock by us or our stockholders in the future, as well as the overall trading volume of our common stock; and
- other factors described in this “Risk Factors” section.

In the past, following periods of volatility in companies’ stock prices, securities class-action litigation has often been instituted against such companies. Such litigation, if instituted against us, could result in substantial costs and diversion of management’s attention and resources, which could materially and adversely affect our business and financial condition.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements regarding our business, financial condition, results of operations and prospects. Words such as, but not limited to "anticipate," "aim," "believe," "contemplate," "continue," "could," "design," "estimate," "expect," "intend," "may," "might," "plan," "possible," "potential," "predict," "pro forma," "project," "seek," "should," "suggest," "strategy," "target," "will," "would," and similar expressions or variations thereof are intended to identify forward-looking statements, but are not deemed to represent an all-inclusive means of identifying forward-looking statements as denoted in this prospectus. Additionally, statements concerning future matters are forward-looking statements. These statements include, among other things, statements regarding:

- our ability to attain profitability;
- our ability to continue as a going concern;
- our estimates regarding our future performance, including without limitation estimates of potential future revenues;
- our ability to obtain third-party payer reimbursement for our tests;
- our ability to efficiently bill for and collect revenue resulting from our tests;
- our need to raise additional capital to fund our operations, commercialize our products, and expand our operations;
- our ability to market and sell our tests to physicians and other clinical practitioners;
- our reliance on our new telemedicine option for the PLA due to the COVID-19 pandemic, including with respect to its adoption by physicians and patients, its permissibility under state laws and the availability of reimbursement from government and third-party payors;
- our ability to continue to develop our existing tests and develop and commercialize additional novel tests;
- our dependence on third parties for the manufacture of our products;
- our ability to meet market demand for our current and planned future tests;
- our reliance on our sole laboratory facility and the harm that may result if this facility became damaged or inoperable;
- our ability to compete with our competitors and their competing products;
- the importance of our executive management team;
- our ability to retain and recruit key personnel;
- our dependence on third parties for the supply of our laboratory substances, equipment and other materials;
- the potential for us to incur substantial costs resulting from product liability lawsuits against us and the potential for these lawsuits to cause us to suspend sales of our products;
- the possibility that a third party may claim we have infringed or misappropriated our intellectual property rights and that we may incur substantial costs and be required to devote substantial time defending against these claims;
- the potential consequences of our expanding our operations internationally;
- our ability to continue to comply with applicable privacy laws and protect confidential information from breaches;
- how changes in federal health care policy could increase our costs, decrease our revenues and impact sales of and reimbursement for our tests;
- our ability to continue to comply with federal and local laws concerning our business and operations and the consequences resulting from our failure to comply with such laws;
- the possibility that we may be required to conduct additional clinical studies or trials for our tests and the consequences resulting from the delay in obtaining necessary regulatory approvals;
- the harm resulting from the potential loss, suspension, or other restriction on one or more of our licenses, certifications or accreditations, or the imposition of a fine or penalty on us under federal, state, or foreign laws;
- our ability to maintain our intellectual property protection;
- how recent and potential future changes in tax policy could negatively impact our business and financial condition;
- how recent and potential future changes in healthcare policy could negatively impact our business and financial condition;

- our ability to maintain Nasdaq listing;
- our ability to manage the increased expenses and administrative burdens as a public company; and
- the effects of a sale of our Common Stock on the price of our securities.

Although forward-looking statements in this prospectus reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and actual results and outcomes may differ materially from the results and outcomes discussed in or anticipated by the forward-looking statements. Factors that could cause or contribute to such differences in results and outcomes include, without limitation, those specifically addressed under the heading "Risk Factors" above, as well as those discussed elsewhere in this prospectus. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus. We file reports with the Securities and Exchange Commission, or the SEC, and our electronic filings with the SEC (including our Annual Reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and any amendments to these reports) are available free of charge on the SEC's website at http://www.sec.gov.

We undertake no obligation to revise or update any forward-looking statements in order to reflect any event or circumstance that may arise after the date of this prospectus, except as required by law. Readers are urged to carefully review and consider the various disclosures made throughout the entirety of this prospectus, which are designed to advise interested parties of the risks and factors that may affect our business, financial condition, results of operations and prospects.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of securities by the selling securityholders pursuant to this prospectus. We may receive up to approximately $4,003,916 in aggregate gross proceeds from the exercise of the Warrants, if the Warrants are exercised for cash (and, as applicable, not a cashless basis), based on the per share exercise price of the Warrants. Any proceeds we receive from the exercise of the Warrants will be used for working capital and general corporate purposes.

MARKET INFORMATION FOR OUR COMMON STOCK

Our common stock is listed on the Nasdaq Capital Market under the symbol "DMTK." As of May 1, 2020, we had 467 holders of record of our common stock, based on information provided by our transfer agent.

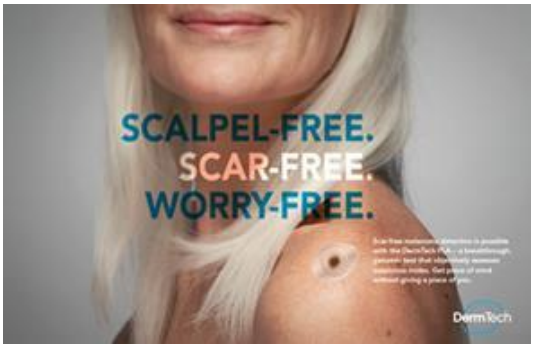
BUSINESS

Unless specifically noted otherwise, as used throughout this Business section, "we," "our," or "us" refers to the business, operations and financial results of DermTech Operations prior to, and the Company and its subsidiaries subsequent to, the completion of the Business Combination as the context requires. "Constellation" refers to the Company prior to the completion of the Business Combination.

Business Overview

We are an emerging growth molecular diagnostic company developing and marketing novel non-invasive genomics tests to aid in the diagnosis of various skin conditions, including skin cancer, inflammatory diseases, and aging-related conditions. Our technology provides a highly accurate alternative to surgical biopsy, minimizing patient discomfort, scarring, and risk of infection, while maximizing convenience. Our scalable genomics assays have been designed to work with a proprietary "adhesive patch skin sampling kit" that provides a tissue sample for analysis non-invasively.

We are initially commercializing tests that will address unmet needs in the diagnostic pathway of pigmented skin lesions, such as moles or dark colored skin spots. Our current products facilitate the clinical assessment of pigmented skin lesions for melanoma. We have initially marketed this test directly to a concentrated group of dermatologists. The simple application of the adhesives patches to collect a sample may allow us to eventually market the test to primary care physicians and expand our efforts through telemedicine channels. We process our tests in a high complexity molecular laboratory that is Clinical Laboratory Improvement Amendments of 1988, or CLIA, certified. We also provide laboratory services to large pharmaceutical companies on a contract basis for their use in their clinical trials for new drugs. We have a history of net losses since our inception.



Business Combination, Reverse Split and Domestication

On August 29, 2019, the Company, formerly known as Constellation Alpha Capital Corp., or Constellation, and DermTech Operations, Inc., formerly known as DermTech, Inc., or DermTech Operations, consummated the transactions contemplated by the Agreement and Plan of Merger, dated as of May 29, 2019, by and among the Company, DT Merger Sub, Inc., or Merger Sub, and DermTech Operations. We refer to this agreement, as amended by that certain First Amendment to Agreement and Plan of Merger dated as of August 1, 2019, as the Merger Agreement. Pursuant to the Merger Agreement, Merger Sub merged with and into DermTech Operations, with DermTech Operations surviving as our wholly owned subsidiary. We refer to this transaction as the Business Combination. In connection with and two days prior to the completion of the Business Combination, Constellation re-domiciled out of the British Virgin Islands and continued as a company incorporated in the State of Delaware.

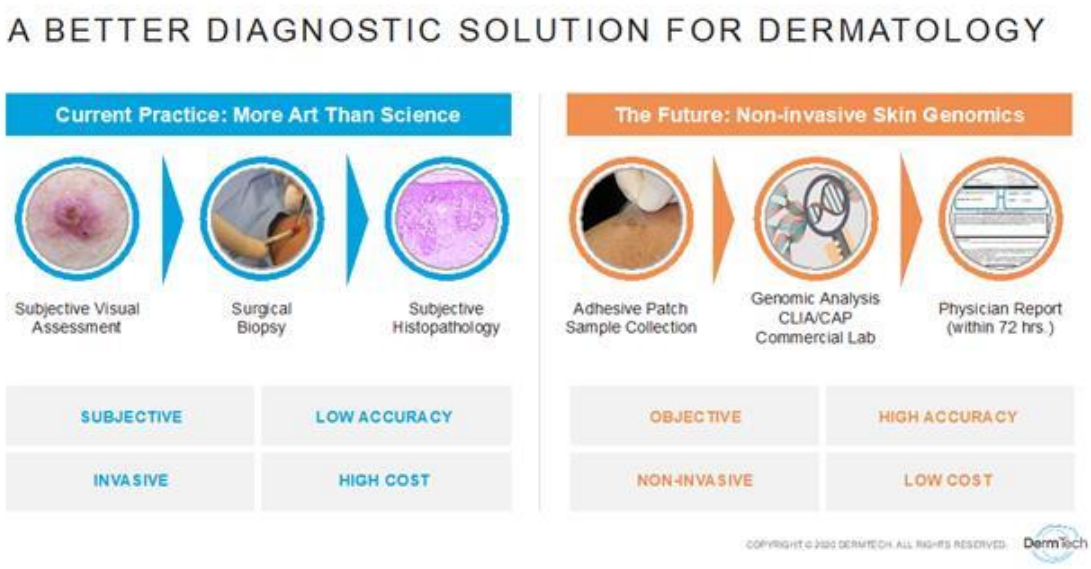
On August 29, 2019, immediately following the completion of the Business Combination, we amended and restated our certificate of incorporation, or the Amended and Restated Certificate of Incorporation, to change the name of the Company to DermTech, Inc. Prior to the completion of the Business Combination, the Company was a shell company. Following the Business Combination, the business of DermTech Operations is the business of the Company.

On August 29, 2019, in connection with and immediately following the completion of the Business Combination, we filed a certificate of amendment, or the Certificate of Amendment, to the Amended and Restated Certificate of Incorporation to effect a one-for-two reverse stock split of our common stock on August 29, 2019, or the Reverse Stock Split. As a result of the Reverse Stock Split, the number of issued and outstanding shares of our common stock immediately prior to the Reverse Stock Split was reduced into a smaller number of shares, such that every two shares of our common stock held by a stockholder immediately prior to the Reverse Stock Split were combined and reclassified into one share of our common stock.

Our Business

We are an emerging growth molecular diagnostic company developing and marketing novel non-invasive genomics tests that seek to transform the practice of dermatology and related fields. Our platform may change the diagnostic paradigm in dermatology from one that is subjective, invasive, less accurate and higher-cost, to one that is objective, non-invasive, more accurate and lower-cost. Our initial focus is skin cancer. We currently offer a test for the enhanced early detection of melanoma and are developing a product for non-melanoma skin cancer. We are also working on a product to assess skin cancer risk. Our scalable genomics platform has been designed to work with a proprietary adhesive patch sample collection kit that provides a skin sample collected easily and non-invasively, in contrast to the existing standard of care of using a scalpel to biopsy suspicious lesions. We also provide our services and technology platform on a contract basis to large pharmaceutical companies who use the technology in their clinical trials to test for the existence of genetic targets of various diseases and to measure the response of new drugs under development. We process our tests in a CLIA certified and College of American Pathologists accredited commercial laboratory located in La Jolla, California that is licensed by the State of California and all states requiring out-of-state licensure. As described below, our technology platform is easy to use and integrates seamlessly into the current clinical diagnostic pathway by providing (i) simple and rapid tissue collection and shipping via standard express mail, (ii) sample processing via quantitative polymerase chain reaction, or qPCR, or other technologies and (iii) physician reporting within 48 to 72 hours. In addition, physicians can bill for their services using existing Current Procedural Technology, or CPT, codes.

Dermatology is one of the largest medical markets in the United States. The skin cancer segment alone has over 15 million surgical diagnostic procedures performed each year in the United States, with an average annual spend of $8.1 billion from 2007 to 2011, according to the American Academy of Dermatology, or AAD. Current dermatologic diagnosis is primarily based on subjective visual assessments and subsequent surgical diagnostic procedures. This legacy paradigm is prone to error and results in a substantial number of unnecessary and invasive surgical procedures. Our platform provides a non-invasive alternative that minimizes patient discomfort, scarring, and risk of infection. Further, because our testing results utilize genomic analysis, we provide more accurate, objective diagnostic information than the currently prevailing diagnosis procedures. As described below, our first product, the Pigmented Lesion Assay (PLA™) has been demonstrated in a recent publication in JAMA Dermatology to lower the cost to diagnose melanoma while providing a more accurate and less invasive alternative to current methods.



The general genomic testing market is highly saturated with other genomic diagnostic tests and are primarily marketed to pathology and oncology specialists. We are the first company to offer non-invasive genomic tests to the clinical dermatology market. We believe our technology platform will transform the practice of dermatology and will expand the base of clinicians that can practice high quality dermatology (e.g., primary care clinicians). As healthcare delivery diverges to more convenient delivery models, such as pharmacy-based/retail clinics and telemedicine, we believe our platform will facilitate the migration of dermatologic care to these alternative models. We believe our platform may allow for expanded consumer-based sample collection shipped directly to our laboratory, positively impacting the ease of use and convenience of providing dermatologic care.

Our PLA assesses pigmented skin lesions, moles or dark skin spots for melanoma and enhances early detection. Of the approximate 4.0 million surgical biopsies performed each year on pigmented skin lesions, over 90% are negative for melanoma and represent avoidable surgical procedures. The PLA improves the assessment of pigmented lesions by reducing the probability of missing melanoma to less than 1.0% (versus approximately 11-17% with the existing standard of care) and by reducing the number of surgical biopsies required to diagnose melanoma by tenfold (from about 25:1 to about 2.5:1). In March 2019, Medicare's MolDX program, administered by Palmetto GBA, or MolDX, which performs technology assessments for genomic tests, issued a favorable draft Local Coverage Determination (LCD), or Draft LCD, for our PLA. In October 2019, the AMA provided us with a CPT Proprietary Laboratory Analysis code for our PLA of 0089U, or the PLA Code. Pricing of $760 for the PLA Code was published on December 24, 2019 as part of the CMS Clinical Laboratory Fee Schedule, or CLFS, for 2020. The Medicare final LCD, or Final LCD, first made available on December 26, 2019 expanded the coverage proposal in the Draft LCD from one test per date of service to two tests per date of service, and to allow clinicians to order our PLA if they have sufficient skill and experience to decide whether a pigmented lesion should be biopsied. Our PLA became eligible for Medicare reimbursement effective on February 10, 2020. Our local Medicare Administrative Contractor, Noridian Healthcare Solutions, LLC, or Noridian, relies upon MolDX for technology assessments of genomic-based tests and has adopted the Final LCD issued by MolDX. Noridian has issued its own LCD announcing coverage of our PLA. Even though the effective date of Noridian's LCD is June 7, 2020, Noridian began reimbursing us for our PLA as of February 10, 2020.

The performance of the PLA is supported by numerous investigational studies, which enrolled an aggregate of over 6,000 patients and yielded a total of 17 peer-reviewed publications in top-rated medical dermatology journals. A recent publication in JAMA Dermatology demonstrated that the PLA significantly lowers the cost to diagnose melanoma while providing a more accurate and less invasive alternative to current methods. The current AAD melanoma guidelines indicate that non-invasive gene expression testing can be used as a part of the initial clinical assessment for pigmented lesions. In addition, an independent panel of melanoma experts has produced consensus recommendations for use of our PLA product. In January 2018, the American Medical Association, or AMA, published the addition of our PLA target genes to the Category I CPT code 81401, and our application for this code was endorsed by nine major medical societies. The PLA was also issued a proprietary laboratory analysis code from the AMA for insurance payors that prefer to bill using these codes. We believe the PLA can be used as an alternative for the majority of these surgical biopsy procedures, which could create a total existing market opportunity for melanoma greater than $3.0 billion per year. We have also received Health Canada clearance for use of our platform and have established a non-exclusive licensing partnership with DermTech Canada. We are working with this partner to secure reimbursement coverage with various Canadian provinces.

We initiated the commercialization of our PLA product in the second quarter of 2016. We currently market these tests directly to dermatologists in the United States with a team of approximately 25 sales representatives throughout the United States and plan to expand our team into more regions throughout the United States during 2020. With our recent Medicare coverage and growth of testing volume and physician users, we believe our test is being reviewed for coverage by key United States commercial payors, including Aetna Inc., Cigna Corporation, Humana Inc., CareCore National, LLC eviCore Healthcare, LLC and others. We believe we will achieve successful coverage outcomes from these efforts over the next 24 to 36 months, although no assurances can be given that any reimbursement coverage approvals will be obtained.

In the second quarter of 2018, we introduced our Nevome product, an adjunctive reflex test for the PLA. The Nevome test can be used with histopathology to identify additional risk factors for melanoma and to confirm the diagnosis of melanoma in PLA positive tests, which are subjected to surgical biopsy. The Nevome test analyzes early-stage melanoma driver mutations in the v-Raf murine sarcoma viral oncogene homolog B (BRAF), neuroblastoma RAS viral oncogene homolog (NRAS) and telomerase reverse transcriptase (TERT) genes. The Nevome test utilizes the same genomic material collected from the initial adhesive patch sample used for the PLA and does not require additional sampling. We will replace our Nevome test with the introduction of our second-generation PLA test, PLA *plus*, which we plan to launch in the second half of 2020. The timing of the launch of the PLA *plus* will depend on when we receive the required approvals from the applicable regulatory bodies of all 50 U.S. states, which approvals could be delayed due to the COVID-19 pandemic. The PLA *plus* test will add a TERT promoter mutation analysis to the current PLA gene expression test, and we will no longer test for BRAF or NRAS genes, which are tested for in our Nevome product.

We plan to expand our sales efforts as we obtain reimbursement coverage to provide sales coverage to a majority of over 12,000 healthcare professionals specializing in dermatology in the United States.

We believe the total annual United States market opportunity for our PLA and PLA *plus* tests exceeds $3.0 billion, and that the select annual worldwide market consisting of Australia, Europe, and Canada exceeds an additional $750 million.

Additional skin cancer product offerings, including for non-melanoma skin cancers (basal cell and squamous cell cancers), are currently under development. In the United States, approximately 12 million surgical biopsies are performed each year to diagnose approximately 5.0 million non-melanoma skin cancers. Many of the initial surgical procedures for these skin cancers are performed on cosmetically sensitive areas of the body, such as the face, neck and chest, creating significant demand for a non-invasive alternative. We believe the total market opportunity for our non-melanoma skin cancer products exceeds $3.0 billion in the United States and $1.0 billion in select world-wide markets.

We are also working on tests to facilitate the assessment of inflammatory skin diseases, such as atopic dermatitis and psoriasis, which will facilitate the appropriate diagnosis and treatment of these inflammatory diseases. The prevalence of atopic dermatitis in the United States is approximately 7.0% with approximately 6.6 million patients having moderate-to-severe disease. The prevalence of psoriasis in the United States is approximately 2.2% with approximately 1.3 million patients having moderate to severe disease.

We also make our non-invasive molecular skin analysis platform available to pharmaceutical companies to facilitate the development of new targeted therapies in dermatology and cancer, including biologics. These partners use our platform and services to assess treatment response, monitor side effects and identify likely responders to the therapy under development. We have completed and have ongoing research collaborations with large pharmaceutical companies to facilitate their development of new targeted therapeutics in dermatology. We have initiated programs across the spectrum of pharmaceutical development stages from Phase 1 through Phase 3. We believe that some of these collaborations may lead to a complementary or companion diagnostic product for the pharmaceutical partner's therapeutic candidate, if it reaches the commercial market. We have booked over $4.2 million of orders pursuant to research contracts in the last 24 months, and many of these contracts are multi-year in length.

We offer our gene expression tests through our CLIA certified and College of American Pathologists (CAP) accredited commercial laboratory located in La Jolla, California, which is licensed by the State of California and all states requiring out-of-state licensure. In the first quarter of 2018, we received our laboratory permit from the New York State Department of Health, the most rigorous licensing process for clinical diagnostic laboratories. We can scale our current facility to approximately 300,000 tests per year, with the ability to scale to over 1,000,000 tests per year with additional facility and capital investments.

Our sample collection technology maximizes collection of relevant tissue with minimal patient discomfort using adhesive patches. We have developed significant intellectual property and know-how around the use of adhesives for non-invasive biopsy and the transportation and handling of this type of sample. We have developed a proprietary process that allows us to extract genomic material from the patches with sufficient quality and quantity to perform gene expression, DNA mutation, DNA methylation and transcriptomic analyses. We believe our technology can be utilized to assess the microbiome of the skin with superior performance to existing methods that use swabs. The results of these efforts will allow us to introduce our sample collection technology to facilitate the diagnosis of a broad array of dermatologic conditions and other conditions where the skin serves as a surrogate target organ.

Our Competitive Advantages

Superior patient care at a lower cost. The PLA is used to assess pigmented lesions that may harbor melanoma at the earliest stages (melanoma in situ or stage 1a), the most difficult lesions to diagnose. In our clinical studies, our PLA test has demonstrated a sensitivity of 91-95% and a specificity of 69-91% in differentiating these early-stage melanomas from non-melanoma using histopathology as the reference standard. This leads to a very high negative predictive value, or NPV, of greater than 99%, which is the probability our PLA test correctly ruled out melanoma. In addition, the PLA has demonstrated a tenfold reduction in unnecessary surgical procedures, relative to the current visual assessment and histopathology standard of care. Such a reduction results in significant cost savings for the health care system and reduces patient morbidity as compared to other diagnostic approaches. Table 1 below compares our PLA with other techniques and the existing standard of care for assessing early-stage melanoma in pigmented skin lesions.

	Diagnostic Devices	Surgical Specimen Gene Expression	Our PLA	Visual Assessment & Pathology (Current Standard)
Mechanism	Pattern Recognition	Tumor Biology	**Tumor Biology**	Pattern Recognition
Surgical Procedure Required	No	Yes	**No**	Yes
Platform Technology	No	N/A	**Yes**	N/A
Multiple Dermatologic Indications	No	No	**Yes**	Yes
Physician Payment	No	No	**Yes**	Yes
Simple Practice Integration	No	N/A	**Yes**	N/A
Ease of Use	No	N/A	**Yes**	N/A
Number Needed to Biopsy(1)	>15	>25	**2.7**	>25
Number Needed to Excise(2)	Unknown	5.2	**1.6**	5.2
Better Performance				
NPV(3)	99%	>99%	**>99%**	>81-89%
Sensitivity(4)	96-98%	90-95%	**91-95%**	65-84%
Cost	Unknown	$2,000 - $8,000	**$760(5)**	$947
Capital Equipment	Yes	No	**No**	No

Table 1. The data summarized above compares our PLA with other techniques and the existing standard of care for assessing early stage melanoma in pigmented skin lesions.

(1) Number of surgical biopsies required to diagnose one melanoma.
(2) Number of wide excision surgical procedures per melanoma diagnosed.
(3) NPV measures the probability that a negative result is truly negative.
(4) Sensitivity measures the proportion of actual positives that are correctly identified as such.
(5) Figure represents a projected United States reimbursed price, though this price has not yet been negotiated with major United States payors. Pricing of $760 for the PLA Code was published on December 24, 2019 as part of the CMS Laboratory Fee Schedule for 2020. The Medicare Final Coverage Decision was made available on December 26, 2019 and the PLA became eligible for Medicare reimbursement on February 10, 2020.

Our technology platform has the potential to transform dermatologic practice. We are the first and only company to offer non-invasive genomic testing to clinicians that practice dermatology. Current dermatologic practice is based on subjective visual assessments that are prone to inaccuracy and lead to invasive surgical procedures that drive unnecessary costs. Our technology platform seeks to dramatically transform this paradigm by providing non-invasive, objective, and more accurate information, thereby broadening the base of clinicians that can practice dermatology while also improving the performance of specialists.

Superior ease of use. Our non-invasive biopsy sample collection procedure can be performed in less than five minutes. All the necessary items, including adhesive patches, instructions, a marking pen for outlining, and a preaddressed and prepaid return shipping label, are contained in our kit.

Simple integration into clinical practice. Our tests use an adhesive patch that replaces the scalpel traditionally used in the initial clinical assessment. Unlike other technologies, our platform does not require the installation and maintenance of capital equipment. The nursing support, documentation, specimen processing, and requisition post procedure are substantially similar to current practice. These issues are critical in a busy clinical practice where clinicians see patients every five to seven minutes.

Strong intellectual property protection. We have five issued United States patents, one of which is broadly directed to the use of an adhesive to collect samples containing RNA from the skin for analysis. In addition, we have been awarded patents on unique gene expression profiles and classifiers that differentiate melanoma from non-melanoma, one of which will not expire until 2029, and the other will not expire until 2030. Additional efforts to further expand our patent portfolio are ongoing. We have also developed unique know-how and proprietary processes that allow us to extract sufficient quantities of low-quality genomic material from adhesive patch samples suitable for analysis.

Our Strategy

Our goal is to become the global leader in non-invasive genomics testing for dermatologic conditions. We believe our robust intellectual property portfolio, platform technology, first-to-market advantage, and groundbreaking research will facilitate the achievement of this goal. Specifically, we will focus on the following objectives:

Build a specialized sales force to introduce our products into the dermatology market. We intend to expand our existing direct specialty sales force up to three-fold as additional reimbursement coverage is achieved. Consistent with our current sales strategy, we will continue to recruit experienced sales representatives, primarily those from the dermatology sector who have existing physician relationships. We also plan to leverage this sales force by establishing distribution relationships with laboratory companies that do business with the clinical dermatologist or sell molecular tests.

Secure broad reimbursement coverage for our assays. We have targeted regional and national payors to secure favorable coverage decisions for the reimbursement of our tests. The PLA has completed the necessary analytical validity, clinical validity, and clinical utility studies that payors require molecular tests to undertake. We have also published a United States health economic impact study on the PLA in JAMA Dermatology, which shows that the PLA significantly reduces the relative cost to assess a pigmented lesion. The cost to fully adjudicate a pigmented lesion suspicious for melanoma is $947 in the United States. We believe the PLA could lead to cost savings of greater than $650 million per year in aggregate savings, based on approximately 4.0 million surgical biopsies performed per year to rule out melanoma, and assuming the PLA was to become the standard of care in the United States.

In March 2019, MolDX, which performs technology assessments for genomic tests, issued a favorable Draft LCD for the PLA. In late October 2019, the AMA provided us with the PLA Code. Pricing of $760 for the PLA Code was released on December 24, 2019 as part of the CLFS for 2020. The Final LCD, first made available on December 26, 2019, expanded the coverage proposal in the Draft LCD from one test per date of service to two tests per date of service, and allows clinicians to order our PLA if they have sufficient skill and experience to decide whether a pigmented lesion should be biopsied. Our PLA became eligible for Medicare reimbursement on February 10, 2020. Our local Medicare Administrative Contractor, Noridian, relies upon MolDX for technology assessments of genomic-based tests and has adopted the Final LCD issued by MolDX. Noridian has issued its own LCD announcing coverage of our PLA. Even though the effective date of Noridian's LCD is June 7, 2020, Noridian began reimbursing us for our PLA as of February 10, 2020.

In addition to our demonstrated clinical validity, clinical utility is the most important attribute of a test for establishing coverage policies with payors because it demonstrates how frequently physicians adhere to the recommendation of the test and the resulting improvement in clinical outcomes. In 2020, we completed and published our largest clinical utility study of the PLA based on real-world commercial usage. This most recent clinical utility study on 3,418 cases corroborates earlier utility studies and demonstrates that clinicians adhere to the recommendation of the PLA more than 98% of the time. Our test significantly reduces surgical procedures and improves the diagnostic pathway for pigmented lesion assessment. Lesions clinically suspicious for melanoma have negative PLA results in over 90% of cases, leading to an approximately 90% reduction in surgical biopsies in our 2020 study. We believe our body of clinical evidence and utility will lead to securing coverage policies from the major commercial payors over the next 24 to 36 months, although no assurances can be given that any reimbursement coverage approvals will be obtained.

We have currently secured six contracts with major preferred provider networks, including MultiPlan Inc., FedMed, Inc., America's Choice Provider Network, Three Rivers Provider Network, Inc., First Health Group Corp., and Midlands Choice, Inc. In addition, we have established contracts with Carefirst BCBS of Maryland, Inc. and Tricare West. We have submitted clinical and technology assessment packages to eviCore healthcare, LLC, which provides consultative services for approximately 20 large payors, and a number of large commercial payors, including Aetna Inc., Cigna Corporation, UnitedHealthcare Inc., several independent Blue plans and Humana Inc., all of which are currently under review.

Integrate our products into the standard of care. We conduct rigorous clinical research and basic science research and publish the results of this research in peer-reviewed journals. Overall, our research has yielded over 17 publications in top peer-reviewed journals. The PLA's performance is supported by nine investigational studies, which enrolled an aggregate of over 6,000 patients. A recent publication in JAMA Dermatology demonstrated that the PLA significantly lowers the cost to diagnose melanoma while providing a more accurate and less invasive alternative to the current methods. Our research is frequently highlighted at clinical meetings and has several times been accepted for peer-reviewed late-breaking presentations at major medical society meetings, including recent annual meetings of the AAD.

The AAD melanoma guidelines have indicated that non-invasive gene expression testing can be used as a part of the initial clinical assessment for pigmented lesions. In addition, an independent panel of melanoma experts has produced consensus recommendations for use of our PLA product, which were published in 2019.

We have established an extensive board of over a dozen Key Opinion Leaders, or KOLs, in dermatology, including four former presidents of the AAD. These KOLs speak extensively about our technology platform and the PLA at various clinical and research meetings. In addition, these KOLs participate in our clinical studies and publish findings in peer-reviewed journals.

Establish distribution partnerships for primary care. A substantial portion of dermatology is practiced in primary care. We plan to access the primary care market by establishing distribution relationships with molecular testing companies that focus on this physician call point. These potential partners have several hundred sales professionals in the aggregate who access the primary care market. We plan to pursue opportunities for distribution partnerships in the future.

Implement reference testing for large integrated dermatology networks and dermatopathology laboratories. Large dermatology practices with multiple clinics and generally more than 50 clinical professionals often have integrated dermatopathology and laboratory testing services for their clinics. For these situations and depending on federal and state regulations, we plan to implement reference contracts, whereby the integrated laboratory will accession the PLA samples and bill for these samples, while paying us a contracted price. We estimate that 10-20% of our dermatology market opportunity may be accessed through this model.

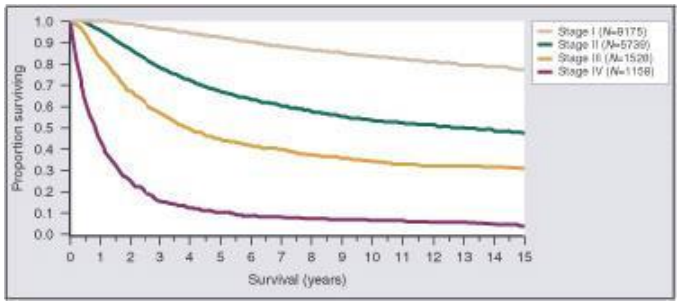
Expand our product offerings. We have developed a platform that provides genomic analysis of the skin using a non-invasive adhesive patch platform as the sample collection method. This platform can be used to develop multiple products based on the same sample collection method, and it only requires different genomic markers to be assayed in our CLIA licensed laboratory. We are currently working to complete development of additional products, which will assess non-pigmented lesions for basal cell and squamous cell cancers. In addition, we are working to develop tests for inflammatory diseases of the skin.

Expand our marketing of research services to pharmaceutical companies. Our platform is used by several large pharmaceutical companies to facilitate their development of new targeted therapeutics in dermatology. Our PLA product helps identify biomarker treatment responses, track side effects, and identify patients that respond to the therapy. We plan to hire additional business development professionals to sell these services to the pharmaceutical industry. These efforts will include the participation in additional industry conferences and the presentation of our platform and data at additional medical conferences. Additionally, our collaborations with pharmaceutical partners may result in the introduction of complementary or companion diagnostic products for the partners' therapeutic candidates that reach the commercial market.

Market Opportunity – Skin Cancer

Melanoma is currently one of the fastest growing cancers and the subject of significant attention in the medical community. The incidence of melanoma has doubled since 1973. While there has been a 20% decline in cancer deaths overall since 1991, melanoma is one of three cancers facing increasing death rates. According to a study from the Mayo Clinic, the incidence of melanoma increased eightfold among women under 40 and fourfold among men under 40 from 1970 to 2009.

Melanoma is one of the deadliest forms of skin cancer. On average, melanoma causes more than one death every hour of every day of the year in the United States. The American Cancer Society projected that more than 9,000 people would die from melanoma in 2018. If diagnosed and removed early in its evolution, when confined to the outermost skin layer and deemed to be "in situ" (Stage 0), patients are expected to have a survival rate of almost 100%. Invasive melanomas that are thin and extend into the uppermost regions of the second skin layer (Stage 1) still have cure rates greater than 90%. However, once the cancer advances into the deeper layers of skin, the risk of it spreading to other parts of the body, or metastasis, and death increases. The table below depicts the survival rate of melanoma based on the stage of the cancer at initial diagnosis.



From Balch CM, Buzaid AC, Soong S-j et al: Final Version of the American Joint Committee on Cancer Staging System for Cutaneous Melanoma. Journal of Clinical Oncology, August 2001.

Approximately 178,560 cases of melanoma, 87,290 non-invasive (in situ) and 91,270 invasive, were diagnosed in the United States in 2018. Our PLA test is primarily used to assess pigmented lesions at risk for melanoma at the earliest stages, in situ and stage 1a, which we estimate numbered 132,925 cases in 2018. On average, 25 surgical biopsies are performed per early stage melanoma diagnosed, creating a total market opportunity of approximately 4.0 million surgical procedures per year. Outside the United States, the incidence of melanoma is highest in Western Europe, Australia, and Canada. We estimate that these select worldwide markets perform over 1.5 million surgical biopsies annually to diagnose approximately 75,000 melanomas, creating additional market opportunity that we believe exceeds $750 million per annum.

Approximately 5.0 million non-melanoma skin cancers (basal cell and squamous cell carcinomas) were diagnosed in the United States in 2018. The number of surgical biopsies needed to diagnose one non-melanoma skin cancer is approximately 2.5-3.0 among dermatologists and can be considerably higher when diagnosed by other clinicians such as nurse practitioners and primary care physicians. We estimate that approximately 12 million surgical biopsies are performed each year in the United States to diagnose non-melanoma skin cancer. While these cancers are not as deadly as melanoma, they commonly occur on the face, head, neck, and other cosmetically sensitive areas, creating an important unmet medical need for a non-invasive alternative, and a potential market opportunity of approximately $3.0 billion in the United States per annum based on the approximately 10-12 million surgical biopsies performed to diagnosis of basal and squamous cell skin cancers.

Limitations of Current Melanoma Diagnostic Pathway

The estimated prevalence of pigmented lesions (moles) ranges from 2% to 8% in fair-skinned persons.

Pigmented lesions may be classified as clinically atypical by meeting one or more of the American Cancer Society's ABCDE criteria, which includes Asymmetric, irregular Border, variegated or dark Color, Diameter greater than 6 mm, or Evolving mole. Atypical pigmented lesions are at risk for harboring melanoma. A meta-analysis of case-control studies found that the relative risk of melanoma is 1.45 in patients with one atypical mole vs. those with none, and this risk increases to 6.36 in those patients with five atypical moles. Management of atypical pigmented lesions involves ruling out melanoma via a visual assessment followed by surgical biopsy and histopathology. Ideally, when melanomas are identified, they are found at the earliest stages (melanoma in situ or stage 1a) when a high cure rate is possible by wide excision. Since a biopsy only partially removes a lesion for histopathologic analysis, early stage melanomas diagnosed histopathologically from biopsy material are treated with follow-up wide excision procedures (generally with 0.5-1.0 cm margins).

While the purpose of the visual assessment or surgical biopsy is to rule out melanoma, the poor performance metrics of this diagnostic pathway leads to a low NPV for early stage disease (Table 2 below). This is related to the low specificity of the visual assessment (3-10%), which results in a high number of biopsies on benign atypical nevi. During histopathologic assessment, a *small* number of melanomas must be identified from this large pool of biopsied atypical nevi. However, there is significant overlap in the histopathologic diagnostic criteria between atypical nevi and early stage melanoma, invariably leading to false negative diagnoses and a relatively low sensitivity (65-84%). Elmore et al. BMJ (2017) 357:j2183, concluded that the diagnosis of early stage melanoma was not accurate after finding that 35% of slide interpretations for melanoma in situ or stage 1a melanomas by 187 pathologists received a false negative diagnosis as benign. With the prevalence of early stage melanoma in biopsied lesions at approximately 5%, the negative predictive value ranges from 75-89%.

According to several published papers, the real NPV of the visual assessment or surgical biopsy pathway is likely 80% to 85%. In a study by Malvehy et al., BJD (2014) 171:1099, 206 in situ and stage 1a (thickness less than 0.75 mm) melanomas were diagnosed with a sensitivity of 81% and a specificity of 10%. The prevalence of early melanoma in the study was about 10%, yielding an NPV of 83%.

	Current Pathway	PLA
Test Purpose	Rule-out melanoma	Rule-out melanoma
Type	Surgical biopsy/ histopathology	Non-invasive gene expression
NPV	83%	99%
Probability of Missed Mel	17%	1%
Number Needed to Biopsy	25	2.7
Number Needed to Excise	5.2	1.6
Cost per Lesion Tested	$947	$760

Table 2. Data summarized above compares the key performance metrics of the PLA versus the current pathway (visual assessment and surgical biopsy/histopathology) for managing pigmented skin lesions.

This low NPV for the current pathway is accompanied by a high number of unnecessary surgical procedures, again driven by the poor specificity of the visual assessment. The number of surgical biopsies needed to identify one melanoma averages 25 and ranges from eight to greater than 30 depending on the clinical setting. Further, the histopathologic review of biopsied lesions is extremely limited with 2% or less of the lesion sectioned and evaluated, leaving doubt as to what may be occurring in the rest of the lesion. Consequently, lesions that have cellular atypia and positive margins are often clinically managed conservatively and subjected to full excisions with margins. However, only 0.2% to less than 1.0% of lesions with atypia and positive margins that undergo excision are diagnostically upgraded, most commonly to a higher level of atypia and rarely to melanoma in situ, and such excisions can be considered unnecessary. Approximately 5.2 excisions with margins are performed per melanoma identified, emphasizing how the current pathway of surgical biopsy and limited histopathology assessment leads to more complex and invasive excisions.

Our Products

The PLA

The PLA is a gene expression test that helps rule out melanoma and the need for a surgical biopsy of atypical pigmented lesions. The performance of the PLA is supported by nine investigational studies, which enrolled over 6,000 patients and yielded 17 peer-reviewed publications in top rated medical dermatology journals. Key studies and manuscripts are summarized in Table 3 below. The PLA is based on a new platform technology for non-invasive genomic testing of the skin, which allows the molecular analysis of samples collected from adhesive patches. In contrast to the current pathway, the PLA has a very high NPV (greater than 99%) and high sensitivity (91-95%), ensuring a very low probability of missing melanoma. The PLA's high specificity (69-91%) effectively reduces the number of false positive samples undergoing histopathologic review. This improves the overall sensitivity of the pathway and greatly increases the NPV. The PLA's NPV is supported by a 12-month follow-up study of 734 patients, which demonstrated that no melanomas were missed in the 12-month period following initial testing. In the third quarter of 2019 we initiated the TRUST study, which will further examine long-term follow up of lesions previously tested negative by the PLA, and will incorporate repeat testing of the previously tested lesion. We expect this study to more definitively confirm the high NPV of the PLA test. In addition, the non-invasive sampling leads to a dramatic reduction in surgical biopsies and subsequent excisions. Consequently, our studies have shown that the number of surgical biopsies needed to find one melanoma using the PLA is markedly reduced by almost tenfold to approximately 2.7 and the number of excisions needed is reduced to 1.6. Our studies have shown that the PLA can reduce unnecessary surgical biopsies of lesions clinically suspicious for melanoma by 90%, which is consistent with a recent 2017 review of 18,715 biopsied pigmented lesions that found that approximately 90% of surgical biopsies to rule out melanoma are performed on pigmented lesions that are not melanoma. Non-invasive gene expression testing has been added to the most recent AAD melanoma guidelines as part of the initial clinical assessment for clinically concerning lesions. In addition, an independent expert committee has developed and published consensus use criteria for the PLA.

In the second half of 2020 we plan to introduce our second-generation PLA test (PLA *plus*). When we introduce the PLA *plus* will depend on when we receive the required approvals from the applicable regulatory bodies of all 50 U.S. states, which approvals could be delayed due to the COVID-19 pandemic. This second-generation test will add a TERT promoter mutation analysis to the current PLA gene expression test. TERT promoter mutations are associated with early stage melanoma and our validation testing against driver mutations showed in two publications that it can increase the sensitivity of the PLA to 97% with only a minor impact on specificity. Several other independent academic investigators have also shown that TERT promoter mutations have a high sensitivity and specificity for melanoma detection. With the addition of TERT to the PLA test we will phase out the Nevome product, which is a reflex confirmatory test offered for PLA positive tests.

Study	Status	Size (n)	Publication
Analytical Validation	Complete	125	Yao Z et al. Analytical characteristics of a noninvasive gene expression assay for pigmented skin lesions. *Assay Drug Dev Technol*. 2016;14(6):355-363.
Clinical Validation-Pathology	Complete	555	Gerami P et al. Development and validation of a noninvasive 2-gene molecular assay for cutaneous melanoma. *J Am Acad Dermatol*. 2017;76(1):114-120.e2.
Clinical Validation-Driver Mutations	Complete	626	Ferris L et al. Noninvasive analysis of high-risk driver mutations and gene expression profiles in primary cutaneous melanoma. *J Invest Dermatol*. 2019; 139(5):1127-1134.
Clinical Utility	Complete	45 Derms	*Ferris L et al. Utility of a noninvasive 2-gene molecular assay for cutaneous melanoma and effect on the decision to biopsy. JAMA Dermatol. 2017;153(7):675-680.*
Real-World Clinical Utility	Complete	381	Ferris L et al. Real-world performance and utility of a noninvasive gene expression assay to evaluate melanoma risk in pigmented lesions. *Melanoma Res*. 2018; 28(5):478-482.
1-Year Follow Up	Complete	734	Ferris L et al. Impact on clinical practice of a non-invasive gene expression melanoma rule-out test: 12-month follow-up of negative test results and utility data from a large US registry study. *Dermatology Online Journal*. 2019; 25(5).
Real-World Utility Registry	Complete	1575	Ferris L et al. Impact on clinical practice of a non-invasive gene expression melanoma rule-out test: 12-month follow-up of negative test results and utility data from a large US registry study. *Dermatology Online Journal*. 2019; 25(5).
Real-World Utility Registry (Extension)	Complete	3418	Brouha B et al. Real-world utility of a non-invasive gene expression test to rule out primary cutaneous melanoma: a large US registry study. *J Drugs Dermatol*. 2020; 19(3).
Adhesive Patch Validation	Complete	N/A	Yao Z et al. An adhesive patch-based skin biopsy device for molecular diagnostics and skin microbiome studies. *J Drugs Dermatol*. 2017; 16(10):611-618.
Association with Severe Atypia	Complete	103	Jackson Cullison S et al. Risk stratification of severely dysplastic nevi (SDN) by non-invasively obtained gene expression and mutation analyses. *American Academy of Dermatology, Annual Meeting* 2020; Abstract. Manuscript submitted.
Consensus Recommendations for PLA Use	Complete	N/A	Berman B et al. Appropriate use criteria for the integration of diagnostic and prognostic gene expression profile assays into the management of cutaneous malignant melanoma: an expert panel consensus-based modified Delphi process assessment. *SKIN The Journal of Cutaneous Medicine*. 2019; 3(5):291-306.
Health Economics	Complete	319	Hornberger J, Siegel D. Clinical and economic implications of a noninvasive molecular pathology assay for early detection of melanoma. *JAMA Dermatol*. 2018;154(9):1-8.
Genome Screen	Complete	202	Wachsman W et al., Noninvasive genomic detection of melanoma. *British Journal of Dermatology*. 2011; 164:797-806.

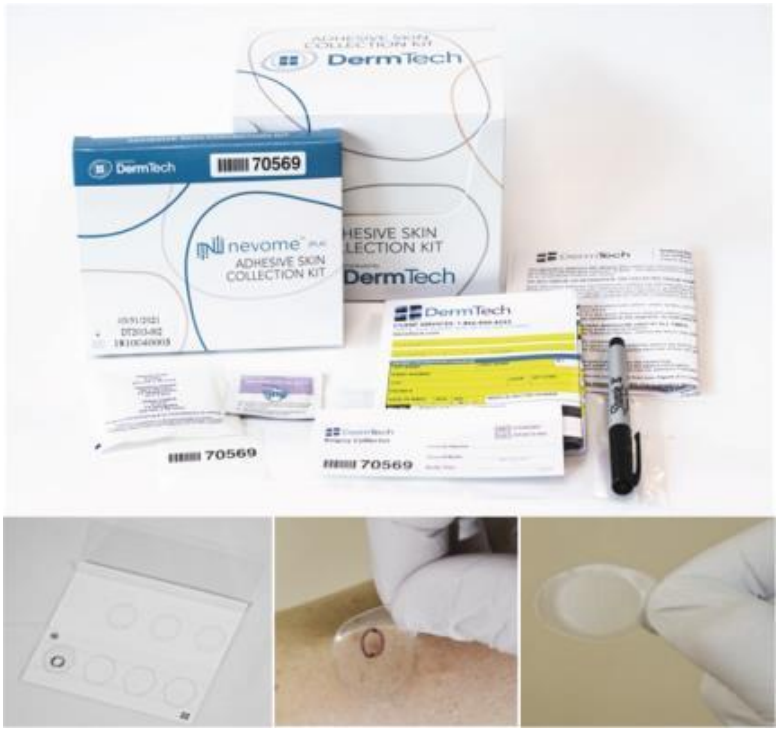
Table 3. Summarizes key clinical studies and publications supporting the PLA.

Nevome

Our Nevome test is an adjunctive reflex test for the PLA. It can be used with histopathology to identify additional risk factors for melanoma and confirm the diagnosis. Approximately 13% of our PLA tests are positive. Lesions that test positively for the PLA are subjected to surgical biopsy and histopathologic review. Due to significant challenges in diagnosing early stage melanoma by histopathology, additional information can be required to confirm the presence of melanoma and/or identify lesions with significant risk for melanoma that require wide excision. The Nevome test analyzes early stage melanoma driver mutations in the BRAF, NRAS, and TERT genes, providing additional information and risk factors in the lesion being assessed. The Nevome test utilizes the genomic material collected from the *initial* adhesive patch sample used for the PLA.

Adhesive Skin Sample Collection Kit

We are the inventor and owner of the intellectual property for the Adhesive Skin Sample Collection Kit (pictured below). We have contracted with a Food and Drug Administration, or FDA, registered supplier to produce our kit under applicable quality systems requirements, and we control the exclusive distribution rights for the kit. Our kit's adhesive patch allows for the collection of skin samples with minimal patient discomfort. A single kit contains all of the necessary components to complete the sample collection for our analysis, including the adhesive patches, instructions for use, a marking pen for lesion outlining, and a pre-addressed and prepaid return shipping pack. The unique properties of the adhesive maximizes the collection of informative cellular material for our PLA. The entire procedure for the kit's sample collection takes less than five minutes.



Clinical Research Products

Research on the genomic basis of diseases has increased significantly over the last decade. Genomic analysis can facilitate drug development by identifying drug targets and stratifying patients into groups that will maximize drug response. Genomic analysis is part of the effort to personalize medical therapy to patients' individual needs. Consequently, tools to facilitate this type of research are in high demand.

We offer a suite of products to facilitate clinical research using our technology platform. We have developed a proprietary process that allows us to extract genomic material from the patch with sufficient quality and quantity to perform gene expression, DNA mutation analysis, DNA methylation, and transcriptomic analyses. In addition, our platform can be utilized to assess the microbiome of the skin with superior performance to existing methods that use swabs. We have developed gene expression assays for the Th1, Th2, IFN-gamma, and Th17 inflammatory pathways. We market these assays to pharmaceutical companies developing drug products in dermatology. In addition, we develop custom gene assays to support development for these pharmaceutical partners. We have completed and have ongoing research collaborations with large pharmaceutical companies to facilitate their development of new targeted therapeutics in dermatology. Our technology platform has been deployed in Phase 1 through Phase 3 clinical programs. These efforts may also lead to the introduction of complementary and companion diagnostic products.

Leveraging Our Platform for Other Indications

We believe our adhesive patch gene expression platform is applicable to numerous other indications in dermatology. While we are focused initially on skin cancer products, we believe there are significant business development opportunities in other areas. We have undertaken a number of pilot development activities in inflammatory diseases, acne, and skin aging. This effort will also focus on potential licensing and partnering opportunities for the development of complementary and companion diagnostics for the pharmaceutical partners' drug product candidates, should they reach the commercial market. In addition, because the processing of samples is the same regardless of the disease indication, our development activities will leverage our laboratory operations.

Non-Melanoma Skin Cancer Diagnostic Products

To complement our melanoma rule-out product PLA, we are also utilizing our platform technology to develop products to rule-out non-melanoma skin cancer including squamous cell and basal cell carcinoma. We identified differentially expressed genes that allow the identification of these cancers, and we are currently conducting clinical validation trials. Nearly 4.5 million basal and squamous cell carcinoma skin cancers are diagnosed each year making skin cancer the most common of all types of cancer. The majority of these cancers occur in cosmetically sensitive areas such as the head, neck and face. The number of skin cancer cases is increasing due to better skin cancer detection, people living longer, and increased sun exposure.

More than 80% of skin cancers are basal cell carcinomas. These cancers usually develop in sun-exposed areas, especially the head and neck, and tend to grow slowly. It is very rare for a basal cell cancer to spread to other parts of the body. If left untreated, basal cell cancers can grow into nearby areas and invade other tissues beneath the skin. If not removed completely, basal cell carcinoma can recur in the same place on the skin. People who have had basal cell skin cancers are also more likely to develop basal cell skin cancers in other places.

About 10% of skin cancers are squamous cell carcinomas. These cancers also commonly appear on sun-exposed areas of the body such as the face, ears, neck, lips, and backs of the hands. These cancers can also develop in scars or chronic skin sores elsewhere. Squamous cell cancers are more likely to grow into deeper layers of skin and spread to other parts of the body than basal cell cancers, although this is still uncommon.

Non-Melanoma Skin Cancer Risk Assessment Product

We are developing a non-melanoma skin cancer risk assessment product. This product will assess non-melanoma skin cancer risk by genomic risk factors. Depending on the risk profile of a patient there are various treatment options to reduce the risk of future skin cancer including chemical peels, photodynamic therapy, laser therapy, topical pharmaceuticals, dietary supplements, and increased sunscreen use.

Inflammatory Indications

We have investigated gene expression profiles in atopic dermatitis and psoriasis. Responses to biologic therapy used in moderate to severe forms of these diseases can be variable and may wane over time. For example, only 30-40% of patients have a robust response to either anti-TNF alpha drugs used in psoriasis or the anti-IL-13 drugs used in atopic dermatitis. The low response rate of these drugs creates an unmet need for drug companion and complementary diagnostic products that identify responders to a specific therapy and that monitor responses over time.

Because atopic dermatitis and psoriasis are confined to the epidermis of the skin, blood-based biomarker tests are unreliable to test response to these drugs and biologics. Further, patients are unlikely to consent to repeated surgical biopsy procedures for the purposes of assessing therapy response. Our non-invasive genomics platform is therefore ideal for these types of conditions because it specifically samples tissue from the epidermis. Moreover, we have demonstrated in clinical studies that our platform is superior to surgical biopsy and blood testing for assessing biomarkers related to inflammatory diseases.

In our psoriasis research, for example, we have identified subsets of patients with different gene expression profiles. These different profiles may identify patients that respond more robustly to an expanding group of biologic therapies available for this condition. In addition, we have shown in a pilot clinical investigation that only subsets of patients with atopic dermatitis appear to have high gene expression levels of IL-13. The proportion of patients that are high expressers of IL-13 is approximately 40%, which is consistent with the response rate of approximately 30-40% to the anti-IL-13 drug dupilumab.

Microbiome Indications

The study of bacterial microbes that inhabit the skin and their relationship to health and disease has been the subject of intense investigation over the last several years. Numerous products are under development that seek to alter the composition and populations of these microbes for therapeutic purposes. We have demonstrated in development studies that our platform can be used to assess the genomics of skin microbes and that the quantity of microbial genomic material and the measurements of microbial variability are superior to the swab-based methods currently in use. In addition, our platform (which simultaneously and non-invasively collects skin host and microbiome samples) can separate and assess microbial populations at different depth levels in the epidermis.

Skin Health Indications

We have developed an expression profile that correlates with the age of the skin. Our profile could be used to stratify patients to a particular anti-aging treatment, to identify potential drug targets, and to assess the performance of different anti-aging treatments. Over $10 billion annually is spent in the United States on anti-aging topical treatments, creating a significant market opportunity for innovative treatments.

We have found over 300 genes that are differentially expressed between the skin of patients greater than 60 years old and those less than 30 years old. In a study of over 100 patients, a 16-gene expression profile could be used to stratify patients into 10-year increments. In addition, the profile demonstrated that some individuals show gene expression that is not consistent with their chronological age, and that is more typical of an older or younger person.

We have also conducted studies to assess skin damage due to ultraviolet radiation. We believe a future skin health expression profile product may allow patients to understand their degree of exposure to the sun, a risk factor for skin cancer. In addition, this product may help assess the effect of treatments aiming to reduce skin damage from sun exposure.

Acne

We have successfully isolated RNA from acne lesions on the face. In addition, we have successfully identified differences in gene expression between inflammatory and non-inflammatory acne. We believe our technology could be used to stratify patients for appropriate acne treatment and to assess therapeutic response.

Telemedicine Option for the PLA

Telehealth is the provision of health-related services and information via electronic information and telecommunication technologies. Telemedicine is sometimes used interchangeably with telehealth, but some organizations define telemedicine in a more limited sense to describe remote clinical services, such as diagnosis and monitoring. Telemedicine enables patient and clinician interaction when rural settings, lack of transport, a lack of mobility, decreased funding, a lack of staff or other limitations such as social distancing guidelines related to the COVID-19 pandemic restrict in-person access to healthcare.

Early detection of melanoma, the most deadly and aggressive form of skin cancer, is critical for best patient outcomes. DermTech's PLA is the first non-invasive genomic diagnostic test for ruling out melanoma that, in addition to in-office sample collection, allows physicians to supervise the patient's sample collection via telemedicine. This telemedicine solution eliminates the need for unnecessary office visits during the COVID-19 pandemic and enables dermatologists to maintain vigilance with their patients in detecting melanoma at the earliest stages.

Using our telemedicine option, a clinician can choose to assess the patient's skin and suspicious lesion(s) via a teledermatology appointment and, if indicated, submit a patient-specific order to DermTech for the DermTech PLA. If requested by the clinician, the DermTech PLA Adhesive Skin Collection Kit will then be shipped directly to the patient with support from DermTech customer service. During a follow-up teledermatology appointment, a clinician will instruct and supervise the patient to collect their sample with the easy-to-use DermTech PLA adhesive patch. The patient will then return the collected sample(s) back to DermTech via the pre-labeled shipping envelope for analysis. Test results will be available to the ordering clinician within a few days. DermTech is collecting data to verify that our clinical study results for the PLA are replicable for patient-collected samples under the telemedicine option for the PLA. A clinician can assess the patient's skin and suspicious lesion(s) via teledermatology where permitted by state law. Some state laws impose various restrictions on the practice of telemedicine and reimbursement may not be available under coverage and reimbursement policies governing telemedicine visits issued by third party payors.

Sales and Marketing

The vast majority of molecular diagnostic tests are sold to pathology and oncology practitioners. These markets are quickly becoming saturated with products, services, and sales calls. We believe that we have a unique opportunity as the first company to market a novel non-invasive molecular diagnostic test to dermatologists and other clinical practitioners of dermatology. We believe there are fewer barriers to adoption in this customer base than in other medical markets because our product fits within the current diagnostic and reimbursement pathway for various skin conditions.

We have established a highly experienced team of sales professionals possessing extensive backgrounds in selling dermatology products. Our Chief Commercial Officer spent 24 years at Allergan plc and rose to lead their dermatology and ophthalmology product sales for the entire United States. We expanded our specialty sales force in 2019 and plan to continue to expand our specialty sales force in 2020 as we secure reimbursement coverage from Medicare and commercial payors.

There are approximately 12,000 healthcare professionals specializing in dermatology in the United States. We segment these practices into three categories: primarily cosmetic practices (10-15%), mixed medical and cosmetic practices (50-75%), and medical only practices (15-25%). We focus much of our effort on practices that deliver some medical dermatology services. We have initially focused our selling activity on these accounts, which typically have a shorter adoption cycle. We recently completed a review of Medicare and commercial claims for melanoma skin biopsies. From this effort we have identified approximately 4,600 dermatology practitioners that perform the majority of biopsies for melanoma in the U.S. and that treat a majority of the Medicare population. We plan to target these practitioners and have designed our field sales territories around these practices.

We are also expanding our sales and marketing efforts with multi-site group practices and integrated dermatology networks. Multi-site group practices and large integrated dermatology networks make up approximately 25% and 15%, respectively, of the remaining dermatology market. We are actively working to integrate our PLA test in large dermatology networks in order to penetrate this market opportunity. As we continue to penetrate these group practices and large integrated networks, we have identified an opportunity to offer reference lab contracts for our PLA test as necessary depending on applicable federal and state regulations. In the reference lab model, the integrated dermatopathology laboratory will accession the PLA samples and bill for these samples, while paying us a contracted price. We believe this reference lab model will be most effective as our reimbursement coverage increases and payments for our tests become more routine.

A substantial portion of dermatology is practiced in primary care. We plan to access the primary care market by establishing distribution relationships with molecular testing companies that focus on this physician call point. These potential partners have 400-600 sales professionals in the aggregate who access the primary care market. We plan to pursue opportunities for distribution partnerships in the future.

Our marketing is focused on a mix of professional targeted campaigns including in person physician education, dermatology symposia, publication distribution, peer to peer education, consumer engagement and education campaigns including a mix of digital platforms. We participate as an exhibitor and sponsor at key dermatology conferences and will expand this effort to primary care conferences. We often submit scientific abstracts for presentation at the conferences we attend. Our KOLs speak on our behalf at various medical conferences, present data from our clinical studies, and chair continuing medical education courses on genomics in dermatology, which include our products.

Our sales and marketing strategy will leverage our extensive network of KOLs in the fields of dermatology, pathology, biostatistics, healthcare economics, and reimbursement. We use our experts to perform peer-to-peer education, to publish papers utilizing our tests, and to chair continuing medical education courses on genomics in dermatology and our products. These efforts extend to supporting our policy coverage review process with payors. Our KOL group includes four former AAD presidents and numerous melanoma experts.

We continuously expand and improve on the validation of our tests by conducting additional clinical trials, and we publish the results of our scientific and clinical work in peer-reviewed medical journals. Through these efforts, we elevated our positioning in the AAD guidelines and recent consensus group recommendations. We also utilize advertising in medical journals and social media campaigns to rally the extensive patient advocacy support that exists today for a variety of skin conditions and melanoma sufferers. Because dermatology practitioners often sell cosmetic procedures to their patients, they are very service oriented and responsive to their patient’s requests. We believe direct-to-consumer advertising will engage the patient to request our skin cancer assessment tests and allow us to capitalize on the unique non-invasive benefits our platform provides patients.

We have received Health Canada clearance for our platform and have established a non-exclusive licensing partner, DermTech Canada, for Canada. We are working with this partner to secure reimbursement coverage with various Canadian provinces. We plan to engage in the marketing of our product in other countries outside the United States only after we have established the United States and Canadian markets. We will focus our efforts in regions that have a high incidence of melanoma and skin cancers such as Australia and Western Europe. We will likely seek distribution partners in these select countries for the sales and marketing of our tests. While we have demonstrated that the stability of the skin samples collected with our adhesive patch-based sampling device is suitable for shipping from countries outside the United States, we will likely establish clinical laboratories or laboratory partnerships in some of these countries.

During the COVID-19 pandemic, we have transitioned our sales teams to make sales calls remotely, without in person interaction. We have also participated in various web-based dermatology conferences to highlight the easy-to-use, non-invasive sample collection kit that enables physicians to rule out melanoma without the need to see a patient in person at a clinic.

Reimbursement Strategy

In October 2019, the AMA issued the PLA Code. The PLA Code uniquely identifies our PLA for certain commercial payors to provide payment at a contracted rate. Contracted rates are negotiated and established based on multiple variables including the average allowed amounts under our current billing for CPT code 81401 claims, and the list price and the economic impact of the test. This PLA code was published online with an effective date of January 1, 2020 and is included in the CPT 2020 AMA publication. The genes that comprise our PLA test, LINC00518 and PRAME, were subject to review by the CPT coding editorial panel, including the molecular pathology subcommittee and the pathology coding caucus and the following medical societies and groups supporting the CPT code application:

1. American Academy of Dermatology
2. Society for Investigative Dermatology
3. American Society for Clinical Pathology
4. College of American Pathologists
5. American Society of Cytopathology
6. Pathology Coding Caucus
7. Molecular Pathology Advisory Group
8. United States and Canadian Academy of Pathology

We have developed in-house reimbursement capabilities, including claims submittal, appeals, collection, and contracting. Because we are currently out of network, our initial claims are commonly denied. In situations where payment is denied, we work through the claims appeals process to secure payment for services performed. The appeals process can require several cycles and can culminate in an independent committee review for blocks of claims. Currently, we are not routinely successful in winning appeal claims.

To improve our allowed claim rate and payment, we are seeking contractual relationships and reimbursement coverage policy decisions from third-party payors. Reimbursement coverage decisions for clinical tests are primarily supported by clinical utility studies. Clinical utility of a genomics test is established by demonstrating that the test result changes the behavior of the physician and improves the clinical outcome for the patient. In 2017, we completed a clinical utility study that demonstrated the PLA changes physician behavior, which leads to fewer unnecessary surgical biopsies and the identification of more early stage melanomas. In mid-2018, we completed a clinical utility study on real-world usage of the PLA. This study demonstrated that clinicians adhere to the recommendation of the PLA more than 98% of the time, and that the PLA significantly reduces surgical procedures and improves the diagnostic pathway for melanoma. In 2020, we also completed and published our largest clinical utility study of the PLA based on real-world commercial usage, which has collected data on over 3,418 commercial cases. This study has also demonstrated that clinicians follow the recommendation of the test more than 98% of the time, leading to the avoidance of unnecessary surgical diagnostic procedures. We believe our body of clinical evidence and utility will lead to securing coverage policies from the major commercial payors over the next 24 to 36 months. Our PLA test is being reviewed by key United States payors, including eviCore healthcare, LLC on behalf of their approximately 20 payor partners, and large payors such as Aetna Inc., Cigna Corporation, Humana Inc. and others.

For genomic-based tests, Medicare coverage is typically obtained through MolDX, which performs technology assessments for genomic tests. MolDX provides coverage policy decisions to Noridian Healthcare Solutions, LLC, our Medicare Administrative Contractor, and a successful coverage policy by MolDX effectively provides coverage for the genomic-based test across the United States. In March 2019, MolDX issued the PLA a favorable Draft LCD. In late October 2019, the AMA provided us with the PLA Code. Pricing of $760 for the PLA Code was published on December 24, 2019 as part of the CLFS for 2020. The Final LCD first made available on December 26, 2019 expanded the coverage proposal in the Draft LCD from one to two tests per date of service and to allow clinicians with sufficient skill and experience to decide whether a pigmented lesion should be biopsied to order PLA. PLA became eligible for Medicare reimbursement on February 10, 2020. Noridian has issued its own LCD announcing coverage of our PLA. Even though the effective date of Noridian’s LCD is June 7, 2020, Noridian began reimbursing us for our PLA as of February 10, 2020.

Competition

The molecular diagnostics market is highly competitive. We compete with a number of manufacturers and distributors of molecular diagnostic tests as well as new and traditional medical devices and other technologies that are used to assist physicians with the assessment of pigmented lesions and the diagnosis of skin cancer. We are currently the only company to offer a non-invasive genomics test to clinical dermatology professionals. However, LEO Pharma A/S, a large Danish pharmaceutical company, and Mindera Corporation, a small early stage start-up, are also working on minimally invasive genomic tests. In the area of pigmented lesions, Myriad Genetics, Inc. recently launched a gene expression assay as a CLIA laboratory test for surgical biopsy tissue specimens. Castle Biosciences, Inc. markets a product to determine metastatic potential in later stage melanoma by utilizing surgical tissue samples.

There are several companies that market or are developing medical devices and imaging tools to detect melanoma as skin cancer. In general, medical devices have capital equipment costs and maintenance requirements, do not integrate well into clinical practice, and do not have clear mechanisms to provide physician payment. Strata Sciences, Inc. owns the rights to Melafind, an FDA-approved device that utilizes varying wavelengths of light to capture lesion images at different depths and conducts an algorithmic image analysis to determine the degree of lesion disorganization and the need for biopsy. The clinical trials of this device demonstrated marginal improvement in the assessment of pigmented lesions, and the device has not been adopted in the United States largely due to its specificity of less than 10%, which hampered clinical use. SciBase AB is marketing an epidermal electrical impedance spectrometer to assess pigmented lesions. In 2018, this product received FDA approval. Verisante Technology, Inc. has received regulatory approval in Europe and Australia to market a device that uses real-time Raman spectroscopy to assess changes in the chemical composition of skin tissue. Welch-Allen, Inc. and various others manufacture dermatoscopes, which provide magnified views of a pigmented lesion during diagnosis. Caliber I.D. and others offer confocal microscopy solutions for enhanced imaging of pigmented skin lesions.

Research and Development

We have expertise in the development of gene expression profiles and other genomic analyses for the diagnosis of dermatologic disease. In addition, we have developed know-how related to the collection of skin samples using adhesives. We have also developed expertise in statistical programs and algorithms that are used to process gene expression data.

Our product development process involves several stages. The first stage involves a genome-wide screen for differential gene expression or screens for differences in mutations, methylation patterns, micro-RNAs and other factors. In case of gene expression, differentially expressed genes are then narrowed down to specific gene sets that categorize disease states. These genes sets are then validated by comparison to clinical reference standards to produce a clinical product. We have developed substantial expertise in designing and conducting clinical validation and utility studies.

We have identified additional gene targets that may further improve the performance of our PLA. The qPCR assays for these genes are under development and may be added to our platform in the future if their performance is validated in additional clinical studies. We plan to expand the use of our platform to include products to diagnose or support the diagnosis of non-melanoma skin cancers as well as a variety of inflammatory skin conditions. We have identified gene expression profiles for other conditions, such as psoriasis, atopic dermatitis, acne, and aging of the skin. Should we determine that there are viable market opportunities for products treating these conditions, we plan to consider developing gene expression tests for these conditions. Alternatively, we may seek development partners or licensing opportunities for these potential products.

Intellectual Property

We have developed a comprehensive portfolio of intellectual property, which includes five issued U.S. patents and several pending U.S. patent applications, corresponding foreign patents and applications, and PCT applications. Our intellectual property portfolio also includes trademark rights, trade secrets, and industry know-how. We believe our intellectual property adequately protects our technology and products, and that we may prevent others from developing products similar to ours.

U.S. Pat. No. 7,183,057 and its corresponding foreign counterpart patents in Australia, Canada, and Japan are directed to methods of using an adhesive to collect skin samples to quantitate RNA that can be used to determine a disease or pathological state. The ‘057 patent is not limited by specific species of RNA or by the use of specific types of adhesives. Subject to payment of all maintenance fees, the ‘057 patent is expected to expire in 2024, unless the patent is disclaimed or rendered invalid by a court of competent jurisdiction or by the USPTO prior to the patent’s expiration time. The patent is not encumbered by a licensing agreement or subject to any royalty payments.

Two of our issued U.S. patents and a pending U.S. application are directed to our proprietary two-gene classifier for melanoma and also describe additional gene targets that we may add to the expression profile in the future. These issued patents are expected to expire in 2029 and 2030. Counterpart foreign patent applications have been issued in what we believe to be the major foreign countries for melanoma.

The remaining two issued patents that we own are directed to methods that differ from, but are related to, our current and planned products. U.S. Pat. No. 7,297,480 is directed to non-invasive methods for detecting early stage melanoma in a skin sample of a human subject by detecting the level of Interleukin-1 RI RNA in the skin sample and is expected to expire in 2023. U.S. Pat. No. 7,989,165 is directed to non-invasive methods for isolating or detecting a protein from an epidermal sample of a human subject and is expected to expire in 2024.

In addition, we have filed patent applications in other areas including telemedicine, a tri-fold skin collection system, a method of detecting nucleic acid expression and modifications, and methods for diagnosing or treating various skin conditions including non-melanoma skin cancers, autoimmune disorders, cutaneous T cell lymphoma, and UV damage. The applications related to diagnosing or treating the various skin conditions include specific gene profiles for differentiating these conditions.

Laboratory Operations

Our CLIA laboratory occupies approximately 6,000 square feet and is divided into an accession area, pre-qPCR-laboratory and post-qPCR-laboratory area as per CLIA standards. Access to all areas is controlled and requires gowning. The laboratory employs commercial state-of-the-art equipment including high-throughput qPCR machines. We use a laboratory information system to track all of our samples. We employ clinical laboratory scientists holding appropriate state licenses to perform the assay.

Our PLA assay utilizes qPCR techniques that requires the extraction and purification of genomic material from the skin adhered to adhesive patches. This extraction process is extremely challenging, and we have developed customized reagents and tools to provide suitable material yields reliably. Other steps of our process have been customized and have proprietary processes and procedures, but in general involve the three main steps set forth below:

- RNA extraction using our proprietary process to maximize the yields and quantity of RNA from the cells on the patch;
- reverse transcription, which converts the RNA into complementary DNA; and
- expression level quantification, using qPCR to determine the expression levels of the target genes in our expression profile.

After testing is complete, a written laboratory report is prepared and reviewed by one of our California-licensed and American Board of Medical Genetics and Genomics-certified Laboratory Directors. This report is made available to the ordering physician by Health Insurance Portability and Accountability Act, or HIPAA, compliant methods such as fax or via an internet portal. The reports are generated in industry-standard PDF format that allows for high definition figures to be reproduced clearly.

We continuously work to automate various steps in our test process. Much of this automation will come from purchasing and qualifying off-the-shelf and customized laboratory equipment such as liquid handlers and pipetting robots. We have developed a laser-cutting robot to automate the cutting of the lesion area circumscribed on the adhesive patch by the clinician. We expect these automation efforts to improve assay throughput by reducing processing time compared to manual processing, reducing the need for direct labor, and improving quality by reducing the potential for human error.

Third-Party Suppliers and Manufacturers

We are the owner of intellectual property for the Adhesive Skin Sample Collection Kit with our logo and have contracted with an FDA-registered supplier to produce our kits. This kit is considered a Class I medical device and is exempt from FDA premarket notification requirements. This product is manufactured according to the FDA's applicable quality system manufacturing requirements. Our FDA-registered supplier conducts the assembly and labeling of this kit. All of our suppliers are high-quality medical component and finished-product suppliers accustomed to working on high volume disposable FDA-regulated products. Our product has a shelf life tested to three years that allows us to build inventory to mitigate against disruptions.

Governmental Regulation

The services that we provide are regulated by federal, state and foreign governmental authorities. Failure to comply with the applicable laws and regulations can subject us to repayment of amounts previously paid to us, significant civil and criminal penalties, loss of licensure, certification, or accreditation, or exclusion from government health care programs.

Our Adhesive Skin Sample Collection Kit is a Class I medical device and is manufactured by an FDA-registered supplier according to applicable regulations and is exempt from obtaining premarket approval or clearance from the FDA. The FDA could declare our Sample Collection Kit a Class II device or as non-exempt. This would require us to submit an application for premarket clearance or approval, which may require us to develop additional clinical data to support premarket clearance or approval that could come at substantial expense and could delay our commercialization effort.

We believe our qPCR gene expression assay is a laboratory developed test, or LDT, that is currently regulated under CLIA. Although the FDA has asserted that it has authority to regulate LDTs, it has generally exercised enforcement discretion and is not otherwise regulating most tests developed and performed within a single high complexity CLIA-certified laboratory. We have commercialized our test as an LDT and will process all tests in our single CLIA-certified central laboratory. We may at some time in the future seek FDA clearance or approval for our qPCR gene expression assay. We believe the data we have collected in the development of our LDT will support any FDA medical device clearance or approval process, but cannot guarantee that the FDA will find these data sufficient to support clearance or approval as a medical device under the applicable FDA regulations. This may require us to collect additional clinical data, which could come at substantial expense and could delay our commercialization effort.

CLIA and State Regulation of Laboratories

Clinical laboratories must hold certain federal, state, and local licenses, certifications, and permits to conduct business. Laboratories that perform testing on human specimens for the purpose of providing information for the diagnosis, prevention, or treatment of disease are subject to CLIA. CLIA requires such laboratories to be certified by the federal government and mandates compliance with various operational, personnel, facilities administration, quality, and proficiency testing requirements intended to ensure that testing services are accurate, reliable and timely. CLIA certification is also a prerequisite to be eligible to bill state and federal health care programs, as well as many private insurers, for laboratory testing services.

Standards for testing under CLIA vary based on the test and level of test complexity. Laboratories performing high complexity testing must comply with more stringent requirements than laboratories performing waived or moderate complexity testing. In addition, CLIA requires each certified laboratory to enroll in an approved proficiency-testing program if it performs testing in any category for which proficiency testing is required. Such laboratories must periodically test specimens received from an outside proficiency testing organization and then must submit the results back to that organization for evaluation. A laboratory that fails to achieve a passing score on a proficiency test may lose its right to perform testing in the category at issue. Further, failure to comply with other proficiency testing regulations, such as the prohibition on referral of a proficiency- testing specimen to another laboratory for analysis, can result in revocation of the referring laboratory's CLIA certification.

As a condition of CLIA certification, our laboratory is subject to survey and inspection every other year, in addition to being subject to additional unannounced inspections. The biennial survey is conducted by the Centers for Medicare and Medicaid Services, or CMS, a CMS agent (typically a state agency), or, if the laboratory holds a CLIA Certificate of Accreditation, a CMS-approved accreditation organization. We also obtained accreditation by the College of American Pathologists, or CAP, which is a CMS-approved accreditation organization.

Consequently, our laboratory must comply with all CLIA requirements as well as with any additional requirements imposed by CAP. In the first quarter of 2018, we also received our laboratory permit from New York State Department of Health, which has the most rigorous state licensing process for clinical diagnostic laboratories.

CLIA provides that a state may adopt laboratory regulations that are more stringent than those under federal law, and two states, New York and Washington, have met that standard and therefore substitute for the federal CLIA program. In addition, some, but not all, states require a separate state license or permit, which must be obtained in addition to a CLIA certificate, and some states require a laboratory doing business in its state to be licensed even if the laboratory is located in another state. Our laboratory is licensed by the appropriate state agencies in the states in which we do business, if such licensure is required. If a laboratory is out of compliance with state laws or regulations governing licensed laboratories, penalties for violation vary from state to state but may include suspension, limitation, revocation or annulment of the license, assessment of financial penalties or fines, or imprisonment. We believe that we are in material compliance with all applicable licensing laws and regulations.

We may become aware from time to time of other states that require out-of-state laboratories to obtain licensure to accept specimens from patients within the state, and other states may impose such requirements in the future. If we identify any other state with such requirements, or if we are contacted by any other state advising us of such requirements, we intend to follow all instructions from the state regulators regarding compliance with such requirements.

The FDA

Although the FDA has asserted that it has the authority to regulate LDTs that are validated by the developing laboratory and performed only by that laboratory, it has generally exercised enforcement discretion by not otherwise regulating most tests developed and performed within a single high complexity CLIA-certified laboratory. Nevertheless, the FDA has, for the past decade, been introducing proposals to end enforcement discretion and to bring LDTs clearly under existing FDA regulatory frameworks. In July 2010, the FDA held a two-day public meeting to obtain input from stakeholders on how it should apply its authority to implement a reasonable, risk-based, and effective regulatory framework for LDTs, including genetic tests. Subsequently, FDA issued draft guidance and a 2017 Discussion Paper to allow for further public discussion about an appropriate LDT oversight approach and to give congressional committees the opportunity to develop a legislative solution. Since 2017,

Congress has been working on legislation to create an LDT and in vitro diagnostic, or IVD, regulatory framework that would be separate and distinct from the existing medical device regulatory framework. In August 2018, the FDA recommended changes to draft legislation that had been released by Congress in 2017. The agency's comments addressed the need for a requirement that new tests undergo FDA review to demonstrate analytical and clinical validity and suggested other changes to the draft language. FDA's recommendations, if included in enacted law, would give the FDA authority to revoke approval, request raw data, and take corrective action against test developers.

In December 2018, legislators released a discussion draft of a bill that incorporated many of FDA's suggestions and provided opportunities for additional stakeholders to also provide input on the proposed reform legislation. On March 5, 2020, U.S. Representatives Diana DeGette (D-CO) and Dr. Larry Bucshon (R-IN) formally introduced the long-awaited legislation, called the Verifying Accurate, Leading-edge IVCT Development (VALID) Act. An identical version of the bill was also introduced in the Senate and is sponsored by U.S. Senators Michael Bennet (D-CO) and Richard Burr (R-NC), demonstrating both bicameral and bipartisan support for the effort to overhaul how the FDA reviews and approves diagnostic tests going forward. The VALID Act would codify into law the term "in vitro clinical test" (IVCT), to create new medical product category separate from medical devices that includes products currently regulated as IVDs as well as LDTs. The VALID Act would also create a new system for labs and hospitals to use to submit their tests electronically to the FDA for approval, which is aimed at reducing the amount of time it takes for the agency to approve such tests, and establish a new program to expedite the development of diagnostic tests that can be used to address a current unmet need for patients. It is unclear whether the VALID Act would be passed by Congress in its current form or signed into law by the President. Until the FDA finalizes its regulatory position regarding LDTs, or the VALID Act or other legislation is passed reforming the federal government's regulation of LDTs, it is unknown how the FDA may regulate our tests in the future and what testing and data may be required to support any required clearance or approval.

If the FDA decides to regulate LDTs, such as our PLA or the Nevome test, as medical devices or under another regulatory framework such as the one proposed in the VALID Act, we will be subject to increased regulatory burdens. Any regulatory framework is likely to have premarket application requirements prohibiting commercialization without FDA authorization and controls regarding modification to the tests that may require further FDA submissions. The process would likely be costly and time-consuming. We cannot assure that our PLA, Nevome test, or any new tests that we may develop or new uses for our products that we develop will be cleared or approved by the FDA in a timely or cost-effective manner, if cleared or approved at all. Even if such tests are cleared or approved, the products may not be cleared or approved for all indications. This could significantly limit the market for that product and may adversely affect our results of operations.

The Adhesive Skin Sample Collection Kit we provide for collection and transport of skin samples from a healthcare provider to our clinical laboratory is a Class I medical device subject to FDA regulations, but it is currently exempt from premarket review by the FDA and manufactured by a third party on our behalf. Class 1 products like our specimen collection kit are required to meet FDA's general controls for device products, including that they be manufactured in compliance with applicable Quality System Regulations for medical devices, adhere to device labeling requirements, and be listed with FDA upon commercial distribution, among other regulatory controls.

HIPAA and Other Privacy and Data Security Laws

HIPAA established for the first time comprehensive federal protection for the privacy and security of health information. The HIPAA standards apply to three types of organizations, or Covered Entities: health plans, healthcare clearing houses, and healthcare providers that conduct certain healthcare transactions electronically. Title II of HIPAA, the Administrative Simplification Act, contains provisions that address the privacy of health data, the security of health data, the standardization of identifying numbers used in the healthcare system and the standardization of certain healthcare transactions. The privacy regulations protect medical records and other protected health information by limiting their use and release, giving patients a variety of rights, including the right to access their medical records and limiting most disclosures of health information to the minimum amount necessary to accomplish an intended purpose. The HIPAA security standards require the implementation of administrative, physical, and technical safeguards and the adoption of written security policies and procedures. HIPAA requires Covered Entities to enter into business associate agreements with individuals or organizations who provide services to Covered Entities involving the use or disclosure of protected health information, also known as Business Associates.

On February 17, 2009, Congress enacted Subtitle D of the Health Information Technology for Economic and Clinical Health Act, or HITECH, provisions of the American Recovery and Reinvestment Act of 2009. HITECH amended HIPAA and, among other things, expanded and strengthened HIPAA, created new targets for enforcement, imposed new penalties for noncompliance and established new breach notification requirements for Covered Entities and Business Associates. Regulations implementing major provisions of HITECH were finalized on January 25, 2013 through publication of the HIPAA Omnibus Rule, or the Omnibus Rule. The Omnibus Rule contained significant changes for Covered Entities and Business Associates with respect to permitted uses and disclosures of Protected Health Information.

Under HITECH's breach notification requirements, Covered Entities must report breaches of protected health information that has not been encrypted or otherwise secured in accordance with guidance from the Secretary of the United States Department of Health and Human Services, or the Secretary. Required breach notices must be made as soon as is reasonably practicable, but no later than sixty days following discovery of the breach. Reports must be made to affected individuals and to the Secretary and in some cases, they must be reported through local and national media, depending on the size of the breach. We are currently subject to the HIPAA regulations as a Covered Entity and maintain an active compliance program. We are subject to audit under the United States Department of Health and Human Services' HITECH-mandated audit program. We may also be investigated in connection with a privacy or data security complaint. We are subject to prosecution and/or administrative enforcement and increased civil and criminal penalties for non-compliance, including a new, four-tiered system of monetary penalties adopted under HITECH. We are also subject to enforcement by state attorneys general who were given authority to enforce HIPAA under HITECH. To avoid penalties under the HITECH breach notification provisions, we must ensure that breaches of unsecured protected health information are promptly detected and reported within the company, so that we can make all required notifications to the government on a timely basis. However, even if we make required reports on a timely basis, we may still be subject to penalties for the underlying breach and at risk of significant reputational harm if we experience a large-scale data breach.

In addition to the federal privacy regulations, there are a number of state laws regarding the privacy and security of health information and personal data that are applicable to clinical laboratories. The compliance requirements of these laws, including additional breach reporting requirements, and the penalties for violation vary widely and new privacy and security laws in this area are evolving. For example, several states, such as California, have implemented comprehensive privacy laws and regulations. The California Confidentiality of Medical Information Act imposes restrictive requirements regulating the use and disclosure of health information and other personally identifiable information. In addition to fines and penalties imposed upon violators, some of these state laws also afford private rights of action to individuals who believe their personal information has been misused. California's patient privacy laws, for example, provide for penalties of up to $250,000 and permit injured parties to sue for damages. In addition to the California Confidentiality of Medical Information Act, California also recently enacted the California Consumer Privacy Act of 2018, or CCPA, which became effective January 1, 2020. The CCPA has been characterized as the first "GDPR-like" privacy statute to be enacted in the United States because it mirrors a number of the key provisions of the E.U. General Data Protection Regulation (described further below). The CCPA establishes a new privacy framework for covered businesses in the State of California, by creating an expanded definition of personal information, establishing new data privacy rights for consumers imposing special rules on the collection of consumer data from minors, and creating a new and potentially severe statutory damages framework for violations of the CCPA and for businesses that fail to implement reasonable security procedures and practices to prevent data breaches.

Many states, such as Massachusetts, have also implemented genetic testing and privacy laws imposing specific patient consent requirements and requirements for protecting test results. The interplay of federal and state laws may be subject to varying interpretations by courts and government agencies, creating complex compliance issues for us and potentially exposing us to additional expense, adverse publicity and liability. Further, as regulatory focus on privacy issues continues to increase and laws and regulations concerning the protection of personal information expand and become more complex, these potential risks to our business could intensify.

The applicability and requirements of these laws and penalties for violations vary widely. We believe that we have taken the steps required of us to comply with health information privacy and security statutes and regulations in all jurisdictions, both state and federal. However, we may not be able to maintain compliance in all jurisdictions where we do business. Failure to maintain compliance, or changes in state or federal laws regarding privacy or security, could result in civil and/or criminal penalties and could have a material adverse effect on our business, financial condition, results of operation and cash flows.

We anticipate expanding our business internationally, which would implicate international laws governing the privacy of health information and personal data as well as restrictions on the cross-border transfer of these data. We currently receive samples from Canada and must comply with applicable Canadian federal and provincial laws. Compliance with these laws and with other international regulatory requirements is a complex, time and expense consuming endeavor. Our failure to comply could have a material adverse effect on our business, financial condition, results of operation and cash flows.

Federal and State Self-Referral Prohibitions

We are subject to the federal self-referral prohibitions, commonly known as the Stark Law or the Physician Self-Referral Law, and to similar state restrictions such as California's Physician Ownership and Referral Act, commonly known as PORA. Together these restrictions generally prohibit us from billing the Medicare or Medicaid program or any patient or commercial payor for a test when the physician ordering the test, or any member of such physician's immediate family, has an investment interest in or compensation arrangement with us, unless the arrangement meets an exception to the prohibition.

Both the Stark Law and PORA contain an exception for compensation paid to a physician for personal services rendered by the physician, provided that certain conditions are satisfied. We have compensation arrangements with a number of physicians for personal services, such as speaking engagements and specimen tissue preparation. We have structured these arrangements with terms intended to comply with the requirements of the personal services exception to the Stark Law and PORA. However, we cannot be certain that regulators would find these arrangements to be in compliance with the Stark Law, PORA or similar state laws.

Sanctions for a violation of the Stark Law include the following:

- denial of payment for the services provided in violation of the prohibition;
- refunds of amounts collected by an entity in violation of the Stark Law;
- a civil penalty of up to $25,372 (which reflects the annual inflation adjustment effective as of November 5, 2019) for each service arising out of the prohibited referral;
- exclusion from federal healthcare programs, including the Medicare and Medicaid programs; and
- a civil penalty of up to $169,153 (which reflects the annual inflation adjustment effective as of November 5, 2019) against parties that enter into a scheme to circumvent the Stark Law's prohibition.

These prohibitions apply regardless of the reasons for the financial relationship and the referral. No finding of intent to violate the Stark Law is required to commit a violation. In addition, knowing violations of the Stark Law may also serve as the basis for liability under the Federal False Claims Act.

Further, a violation of PORA is a misdemeanor and could result in civil penalties and criminal fines. Finally, other states have self-referral restrictions with which we have to comply that differ from those imposed by federal and California law. While we have attempted to comply with the Stark Law, PORA and similar laws of other states, it is possible that some of our financial arrangements with physicians could be subject to regulatory scrutiny at some point in the future, and we cannot provide an assurance that we will be found to be in compliance with these laws following any such regulatory review.

Federal and State Fraud and Abuse Laws

Because of the significant federal funding involved in Medicare and Medicaid, Congress and the states have enacted, and actively enforce, a number of laws to eliminate fraud and abuse in federal health care programs. Our business is subject to compliance with these laws. In March 2010, the Patient Protection and Affordable Care Act, as amended by the Healthcare and Education Affordability Reconciliation Act, which we refer to collectively as the ACA, was enacted in the United States. The ACA expanded the government's investigative and enforcement authority and increased the penalties for fraud and abuse, including amendments to the federal anti-kickback law, or the Anti-Kickback Statute, to make it easier to bring suit under the False Claims Act based on violations of the Anti-Kickback Statute. The ACA also allocated additional resources and tools for the government to police healthcare fraud, with expanded subpoena power for the United States Department of Health and Human Services, additional funding to investigate fraud and abuse across the healthcare system, and expanded use of recovery audit contractors.

Anti-Kickback Statutes

The federal Anti-Kickback Statute prohibits persons from knowingly and willfully soliciting, offering, receiving, or providing remuneration, directly or indirectly, in exchange for or to induce either the referral of an individual, or the furnishing, recommending or arranging for a good or service, for which payment may be made under a federal healthcare program such as Medicare or Medicaid.

The definition of "remuneration" has been broadly interpreted to include anything of value, including, for example, gifts, certain discounts, the furnishing of free supplies, equipment or services, credit arrangements, payment of cash, and waivers of payments. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of services covered by the federal health care programs, the statute has been violated. Penalties for violations include criminal penalties and civil sanctions such as fines, imprisonment, and possible exclusion from Medicare, Medicaid and other federal healthcare programs. In addition, some kickback allegations have been claimed to violate the federal False Claims Act, discussed in more detail below.

The Anti-Kickback Statute is broad and prohibits many arrangements and practices that are otherwise lawful in businesses outside of the healthcare industry. Recognizing that the Anti- Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements, Congress authorized the Office of Inspector General, or OIG, of the United States Department of Health and Human Services to issue a series of regulations known as "safe harbors." These safe harbors set forth provisions that, if all their applicable requirements are met, immunize the parties to the transaction or arrangement from prosecution under the Anti-Kickback Statute. The failure of a transaction or arrangement to fit precisely within one or more safe

harbors does not necessarily mean that it is illegal or that prosecution will be pursued. However, transactions and business arrangements that do not fully satisfy an applicable safe harbor may result in increased scrutiny by government enforcement authorities such as OIG.

Many states have adopted laws similar to the Anti-Kickback Statute. Some of these state prohibitions apply to referral of recipients for healthcare items or services reimbursed by any source, not only the Medicare and Medicaid programs. In addition, in October 2018, the Eliminating Kickbacks in Recovery Act of 2018, or EKRA, was enacted as part of the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment for Patients and Communities Act, or SUPPORT Act. EKRA is an all-payor anti-kickback law that makes it a criminal offense to pay any remuneration to induce referrals to, or in exchange for, patients using the services of a recovery home, a substance use clinical treatment facility, or laboratory. Although it appears that EKRA was intended to reach patient brokering and similar arrangements to induce patronage of substance use recovery and treatment, the language in EKRA is broadly written. Further, certain of EKRA's exceptions, such as the exception applicable to relationships with employees that effectively prohibits incentive compensation, are inconsistent with the Anti-Kickback Statute regulations, which permit payment of employee incentive compensation, a practice that is common in the industry. Significantly, EKRA permits the U.S. Department of Justice to issue regulations clarifying EKRA's exceptions or adding additional exceptions, but such regulations have not yet been issued. Laboratory industry stakeholders are reportedly seeking clarification regarding EKRA's scope and/or amendments to its language. Because EKRA is a new law, there is no agency guidance or court precedent to indicate how and to what extent it will be applied and enforced. We cannot assure you that our relationships with physicians, sales representatives, hospitals, customers, or any other party will not be subject to scrutiny or will survive regulatory challenge under such laws. If imposed for any reason, sanctions under the EKRA could have a negative effect on our business.

Government officials have focused their enforcement efforts on the marketing of healthcare services and products, among other activities, and recently have brought cases against companies, and certain individual sales, marketing, and executive personnel, for allegedly offering unlawful inducements to potential or existing customers in an attempt to procure their business.

Federal False Claims Act

Another development affecting the healthcare industry is the increased use of the federal False Claims Act, and in particular, action brought pursuant to the False Claims Act's "whistleblower" or "qui tam" provisions. The False Claims Act imposes liability on any person or entity that, among other things, knowingly presents, or causes to be presented, a false or fraudulent claim for payment by a federal healthcare program. The qui tam provisions of the False Claims Act allow a private individual to bring actions on behalf of the federal government alleging that the defendant has violated the False Claims Act and to share in any monetary recovery. In recent years, the number of suits brought against healthcare providers by private individuals has increased dramatically.

In addition, various states have enacted false claims law analogous to the False Claims Act, many of these state laws apply where a claim is submitted to any third-party payor and not merely a federal healthcare program.

When an entity is determined to have violated the False Claims Act, it may be required to pay up to three times the actual damages sustained by the government, plus civil penalties of between $5,500 and $11,000 for each separate instance of false claim, as set by statute. However, the civil penalty amounts are adjusted annually for inflation. For civil penalties assessed after January 29, 2018, whose associated violations occurred after November 2, 2015, the civil penalty amount ranges between $11,181 and $22,363 per claim.

There are many potential bases for liability under the False Claims Act. Liability arises, primarily, when an entity knowingly submits, or causes another to submit, a false claim for reimbursement to the federal government. The federal government has used the False Claims Act to assert liability on the basis of inadequate care, kick-backs, and other improper referrals, and improper use of Medicare numbers when detailing the provider of services, in addition to the more predictable allegations as to misrepresentations with respect to the services rendered. In addition, the federal government has prosecuted companies under the False Claims Act in connection with off-label promotion of products. Our future activities relating to the reporting of wholesale or estimated retail prices of our products, the reporting of discount and rebate information and other information affecting federal, state and third-party reimbursement of our products and the sale and marketing of our products may be subject to scrutiny under these laws.

While we are unaware of any current matters, we are unable to predict whether we will be subject to actions under the False Claims Act or a similar state law, or the impact of such actions. However, the costs of defending such claims, as well as any sanctions imposed, could significantly affect our financial performance.

Physician Sunshine Laws

The federal Physician Payments Sunshine Act imposes reporting requirements on manufacturers of certain devices, drugs and biologics for certain payments and transfers of value by them (and in some cases their distributors) to physicians, teaching hospitals and certain advanced non-physician health care practitioners, as well as ownership and investment interests held by physicians and their immediate family members. The reporting program (known as the Open Payments program) is administered by CMS. Because we manufacture our own LDTs solely for use by or within our own laboratory, we believe we are exempt from these reporting requirements. We may become subject to such reporting requirements under the terms of current CMS regulations, however, if the FDA requires us to obtain premarket clearance or approval for our tests.

Corporate Practice of Medicine

Numerous states have enacted laws, prohibiting business corporations, such as us, from practicing medicine and employing or engaging physicians to practice medicine, generally referred to as the prohibition against the corporate practice of medicine. These laws are designed to prevent interference in the medical decision-making process by anyone who is not a licensed physician. For example, California's Medical Board has indicated that determining the appropriate diagnostic tests for a particular condition and taking responsibility for the ultimate overall care of a patient, including providing treatment options available to the patient, constitutes the unlicensed practice of medicine if performed by an unlicensed person. Violation of these corporate practice of medicine laws may result in civil or criminal fines, as well as sanctions imposed against the business corporation and/or the professional through licensure proceedings. Typically, such laws are only applicable to entities with a physical presence in the applicable state.

Civil Monetary Penalties Law

The federal Civil Monetary Penalties Law, or the CMP Law, prohibits, among other things, (1) the offering or transfer of remuneration to a Medicare or state health care program beneficiary if the person knows or should know it is likely to influence the beneficiary's selection of a particular provider, practitioner, or supplier of services reimbursable by Medicare or a state health care program, unless an exception applies; (2) employing or contracting with an individual or entity that the provider knows or should know is excluded from participation in a federal health care program; (3) billing for services requested by an unlicensed physician or an excluded provider; and (4) billing for medically unnecessary services. The penalties for violating the CMP Law include exclusion, substantial fines, and payment of up to three times the amount billed, depending on the nature of the offense.

Reimbursement and Billing

Reimbursement and billing for diagnostic services is highly complex. Laboratories must bill various payors, such as commercial insurers, including managed care organizations, or MCO, as well as state and federal health care programs, such as Medicare and Medicaid, and each may have different billing requirements. Additionally, the audit requirements laboratories must meet to ensure compliance with applicable laws and regulations, as well as internal compliance policies and procedures, add further complexity to the billing process.

In April 2014, Congress passed the Protecting Access to Medicare Act of 2014, or PAMA, which included substantial changes to the way in which clinical laboratory services are paid under Medicare. Under PAMA, certain clinical laboratories are required to report to CMS commercial payor payment rates and volumes for their tests. Laboratories that fail to report the required payment information may be subject to substantial civil monetary penalties. Further, effective January 1, 2018 under PAMA, Medicare reimbursement for diagnostic tests will be based on the weighted- median of the payments made by commercial payors for these tests, rendering commercial payor payment levels even more significant. As a result, future Medicare payments may fluctuate more often and become subject to the willingness of commercial payors to recognize the value of diagnostic tests generally and any given test individually.

In March 2020, Congress passed the Coronavirus Aid, Relief, and Economic Security Act, which included a provision that delays the next PAMA reporting period for clinical laboratory tests that are not advanced diagnostic tests to January 1, 2022 through March 31, 2022. In addition, the next round of rate cuts will not be implemented until 2022, with tests receiving cuts of up to 15 percent a year from 2022 through 2024.

We cannot predict whether or when these or other recently enacted healthcare initiatives will be implemented at the federal or state level or how any such legislation or regulation may affect us. For instance, the changes to reimbursement amounts paid by Medicare for tests such as ours based on the procedure set forth in PAMA could limit the prices we would be able to charge or the amount of available reimbursement for our tests, which would reduce our revenue. Additionally, these healthcare policy changes could be amended or additional healthcare initiatives could be implemented in the future.

Other Laws Applicable to Our Business

In some cases, we are prohibited from conducting certain tests without a certification of patient consent by the physician ordering the test.

In addition, we are subject to laws and regulations related to the protection of the environment, the health and safety of employees and the handling, transportation and disposal of medical specimens, infectious and hazardous waste, and radioactive materials. For example, the United States Occupational Safety and Health Administration, or OSHA, has established extensive requirements relating specifically to workplace safety for healthcare employers in the United States. This includes requirements to develop and implement multi-faceted programs to protect workers from exposure to blood-borne pathogens, such as HIV and hepatitis B and C, including preventing or minimizing any exposure through needle stick injuries. For purposes of transportation, some biological materials and laboratory supplies are classified as hazardous materials and are subject to regulation by one or more of the following agencies: the United States Department of Transportation, the United States Public Health Service, the United States Postal Service, and the International Air Transport Association. We generally use third-party vendors to dispose of regulated medical waste, hazardous waste, and radioactive materials and contractually requires them to comply with applicable laws and regulations.

Foreign Corrupt Practices Act

In general, the Foreign Corrupt Practices Act of 1977, as amended, or the FCPA, prohibits offering to pay, paying, promising to pay, or authorizing the payment of money or anything of value to a foreign official in order to influence any act or decision of the foreign official in his or her official capacity or to secure any other improper advantage in order to obtain or retain business for or with, or in order to direct business to, any person. The prohibitions apply not only to payments made to "any foreign official," but also those made to "any foreign political party or official thereof," to "any candidate for foreign political office" or to any person, while knowing that all or a portion of the payment will be offered, given, or promised to anyone in any of the foregoing categories. "Foreign officials" under the FCPA include officers or employees of a department, agency, or instrumentality of a foreign government. The term "instrumentality" is broad and can include state-owned or state-controlled entities. Importantly, United States authorities deem most healthcare professionals and other employees of foreign hospitals, clinics, research facilities and medical schools in countries with public healthcare and/or public education systems to be "foreign officials" under the FCPA. When we interact with foreign healthcare professionals and researchers in testing and marketing our products abroad, we must have policies and procedures in place sufficient to prevent us and agents acting on our behalf from providing any bribe, gift or gratuity, including excessive or lavish meals, travel or entertainment in connection with marketing our products and services or securing required permits and approvals. The FCPA also obligates companies whose securities are listed in the United States to comply with accounting provisions requiring us to maintain books and records that accurately and fairly reflect all transactions of the corporation, including international subsidiaries, and to devise and maintain an adequate system of internal accounting controls for international operations. We have a policy entitled "Anti-Bribery and Anti-Corruption" that seeks to fully comply with the FCPA.

Foreign Regulations

When we market our tests outside of the United States, we will be subject to foreign regulatory requirements governing laboratory licensure, human clinical testing, use of tissue, privacy and data security, and marketing approval for our tests. These requirements vary by jurisdiction, differ from those in the United States, and may require us to implement additional compliance measures or perform additional pre-clinical or clinical testing. In the European Union, we may be subject to newly enacted legislation that imposes requirements and restrictions on medical devices and in vitro diagnostics; that legislation will become effective in 2020 (for medical devices) and 2022 (for in vitro diagnostics). In light of the ongoing COVID-19 pandemic, European legislators have voted to delay the effective date of the new Medical Devices Regulation by one year (to May 26, 2021).

In addition, we will also be subject to the E.U. General Data Protection Regulation, or the GDPR, that significantly regulates the possession, use, and disclosure of personal information. In many countries outside of the United States, coverage, pricing, and reimbursement approvals are also required. We are also required to maintain accurate information and control over sales and distributors' activities that may fall within the purview of the FCPA, our books and records provisions, and our anti-bribery provisions.

Employees

As of December 31, 2019, we had 64 employees, 60 of which were full-time employees, including five engaged in research and development, three in clinical operations, 11 in general and administrative, 13 in laboratory operations, and 28 in sales and marketing. We also engage consultants in various areas. None of our employees are represented by a labor union and we believe that our relationships with our employees and contractors are good.

Facilities

We currently occupy approximately 28,655 square feet of leased space at 11099 North Torrey Pines Road, La Jolla, California 92037.

On February 5, 2020 we entered into a Fifth Amendment to Lease and Signage Lease, or the Fifth Amendment, with HCP Torrey Pines, LLC, or the Lessor, which amends that certain Standard Multi-Tenant Office Lease—Net, dated as of January 25, 2013, by and between us and the Lessor, or the Initial Lease Agreement, as amended by that certain Addendum to Lease dated January 25, 2013, that certain First Amendment dated January 30, 2014, that certain Assignment, Consent to Assignment and Second Amendment dated November 21, 2016, that certain Third Amendment to Lease dated August 6, 2019, and that certain Fourth Amendment to Lease dated September 10, 2019, or collectively the First Four Amendments. We refer to the Initial Lease Agreement, as amended by the First Four Amendments, as the Lease Agreement. The Fifth Amendment amended the Lease Agreement to, among other things, expand the size of our premises by approximately 13,300 square feet, or the Expansion Premises, from approximately 15,355 square feet to approximately 28,655 square feet. The Fifth Amendment provides that base rent for the Expansion Premises will be $54,530 per month during the first year following delivery of the Expansion Premises, $56,166 per month during the second year following delivery of the Expansion Premises and $57,851 per month during the third year following delivery of the Expansion Premises. In addition to the base rent, pursuant to the Fifth Amendment, we will pay to the Lessor a proportionate share of the operating expenses of the building in which the premises are located in an amount equal to 14.38% of such operating expenses. Base rent for the Expansion Premises and our share of the operating expenses of the building in which the premises are located will be reduced during any period prior to when the Lessor delivers the entire Expansion Premises, by 3% for any such period through September 30, 2020 and 6%, with respect to base rent for the Expansion Premises, for any such period following September 30, 2020. Additionally, the Fifth Amendment increased the security deposit under the Lease Agreement by $82,689 from $84,317 to $167,006.

The Fifth Amendment also provides that we have the right to perform improvements in our existing premises and the Expansion Premises, subject to certain conditions and procedures. We are entitled to a tenant improvement allowance for certain costs incurred while performing these improvements in the amount of $260,000, which amount may be increased by up to $133,000 at our election and subject to a corresponding increase in rent. Except as amended by the Fifth Amendment, all other terms and provisions of the Lease Agreement remained unchanged.

Pursuant to the Fifth Amendment, the Lease Agreement will expire on the third year following delivery of the Expansion Premises or, if we elect to extend the term and certain conditions are satisfied, the sixth year following delivery of the Expansion Premises.

We believe these facilities are adequate to meet our current and reasonably foreseeable requirements. We believe that we would be able to obtain additional space, if required, on commercially reasonable terms.

Legal Proceedings

We are not currently a party to any material legal proceedings.

Corporate and Other Information

We incorporated in the British Virgin Islands in 2015 and domesticated in the state of Delaware in 2019. DermTech Operations was incorporated in California in 1995 and reincorporated in the state of Delaware on May 15, 2014. Our principal offices are located at 11099 North Torrey Pines Road, Suite 100, La Jolla, California 92037. Our telephone number is (858) 450-4222 and our website address is www.dermtech.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus, and our reference to the address for our website is intended to be an inactive textual reference only.

Unless specifically noted otherwise, as used throughout this Management's Discussion and Analysis of Financial Condition and Results of Operations section, "we," "our," or "us" refers to the business, operations and financial results of DermTech Operations prior to, and the Company and its subsidiaries subsequent to, the completion of the Business Combination as the context requires.

The following discussion and analysis should be read in conjunction with the consolidated financial statements and related notes of DermTech included elsewhere in this prospectus. This discussion contains forward-looking statements reflecting DermTech's current expectations, estimates, plans and assumptions concerning events and financial trends that involve risks and may affect our future operating results or financial position. Actual results and the timing of events may differ materially from those contained in these forward-looking statements due to a number of factors, including those discussed in the sections entitled "Risk Factors" and "Special Note Regarding Forward-Looking Statements."

Overview

We are an emerging growth molecular diagnostic company developing and marketing novel non-invasive genomics tests that seek to transform the practice of dermatology and related fields. Our platform may change the diagnostic paradigm in dermatology from one that is subjective, invasive, less accurate and higher-cost, to one that is objective, non-invasive, more accurate and lower-cost. Our initial focus is skin cancer. We currently have two clinical commercial tests, with a third in development, that enhance the early detection of skin cancer and related conditions. Our scalable genomics platform has been designed to work with a proprietary adhesive patch sample collection kit that provides a skin sample collected non-invasively. We process our tests in a CLIA certified and College of American Pathologists accredited commercial laboratory located in La Jolla, California that is licensed by the State of California and all states requiring out-of-state licensure. We also provide our technology platform on a contract basis to large pharmaceutical companies who use the technology in their clinical trials to test for the existence of genetic targets of various diseases and to measure the response of new drugs under development. We have a history of net losses since our inception.

Events, Trends and Uncertainties

We filed an application for a technology assessment for our Pigmented Lesion Assay, or PLA, with MolDX (Medicare) in April of 2018, and the comment period for the accompanying Medicare Draft Local Coverage Decision, or Draft LCD, closed in August of 2018. In March 2019, a Draft LCD proposed favorable coverage for the PLA. In late October 2019, the AMA provided us with a Proprietary Laboratory Analyses Code, or PLA Code. Pricing of $760 for the PLA Code was published on December 24, 2019 as part of the CMS Laboratory Fee Schedule for 2020. The Medicare Final Coverage Decision, or Final LCD, first made available on December 26, 2019 expanded the coverage proposal in the Draft LCD from one to two tests per date of service and to allow clinicians to order our PLA if they have sufficient skill and experience to decide whether a pigmented lesion should be biopsied. PLA became eligible for Medicare reimbursement on February 10, 2020. Noridian has issued its own LCD announcing coverage of our PLA. Even though the effective date of Noridian's LCD is June 7, 2020, Noridian began reimbursing us for our PLA as of February 10, 2020. With Medicare coverage granted, we have the opportunity to approach commercial payors and as a result, we believe that PLA may generate significant revenues in 2021 and 2022.

Even following the grant of Medicare coverage for the PLA, uncertainty surrounds third-party payor reimbursement, including governmental and commercial payors, of any test incorporating new technology, including tests developed using our technologies. For example, technology assessments of new medical tests conducted by research centers and other entities may be disseminated to interested parties for informational purposes. Third-party payors and health care providers may use such technology assessments as grounds to deny coverage for a test or procedure.

Because each payor generally determines for its own enrollees or insured patients whether to cover or otherwise establish a policy to reimburse our tests, seeking payor approvals is a time-consuming and costly process. We cannot be certain that coverage for our current tests and our planned future tests will be provided in the future by additional third-party payors or that existing policy decisions, or reimbursement levels will remain in place or be fulfilled under existing terms and provisions. If we cannot obtain or maintain coverage and reimbursement from private and governmental payors such as Medicare and Medicaid for our current tests, or new tests or test enhancements that we may develop in the future, our ability to generate revenues could be limited, which may have a material adverse effect on our business financial condition, results of operation, and cash flows.

Recent Developments

Revenue Effects Related to COVID-19 Pandemic

Assay Revenue

As much of our assay revenue is driven by the samples that are sent by physicians and physician assistants to our central lab for testing, a key performance measure for us is samples that are received and processed by our central lab successfully, also known as billable samples. Sample volume is dependent on two major factors; the number of physicians or physician assistants who order an assay in any given quarter and the number of assays ordered by each physician during the period. The number of ordering physicians and the utilization per physician can vary based on a number of factors including the types of patients presenting skin cancer conditions, physician reimbursement, office workflow, market awareness, physician education and other factors.

Beginning in March 2020, the ongoing COVID-19 pandemic has reduced patient access to clinician offices for in person testing, which has resulted in a reduced volume of billable samples received. We have made available beginning in late April 2020 a telemedicine option for the PLA, but the telemedicine market is relatively new and unproven, and it is uncertain whether it will achieve and sustain high levels of demand, consumer acceptance and market adoption. While the COVID-19 pandemic is ongoing, we expect that our revenues will depend to a substantial extent on the willingness of clinicians and their patients to use our telemedicine option for the PLA, as well as on our ability to demonstrate the value of our telemedicine option to health plans and other purchasers of healthcare for beneficiaries. Accordingly, we also expect that the duration and extent of the effects of the ongoing COVID-19 pandemic in reducing patient access to clinician offices for in person testing will affect our revenues.

Contract Revenue

Contract revenues with major pharmaceutical companies relate to ongoing clinical trial contracts and new contracts. Contract revenue can be highly variable as it is dependent on the pharmaceutical customers' clinical trial progress which can be difficult to forecast due to variability of patient enrollment, drug safety and efficacy and other factors. Many of our contracts with third parties are structured to contain milestone billing payments, which typically are advance payments on work yet to be performed. These advanced payments are structured to help fund operations and are included in deferred revenue as the work has not yet been performed. These advance payments will remain in deferred revenue until we process the laboratory portion of the contracts allowing us to recognize the revenue.

We expect that the ongoing COVID-19 pandemic will have an effect on our pharmaceutical customers' clinical trials. The extent of the effect on our future revenue is uncertain and will depend on the duration and extent of the effects of the ongoing COVID-19 pandemic on our pharmaceutical customers' clinical trials.

Financial Overview

Revenue

We generate revenue through laboratory services that are billed to private medical insurance companies and to pharmaceutical companies who order our laboratory services, which can include sample collection kits, assay development, gene expression analysis, data analysis and reporting. Our revenue is generated from two revenue streams, contract revenue and assay revenue. Assay revenue can be highly variable as it is based on payments received by private insurance payors that are not under contract and can vary based on patient insurance coverage, deductibles and co-pays. Contract revenue is ordered by customers on projects that may span over several years. Segments of these contracts may be increased, delayed or eliminated based on the success of each customers' clinical trials or other factors. We account for revenue in accordance with Accounting Standards Codification, or ASC, Topic 606, Revenue from Contracts with Customers, or ASC 606. The core principle of ASC 606 is that the Company recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The ASC 606 revenue recognition model consists of the following five steps: (1) identify the contracts with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract and (5) recognize revenue when (or as) the entity satisfies a performance obligation. We adopted ASC 606 on January 1, 2019, using the modified retrospective method and elected to utilize Practical Expedient 1 to apply the modified retrospective method to only contracts which were open as of January 1, 2019.

Operating Expenses

Sales and Marketing Expenses

Sales and marketing expenses are primarily related to our specialty field sales force, market research, reimbursement efforts, trade show attendance, public relations, and general marketing.

Research and Development Expenses

Our research and development, or R&D, expenses consist primarily of salaries and fringe benefits, clinical trials, consulting costs, facilities costs, laboratory costs, equipment expense, and depreciation. We also conduct clinical trials to validate the performance characteristics of our tests and to show medical cost benefit in support of our reimbursement efforts. We expect these expenses to increase significantly as we continue to develop new products and expand the use of our existing products.

General and Administrative Expenses

Our general and administrative expenses consist of senior management compensation, consulting, legal, billing and collections, human resources, information technology, accounting, insurance, and general business expenses. We expect our general and administrative expenses, especially insurance, accounting, and legal fees, to increase due to operating as a publicly traded company.

Financing Activities

Convertible Bridge Notes

On May 23, 2019, DermTech Operations, Inc. (formerly known as DermTech, Inc.), or DermTech Operations, and various holders of its convertible bridge notes agreed to amend DermTech Operations' then outstanding convertible notes that were issued prior to June 5, 2019. As part of the amendment, the maturity dates of the notes were extended to the earliest of (i) September 24, 2019; (ii) the occurrence of an Event of Default; (iii) the consummation of a liquidation or dissolution of DermTech Operations (iv) a Liquidation Transaction; or (v) the consummation of a merger with or into the Company or any of its subsidiaries.

Between June 5, 2019 and June 10, 2019, DermTech Operations issued additional convertible bridge notes to its existing investors for aggregate gross proceeds of $2.6 million. These convertible bridge notes carried an interest rate of 10% and matured after the earliest to occur of: (i) September 25, 2019; (ii) the occurrence of an Event of Default; (iii) the consummation of a liquidation or dissolution of DermTech Operations; (iv) a Liquidation Transaction: or (v) the consummation of a merger of DermTech Operations with DT Merger Sub, Inc., a subsidiary of the Company, in accordance with the Merger Agreement (as defined below).

On August 29, 2019, in connection with the completion of the Business Combination (as defined below), all of the outstanding convertible bridge notes of DermTech Operations converted into Company common stock, in accordance with their respective terms.

Business Combination

On August 29, 2019, the Company and DermTech Operations consummated the transactions contemplated by the Agreement and Plan of Merger, dated as of May 29, 2019, by and among the Company, DT Merger Sub, Inc., or Merger Sub, and DermTech Operations. We refer to this agreement, as amended by that certain First Amendment to Agreement and Plan of Merger dated as of August 1, 2019, as the Merger Agreement. Pursuant to the Merger Agreement, Merger Sub merged with and into DermTech Operations, with DermTech Operations surviving as a wholly-owned subsidiary of the Company. We refer to this transaction as the Business Combination.

Immediately following the completion of the Business Combination, the Company changed its name from Constellation Alpha Capital Corp. to DermTech, Inc. and effected a one-for-two reverse stock split of its common stock. Prior to the closing of the Business Combination, the Company's stock was listed on the Nasdaq Capital Market under the ticker symbol "CNAC." On August 30, 2019, the Company's common stock commenced trading on the Nasdaq Capital Market under the ticker symbol "DMTK."

2019 PIPE Financing

On August 29, 2019, immediately prior to the completion of the Business Combination, the Company issued, in a private placement transaction, or the 2019 PIPE Financing, an aggregate of 3,076,925 shares of common stock and 1,231 shares of Series A Convertible Preferred Stock, which are convertible into an aggregate of up to 615,385 shares of common stock, for an aggregate purchase price of $24.0 million, to certain accredited investors pursuant to the terms of separate Subscription Agreements and Amended and Restated Subscription Agreements, dated between May 22, 2019 and August 1, 2019, entered into by the Company and such investors.

Results of Operations

Fiscal Years Ended December 31, 2019 and 2018

Assay Revenue

Assay revenues grew $0.1 million or 9% to $1.4 million for fiscal year 2019 compared to $1.3 million for fiscal year 2018. As much of our assay revenue is driven by the samples that are sent by physicians and physician assistants to our central lab for testing, a key performance measure for us is samples that are received and processed by our central lab successfully, also known as billable samples. Billable samples increased to 13,714 for fiscal year 2019 compared to 11,077 for fiscal year 2018. Sample volume is dependent on two major factors; the number of physicians or physician assistants who order an assay in any given quarter and the number of assays ordered by each physician during the period. The number of ordering physicians and the utilization per physician can vary based on a number of factors including the types of patients presenting skin cancer conditions, physician reimbursement, office workflow, market awareness, physician education and other factors.

Contract Revenue

Contract revenues with major pharmaceutical companies increased $0.8 million to $2.0 million for fiscal year 2019, or 69%, compared to $1.2 million for fiscal year 2018, due to accelerating activity with ongoing clinical trial contracts and new contracts. Contract revenue can be highly variable as it is dependent on the pharmaceutical customers' clinical trial progress which can be difficult to forecast due to variability of patient enrollment, drug safety and efficacy and other factors. Many of our contracts with third parties are structured to contain milestone billing payments, which typically are advance payments on work yet to be performed. These advanced payments are structured to help fund operations and are included in deferred revenue as the work has not yet been performed. At December 31, 2019, the deferred revenue amount for these contracts, which is the advance payments minus the value of work performed, was $1.4 million. These advance payments will remain in deferred revenue until we process the laboratory portion of the contracts allowing us to recognize the revenue.

Cost of Revenue

Cost of revenues increased $0.7 million, or 26%, to $3.3 million for fiscal year 2019 compared to $2.6 million for fiscal year 2018. The increase was driven by the costs incurred by the growing volume of our assay and contract revenue activities, which lead to increase spending on laboratory supplies and shipping costs. In addition, we implemented a new laboratory information system during 2019, which led to additional incurred costs; however, we believe the new system will allow us to facilitate the automation of several processes in our central laboratory to increase efficiency and decrease costs in our sample analysis process over the next several years. Much of the cost of revenue expenses incurred primarily relate to salaries and benefits, laboratory supplies, shipping costs, equipment maintenance and calibration, utilities and depreciation. In the near- and long-term future, we remain committed to continuing the automation of our laboratory processes in order to become more cost efficient and productive.

Operating Expenses

Sales and Marketing

Sales and marketing expenses increased $3.5 million, or 125%, to $6.3 million for fiscal year 2019 compared to $2.8 million for fiscal year 2018. The increase was largely due to a $1.9 million increase in higher compensation-related costs, including salaries, commissions and benefits, due to an increase in our sales force and establishment of our payor access team throughout fiscal year 2019. In connection with our expanded sales force, we incurred an increase of $0.4 million in meals, entertainment and travel expenses as well as a $0.2 million increase in recruiting expenses. In addition, we incurred a $0.7 million in higher consulting expenses in connection with our new marketing campaign and sales force strategy. We expect to significantly add to our specialty sales force and payor access teams in 2020 and this would significantly increase our sales and marketing expenses.

Research and Development

R&D expenses increased $0.4 million, or 22%, to $2.5 million for fiscal year 2019 compared to $2.1 million for fiscal year 2018. The increase was due to $0.2 million in higher compensation related costs associated with additional headcount, and a $0.1 million increase in laboratory supplies to help expand our research and development efforts. The primary expenses in R&D include salaries and benefits, clinical trials, facility and lab supplies. We expect these expenses to increase as we continue the development of our non-melanoma skin cancer assays and other new products.

General and Administrative

General and administrative expenses increased $5.4 million, or 152%, to $8.9 million for fiscal year 2019 compared to $3.5 million for fiscal year 2018. The increase was due to $2.3 million of additional legal fees, $1.2 million of additional accounting fees, $0.6 million in additional headcount-related costs and $0.4 million of additional insurance costs. The increase was primarily due to significant costs incurred in association with our Business Combination and costs required to operate as a publicly traded company. We expect to these expenses to continue to increase as we add additional infrastructure such as human resources, information technology and legal resources. Ongoing expenses include salaries and benefits, facility costs, billing and collections, auditing and legal expenses.

Interest Expense, net

Interest expense increased to approximately $2.7 million for fiscal year 2019 compared to approximately $1.1 million for fiscal year 2018. During 2018 through 2019, DermTech Operations issued $9.4 million in convertible promissory notes and the recorded interest expense includes both the stated interest on the notes as well as amortization of debt discount on the notes. As these convertible bridge notes were extinguished in connection with the Business Combination, we do not expect any additional significant interest expense during the next fiscal year.

Other Expense

Other expense of $0.4 million for fiscal year 2019 is related to the change in fair value of the derivative liability from the various reporting periods throughout 2019. As these convertible bridge notes were extinguished in connection with the Business Combination, we do not expect to incur significant other expense during the next fiscal year.

Gain on Debt Extinguishment

Gain on debt extinguishment of $0.9 million for fiscal year 2019 is related to the conversion of our convertible notes in connection with our Business Combination. The net carrying amounts of the convertible notes, including remaining unamortized debt discount and issuance costs, and the bifurcated embedded derivative liability were extinguished on the date of the Business Combination. A gain on debt extinguishment was recognized, which represented the unamortized debt discounts and issuance costs remaining at the time of the debt extinguishment. As these convertible bridge notes were extinguished in connection with the Business Combination, we do not expect to incur other gain during the next fiscal year.

Liquidity and Capital Resources

We have never been profitable and have historically incurred substantial net losses, including net losses of $10.0 million in 2018 and $19.7 million in 2019. As of December 31, 2019, our accumulated deficit was $91.1 million, and we had negative operating cash flow of $17.8 million. In connection with the Business Combination, we completed the 2019 PIPE financing that raised a total of $24.0 million in gross proceeds in addition to the $1.8 million in cash the Company had on hand at the close of the Business Combination. We have historically financed operations through private placement equity offerings and convertible debt offerings.

We expect our losses to continue as a result of costs relating to ongoing R&D expenses and increased sales and marketing costs for existing and planned products. These losses have had, and will continue to have, an adverse effect on our working capital. Because of the numerous risks and uncertainties associated with our commercialization and development efforts, we are unable to predict when we will become profitable, and we may never become profitable. Our inability to achieve and then maintain profitability would negatively affect our business, financial condition, results of operation and cash flows.

As of December 31, 2019, our cash and cash equivalents totaled approximately $15.4 million. On February 28, 2020, we entered into a securities purchase agreement with certain institutional investors for a private placement, which closed on March 4, 2020, of our equity securities for aggregate gross proceeds of approximately $65.0 million, and net proceeds to us of approximately $60.0 million, after deducting estimated offering expenses payable by us. Based on our current business operations and the additional financing completed in March 2020, we believe our current cash and cash equivalents will be sufficient to meet our anticipated cash requirements for at least the next twelve months. While we believe we have enough capital to fund anticipated operating costs for at least the next 12 months, we expect to incur significant additional operating losses over at least the next several years. We anticipate that we will raise additional capital through equity offerings, debt financings, collaborations or licensing arrangements and believe this will be sufficient to continue to support our planned operations and to continue developing and commercializing gene expression tests. We may also consider raising additional capital in the future to expand our business, to pursue strategic investments or to take advantage of financing opportunities. Our present and future funding requirements will depend on many factors, including:

- our revenue growth rate and ability to generate cash flows from operating activities;

- the willingness of clinicians and their patients to use our telemedicine option for the PLA and the duration and extent of the effects of the ongoing COVID-19 pandemic in reducing patient access to clinician offices for in person testing;
- the duration and extent of the effects of the ongoing COVID-19 pandemic on our pharmaceutical customers' clinical trials;
- our sales and marketing and R&D activities;
- effects of competing technological and market developments;
- costs of and potential delays in product development;
- changes in regulatory oversight applicable to our tests; and
- timing of and costs related to future international expansion.

There can be no assurances as to the availability of additional financing or the terms upon which additional financing may be available to us. If we are unable to obtain sufficient funding at acceptable terms, we may be forced to significantly curtail our operations, and the lack of sufficient funding may have a material adverse impact on our ability to continue as a going concern.

Cash Flow Analysis

Fiscal Year Ended December 31, 2019

Net cash used in operating activities for the twelve months ended December 31, 2019 totaled $17.8 million, primarily driven by the $19.7 million net loss offset by non-cash related items, including $2.0 million in amortization of the convertible bridge notes debt discount, $1.3 million in stock-based compensation and $0.4 million in the change in the convertible bridge notes derivative liability, offset by the gain on extinguishment of convertible notes of $0.9 million and a tax payment of $1.6 million related to the release of certain employees' restricted stock units. In addition, we had $2.0 million of cash inflow through the increase of accounts payables and accrued compensation offset by the cash outflow of $1.0 million related to payments for prepaid insurance.

Net cash used in investing activities totaled $0.2 million for the twelve months ended December 31, 2019, which related predominantly to the purchase of laboratory equipment. As we scale our sales force and the resulting expected increase to assay volume, the timing of which increase in volume is uncertain as the ongoing COVID-19 pandemic has resulted in a reduced volume of billable samples received, additional laboratory equipment investment will be needed to install complex automation systems and other genomic testing equipment.

Net cash provided by financing activities totaled $28.6 million for the twelve months ended December 31, 2019, which was predominantly driven by the $25.6 million in net proceeds raised from the Business Combination and related 2019 PIPE financing and issuing $2.6 million in convertible notes. In order to fund future operations, we completed a private placement in March 2020 with certain institutional investors of our equity securities for aggregate gross proceeds of approximately $65.0 million, and net proceeds to the Company of approximately $60.0 million, after deducting estimated offering expenses payable by the Company.

Fiscal Year Ended December 31, 2018

Net cash used in operating activities for the twelve months ended December 31, 2018 totaled $7.6 million primarily driven by a $10.0 million net loss offset by non-cash related items, including $1.0 million in amortization of the convertible bridge notes debt discount, $0.9 million in stock-based compensation and $0.4 million in the change in the convertible bridge notes derivative liability. Accounts receivable increased by $0.2 million leading to a cash outflow that was primarily attributable to significant billings of advance payments related to our contract revenue business that was partially offset by the resulting increase in deferred revenue.

Net cash used in investing activities totaled $12,000 for the twelve months ended December 31, 2018, which related to the purchase of laboratory equipment.

Net cash provided by financing activities totaled $11.1 million, which included $4.5 million in Series C Preferred Stock sold by DermTech Operations through a private placement and $6.8 million in convertible bridge notes that were partially offset by $0.2 million in debt issuance costs.

Off-Balance Sheet Arrangements

As of December 31, 2019 and 2018, we did not have any off-balance sheet arrangements, as such term is defined under Item 303 of Regulation S-K, that have or are reasonably likely to have a current or future effect on our financial condition, changes in

financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

Critical Accounting Policies and Significant Judgments and Estimates

The preparation of consolidated financial statements in conformity with U.S. generally accepted accounting principles requires that management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the amounts of revenues and expenses reported during the period. On an ongoing basis, management evaluates these estimates and judgments, including but not limited to those related to revenue, warrants, stock-based compensation, accounts receivable, expense accruals, convertible debt, the realization of deferred tax assets, and common and preferred stock valuations. Actual results may differ from those estimates.

The SEC has defined a company's critical accounting policies as the ones that are most important to the portrayal of the company's financial condition and results of operations, and which require the company to make its most difficult and subjective judgments, often as a result of the need to make estimates of matters that are inherently uncertain. While our significant accounting policies are more fully described in Note 1 of our consolidated financial statements included in this report, we believe that the following accounting policies and judgments are most critical to aid in fully understanding and evaluating our reported financial results based upon the SEC's defined criteria.

Revenue Recognition

Our revenue is generated from two revenue streams, contract revenue and assay revenue. We account for revenue in accordance with ASC 606. The core principle of ASC 606 is that we recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which we expect to be entitled in exchange for those goods or services. The ASC 606 revenue recognition model consists of the following five steps: (1) identify the contracts with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract and (5) recognize revenue when (or as) the entity satisfies a performance obligation.

We recognize revenue from our contract and assay goods and service in accordance with that core principle and key aspects considered by us include the following:

(a) Contract Revenue

Contract revenue is generated from the sale of laboratory services and adhesive sample collection kits to third party companies through contract research agreements. Laboratory revenues result from providing gene expression tests to facilitate the development of drugs designed to treat dermatologic conditions. The provision of gene expression services may include sample collection using our patented adhesive patch biopsy devices, assay development for research partners, ribonucleic acid, or RNA isolation, expression, amplification and detection, including data analysis and reporting.

Performance obligations

ASC 606 requires an entity to assess the goods or services promised in a contract and identify as a performance obligation each promise to transfer to the customer either a good or service (or a bundle of goods or services) that is distinct, or a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. Based upon review of existing contracts, a majority of our contract revenue contracts contain three performance obligations:

(1) Adhesive patch kits

(2) RNA extractions and analysis

(3) Certain project management fees

Many of the contract revenue contracts contain promises such as start-up activities and quality system setup fees, which are activities that are performed to fulfill the contract and they do not transfer any good or service to the customer. These promises encompass the administrative tasks associated with beginning and initiating a new project or study with a pharmaceutical company. In accordance with ASC 606, an entity does not account for these activities as a promised good or service within the contract nor evaluate whether they are a performance obligation.

Transaction price

The transaction prices of all the performance obligations are listed in each contract on a per unit basis and are fixed based for the adhesive patch kits and RNA extractions and analysis. The project management fees are assessed based on a monthly service

fee which range within the contracts depending on certain factors which include length of project and amount of kits or RNA extractions and analysis promised within the contract. The fixed and variable rates are materially consistent within all contracts. Therefore, we utilize the prices listed in each of our contracts as the transaction price for each performance obligation.

Allocate the transaction price

All contracts have a directly observable transaction price pertaining to each promised good or service. Those prices are consistent across all contracts for adhesive patch kits and RNA extractions and analysis, with the exception of project management fees, which encompass a sufficiently narrow range of prices that are dictated upon factors of each contract previously discussed above. Therefore, we rely on those transaction prices as the basis to allocate the stand-alone selling prices to the performance obligations of the contract.

Recognize Revenue

The adhesive patch kits are recognized as point in time when shipped to the customer. The RNA extraction and analysis are recognized at a point in time when the extraction process is complete, and the results are sent to the customer. We provide project management service over the life of the contract, providing equal benefit to the customer throughout the life of the project or study. Therefore, the revenue related to project management fees is recognized straight-line over the life of the contract.

(b) Assay Revenue

We generate revenues from our Pigmented Lesion Assay, or PLA, and Nevome services we provide to healthcare clinicians in various states throughout the United States to assist in a clinician's diagnosis of melanoma. We provide prescribing clinicians with our adhesive sample collection kits to perform non-invasive skin biopsies of clinically ambiguous pigmented skin lesions on patients. Once the sample is collected by the healthcare clinician, it is returned to our CLIA laboratory for analysis. The patient RNA and deoxyribonucleic acid, or DNA, is extracted from the adhesive patch collection kit and analyzed using gene expression technology to determine if the pigmented skin lesion contains certain genomic features indicative of melanoma. Upon completion of the gene expression analysis, a final report is drafted and provided to the clinicians detailing the results of the pigmented skin lesion indicating whether the sample collected is indicative of melanoma or not. A detailed analysis of payments made to us by private health insurance payors for the assays over several quarters is used to estimate the ultimate receipt of funds for payment of billed amounts. These payments can vary widely from payor to payor and can be halted for routine audits or other reasons.

Contracts

Our customer is the patient. However, we do not enter into a formal reimbursement contract with a patient, as formal reimbursement contracts are more commonly established with insurance payors. Accordingly, we establish a contract with a patient in accordance with other customary business practices.

Performance obligations

A performance obligation is a promise in a contract to transfer a distinct good or service (or a bundle of goods or services) to the customer. The customer is able to order a PLA test. However, a Nevome test cannot be ordered separately from the PLA test and it is contingent on being run only when a PLA test comes back positive on a sample. The Nevome test would not qualify as a distinct service. Therefore, the PLA test is recognized as a single performance obligation and the Nevome test, if rendered, is bundled with the single PLA performance obligation.

Transaction price

The consideration derived from our contracts is deemed to be variable, though the variability is not explicitly stated in any contract. Rather, the implied variability is due to several factors, such as the amount of contractual adjustments, any patient co-payments, deductibles or patient compliance incentives, the existence of secondary payors and claim denials.

We estimate the amount of variable consideration using the expected value method, which represents the sum of probability-weighted amounts in a range of possible consideration amounts. When estimating the amount of variable consideration, we consider several factors, such as historical collections experience, patient insurance eligibility and payor reimbursement contracts.

We monitor our estimates of transaction price to depict conditions that exist at each reporting date. If we subsequently determine that we will collect more consideration than we originally estimated for a contract with a patient, we will account for the change as an increase in the estimate of the transaction price (i.e., an upward revenue adjustment) in the period identified. Similarly, if we subsequently determine that the amount we expect to collect from a patient is less than it originally estimated, we

will generally account for the change as a decrease in the estimate of the transaction price (i.e., a downward revenue adjustment), provided that such downward adjustment does not result in a significant reversal of cumulative revenue recognized.

Recognize revenue

Our single performance obligation is satisfied at a point in time, and that point in time is defined as the date a patient's successful test result is delivered to the patient's ordering physician. We consider this date to be the time at which the patient obtains control of the final results of the promised test service.

If a Nevome test service is ordered and completed in conjunction with our PLA service, then we will recognize revenue at a point in time upon the delivery of both the final reports to the physician. The delivery of our Nevome test results is commonly after our PLA results are delivered due to the circumstances of how we process the Nevome test. However, this length in time is determined to not materially impact the final overall revenue recognition timing.

Stock-Based Compensation

Compensation costs associated with stock option awards and other forms of equity compensation are measured at the grant-date fair value of the awards and recognized over the requisite service period of the awards on a straight-line basis.

We grant stock options to purchase common stock to employees with exercise prices equal to the fair market value of the underlying stock, as determined by the board of directors, management, outside valuation experts and subsequent to the completion of the Business Combination, the closing stock price on the date of grant. The board of directors and outside valuation experts determined the fair value of the underlying stock by considering a number of factors, including historical and projected financial results, the risks we faced at the time, the preferences of our debt holders and preferred stockholders, and the lack of liquidity of our common stock that occurred prior to the Business Combination.

The fair value of each stock option award is estimated using the Black-Scholes-Merton valuation model. Such value is recognized as expense over the requisite service period, net of estimated forfeitures, using the straight-line method. The expected term of options is based on the simplified method which defines the expected term as the average of the contractual term of the options and the weighted average vesting period for all option tranches. The expected volatility of stock options is based upon the historical volatility of a number of related publicly traded companies in similar stages of development. The risk-free interest rate is based on the average yield of U.S. Treasury securities with remaining terms similar to the expected term of the share-based awards. The assumed dividend yield was based on our expectation of not paying dividends in the foreseeable future.

Restricted stock units, or RSUs, are considered restricted stock. The fair value of restricted stock is equal to the fair market value of the underlying stock, as determined by the board of directors, management, input from outside valuation experts and subsequent to the completion of the Business Combination, the closing stock price on the date of grant. We recognize stock-based compensation expense based on the fair value on a straight-line basis over the requisite service periods of the awards, taking into consideration estimated forfeitures. RSUs that are granted to employees have a requisite service period between two and four years.

Recent accounting pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended, which will supersede virtually all existing revenue guidance. Under this standard, an entity is required to recognize revenue upon transfer of promised goods or services to customers in an amount that reflects the expected consideration received in exchange for those goods or services. As such, an entity will need to use more judgment and make more estimates than under the current guidance. This standard should be applied retrospectively either to each prior reporting period presented in the consolidated financial statements, or only to the most current reporting period presented in the consolidated financial statements with a cumulative effect adjustment recorded in retained earnings. This new standard is effective for interim and annual periods beginning after December 15, 2018 and early adoption is permitted.

The Company adopted ASC 606 on January 1, 2019, using the modified retrospective method and elected to utilize Practical Expedient 1 to apply the modified retrospective method to only contracts which were open as of January 1, 2019. Application of the modified retrospective method for the Company's contract revenue did require a cumulative effect adjustment upon adoption, which resulted in an adjustment of $45,000 to increase accumulated deficit and deferred revenue. Application of the modified retrospective method for the Company's assay revenue does not materially impact amounts previously reported by the Company, nor does it require a cumulative effect adjustment upon adoption, as the Company's method of recognizing revenue under ASC 606 was analogous to the method utilized immediately prior to adoption. Accordingly, there is no need for the Company to disclose the amount by which each financial statement line item was affected as a result of applying the new standard and an explanation of significant changes.

CHANGE TO REGISTRANT'S CERTIFYING ACCOUNTANT

On September 4, 2019, the Audit Committee, or the Audit Committee, of our board of directors, approved the dismissal of Marcum LLP, or Marcum, as our independent registered public accounting firm, effective as of September 4, 2019. Marcum had served as Constellation's independent registered public accounting firm for the fiscal years ended March 31, 2019 and 2018 and the subsequent periods through September 4, 2019.

The audit reports of Marcum on Constellation's financial statements for the fiscal years ended March 31, 2019 and 2018 contained no adverse opinion or disclaimer of opinion and were not qualified or modified as to uncertainty, audit scope or accounting principles, except for an explanatory paragraph in each such report regarding substantial doubt about our ability to continue as a going concern. During Constellation's fiscal years ended March 31, 2019 and 2018, and the subsequent periods through September 4, 2019, the date of Marcum's dismissal, there were no disagreements with Marcum on any matter of accounting principles or practices, financial statement disclosure, or auditing scope or procedure, which disagreement, if not resolved to the satisfaction of Marcum, would have caused Marcum to make reference to the subject matter of the disagreements in connection with its reports. None of the reportable events described under Item 304(a)(1)(v) of Regulation S-K occurred within Constellation's two most recent fiscal years and the subsequent interim periods through September 4, 2019.

We delivered a copy of Item 4.01(a) to our Current Report on Form 8-K filed on September 5, 2019 to Marcum on September 4, 2019 and requested a letter addressed to the SEC stating whether or not it agreed with the statements made in response to the Item and, if not, stating the respects in which it did not agree. Marcum responded with a letter dated September 5, 2019, a copy of which is filed as an exhibit to the registration statement of which this prospectus forms a part, stating that Marcum agreed with the statements set forth above.

On September 4, 2019, the Audit Committee authorized the appointment of KPMG LLP, or KPMG, as our new independent registered public accounting firm for the fiscal year ending December 31, 2019, and KPMG was appointed as our independent registered public accounting firm. During Constellation's fiscal years ended March 31, 2019 and 2018, and the subsequent interim period through September 4, 2019, neither Constellation, nor anyone on Constellation's behalf, consulted KPMG regarding either (i) the application of accounting principles to a specific transaction, either completed or proposed; or the type of audit opinion that might be rendered on Constellation's financial statements, and no written report or oral advice was provided to Constellation that KPMG concluded was an important factor considered by Constellation in reaching Constellation's decision as to an accounting, auditing, or financial reporting issue; or (ii) any matter that was either the subject of a disagreement (as defined in paragraph 304(a)(1)(iv) of Regulation S-K and the related instructions) or a reportable event (as described in paragraph 304(a)(1)(v) of Regulation S-K).

MANAGEMENT AND CORPORATE GOVERNANCE

The following discussion sets forth certain information regarding our management. Unless specifically noted or the context provides otherwise, as used throughout this section, "we," "our," "us" or the "Company" and the disclosures relating to management refer to DermTech Operations prior to, and the Company and its subsidiaries subsequent to, the completion of the Business Combination as the context requires.

Executive Officers and Directors

The following table lists the names, ages as of April 1, 2020 and positions of our current executive officers and directors:

Name	Age	Position
Executive Officers		
John Dobak, M.D.	54	Chief Executive Officer and Class II Director
Kevin Sun, MBA	42	Chief Financial Officer, Treasurer, and Secretary
Burkhard Jansen, M.D.	54	Chief Medical Officer
Todd Wood	51	Chief Commercial Officer
Zuxu Yao, Ph.D.	57	Chief Scientific Officer
Claudia Ibarra	57	Chief Operating Officer
Non-Employee Directors		
Matthew Posard [3]	52	Chairman of the Board and Class I Director
Cynthia Collins [1, 3]	61	Class I Director
Gary Jacobs [2, 3]	62	Class II Director
Scott Pancoast [1, 2]	61	Class III Director
Enrico Picozza	60	Class I Director
Herm Rosenman [1, 2]	72	Class II Director
Gene Salkind, M.D.	66	Class III Director

(1) Member of the audit committee
(2) Member of the compensation committee
(3) Member of the nominating and corporate governance committee

Executive Officers

John Dobak, M.D. has served on our board of directors since the completion of the Business Combination in August 2019 and served on DermTech Operations' board of directors between June 2012 and August 2019. Dr. Dobak has served as our Chief Executive Officer since the completion of the Business Combination in August 2019 and served as Chief Executive Officer of DermTech Operations between June 2012 and August 2019. From 2006 until 2011, Dr. Dobak served as the founder and Chief Executive Officer of Lithera, Inc., a pharmaceutical company developing an injectable product for dermatology. Dr. Dobak is the founder and President of the JAKK Group, a life sciences technology accelerator, which has created several companies including Lithera, Inc., INNERCOOL Therapies, Inc., CryoGen, Inc., and CryoCor, Inc. Dr. Dobak's companies have developed and marketed therapeutics devices for endovascular hypothermia, cryosurgical cardiac catheters, and endometrial ablation. Dr. Dobak received a Bachelor's Degree from the University of California, Los Angeles and a Medical Doctorate from the University of California, San Diego. Dr. Dobak is qualified to serve on our board of directors because of his service as DermTech Operations' Chief Executive Officer, his service as a member of DermTech Operations' board of directors and his experience founding and operating multiple companies in the life sciences industry.

Kevin Sun, has served as our Chief Financial Officer, Treasurer and Secretary since September 2019. Mr. Sun joined DermTech Operations in August 2019 and served in the role of Vice President, Finance. From June 2008 to November 2018, Mr. Sun served in various management and executive roles for Dexcom, Inc. including most recently as Vice President, Corporate Controller and Treasury from November 2017 to November 2018, as Interim Chief Financial Officer from April 2017 to September 2017, as Vice President, Finance from February 2016 to November 2017, and as Senior Director, Finance from March 2014 to February 2016. Prior to Dexcom, Mr. Sun held various roles of increasing responsibility at Biosite Incorporated from 2004 to 2008, most recently as Senior Manager, Financial Planning and Analysis. Mr. Sun holds a B.S. in Business with a dual major in Accounting and Finance, a minor in Psychology, a Masters in Strategic Management and an MBA from the Kelley School of Business at Indiana University.

Burkhard Jansen, M.D. has served as our Chief Medical Officer since the completion of the Business Combination in August 2019 and served as Chief Medical Officer of DermTech Operations between January 2017 and August 2019. From October 2015 to January 2017, Dr. Jansen served as Vice President of Clinical Development of DermTech Operations, and from June 2013 to October 2015, he served as a consulting expert to DermTech Operations in dermatology, medical affairs and clinical trials. Dr. Jansen has served as founder, director, and senior executive of a number of dermatology and oncology focused life sciences companies, including Novelix, Avienne, and Oncogenex in the US, Canada, and Europe. Dr. Jansen received his medical doctorate and dermatology training from the Universities of Graz and Vienna in Austria, his postdoctoral science training at the University of Minnesota, and his executive business education at UCLA.

Zuxu Yao, Ph.D. has served as our Chief Scientific Officer since the completion of the Business Combination in August 2019 and served as Chief Scientific Officer of DermTech Operations between January 2017 and August 2019. Prior to that, Dr. Yao served as DermTech Operations' Vice President Assay Development between November 2014 and June 2017. From April 2012 to October 2014, Dr. Yao served as Vice President Assay Development at Nexogen, Inc. Dr. Yao received his bachelor's degree in Microbiology from Xiamen University in China, his master's degree in animal sciences from Wageningen University in the Netherlands and his Ph.D. in biology from Memorial University of Newfoundland, Newfoundland, Canada.

Todd Wood has served as our Chief Commercial Officer since the completion of the Business Combination in August 2019 and served as Chief Commercial Officer of DermTech Operations between January 2019 and August 2019. From March 2018 to December 2018, Mr. Wood served as Vice President Global Sales for Obalon Therapeutics, a medical device company. Prior to that Mr. Wood served in a variety of executive roles at Allergan including Vice President US Medical Dermatology Sales from June 2016 through March 2018 and as Vice President US Eye Care Sales from March 2013 to June 2016. Mr. Wood received a bachelor's degree from Grand Valley State University.

Claudia Ibarra joined us in October 2019 as our Chief Operating Officer and, following a transition period, assumed day-to-day leadership of our operations function in March 2020. Ms. Ibarra has over 25 years of experience in clinical laboratory operations, in the areas of oncology, immunology and molecular biology. From February 2012 through October 2019, Ms. Ibarra served in various management roles for Exagen Inc., including most recently as Senior Vice President of Laboratory Operations. From March 2006 through February 2012, Ms. Ibarra served in various roles of increasing responsibility at Genoptix, Inc., most recently as the Director of the Molecular Oncology Laboratory and the Molecular Genetic Training Program Coordinator. Ms. Ibarra also has experience at other reference clinical laboratories focused on immunology and solid tumors. Ms. Ibarra holds a degree in Biochemistry with specialization in clinical laboratory science from the University of Buenos Aires, Argentina and a California License as Clinical Laboratory Scientist.

Non-Employee Directors

Matthew L. Posard has served as Chairman of our board of directors since the completion of the Business Combination in August 2019, served on DermTech Operations' board of directors between 2016 and August 2019 and served as Chairman of DermTech Operations' board of directors between June 2019 and August 2019. Mr. Posard currently serves as Founding Partner at Explore-DNA, a Life Sciences and Diagnostics consulting firm. Mr. Posard served as the President and Chief Commercial Officer of GenePeeks from February 2017 to April 2018 and as Executive Vice President and Chief Commercial Officer at Trovagene from March 2015 to April 2016. Mr. Posard also held multiple executive leadership roles at Illumina, Inc. from 2006 to 2015. Mr. Posard is currently on the boards of Halozyme Therapeutics (Nasdaq: HALO), Talis BioMedical and Nautilus Bio and is Executive Chairman of Stemson Therapeutics and GALT, Inc. Mr. Posard holds a bachelor's degree in Management Science from the University of California, San Diego. Mr. Posard is qualified to serve on our board of directors because of his extensive experience as an executive and serving on various boards of directors of companies in the life sciences industry, including DermTech Operations'.

Cynthia Collins has served on our board of directors since the completion of the Business Combination in August 2019 and on DermTech Operations' board of directors between July 2018 and August 2019. Ms. Collins has served as Chief Executive Officer of Editas Medicine, Inc. (Nasdaq:EDIT) since March 2019 and has served as a member of the board of directors of Editas Medicine since December 2018. Ms. Collins served as Chief Executive Officer of Human Longevity Inc. from January 2017 to December 2017. Before that, Ms. Collins served as the Chief Executive Officer and General Manager of General Electric's Healthcare Cell Therapy and Lab Businesses from April 2015 to December 2016, and as Chief Executive Officer of General Electric's Clarient Diagnostics, Inc. division from October 2013 to April 2015. Prior to that, Ms. Collins served as CEO of GenVec, Inc., a public vaccine and gene therapy company, from May 2012 to September 2013. Before that, she served as Group Vice President, Cellular Analysis Business of Beckman Coulter from 2007 to 2011 with responsibility for its Hematology, Flow Cytometry, and Hemostasis businesses. Prior to that, she served as CEO of Sequoia Pharmaceuticals, Inc., a company developing HIV and HCV therapeutics. Ms. Collins is currently a member of the board of directors of ARM Foundation for Cell and Gene Medicine, Triumvira Immunologics, Inc. and Biocare Medical, LLC. Ms. Collins received her BS degree in Microbiology from the University of Illinois, Urbana and her MBA from The University of Chicago Booth School of Business. Ms. Collins is qualified to serve on our board of directors because of her broad experience serving as the chief executive officer for a variety of companies in the life sciences industry and her experience serving on numerous boards of directors.

Gary Jacobs has served on our board of directors since the completion of the Business Combination in August 2019, on DermTech Operations' board of directors between 2006 and August 2019 and as Chairman of DermTech Operations board of directors between 2006 and June 2019. Since 2004, Mr. Jacobs has served on the board of Next Generation Technologies, Inc., a bio-technology incubator specializing in bio-tech and medical devices. Since 2009, Mr. Jacobs has served on the board of Bio2 Technologies, Inc., a medical device company specializing in fiber bonding for biocompatible materials. From 2012 to 2019, Mr. Jacobs served on the board of Motus GI Medical Technologies Ltd., a public medical device company that develops endoscopy devices. Since 2012, Mr. Jacobs has served as chairman of NGT3 - New Generation Technology, a bio-technology incubator specializing in bio-tech and medical devices. Since 2008, Mr. Jacobs has served on the board of Medical Surgical Technologies, Ltd., another medical device company that develops laparoscopy manipulator systems. Mr. Jacobs is an active investor and philanthropist and is Chairman of the Board of Trustees of High Tech High, or HTH, as well as a board member of the HTH Graduate School of Education. He serves as Chairman of the Board of JCC Association of North America and serves on the board of the Lawrence Family Jewish Community Center. Mr. Jacobs also chairs the Dean's Advisory Council for the Social Sciences at University of California, San Diego, and is a member of the UCSD Athletic Board and UCSD Foundation Board. Mr. Jacobs received his Bachelor of Arts degree in Management Science from the University of California, San Diego. Mr. Jacobs is qualified to serve on our board of directors because of his considerable experience serving on multiple other boards of directors, including as Chairman of DermTech Operations' board for thirteen years.

Scott Pancoast has served on our board of directors since the completion of the Business Combination in August 2019 and on DermTech Operations' board of directors between 2013 and August 2019. Mr. Pancoast is the founder of of Zylö Therapeutics Inc., a company developing an innovative sustained topical drug-delivery system, and he has served as Chief Executive Officer and as a board member from October 2017 to present. From November 2014 to October 2017, Mr. Pancoast served as President of Rutledge Investment Group, a real-estate-focused entity. From 2005 until 2014, Mr. Pancoast served as Chief Executive Officer and as a board member of Lpath Inc., a public biotechnology company that generated lipodomic-based therapeutic antibodies. Mr. Pancoast has served as the chief executive officer or interim chief executive officer for eight start-up companies, as the chief financial officer for a public company, and as a director for over 15 companies, including four public companies. Mr. Pancoast holds a B.A. in economics from the University of Virginia and an M.B.A. from Harvard Business School. Mr. Pancoast is qualified to serve on our board of directors because of his wide-ranging experience serving as the chief executive officer and as a director for multiple companies, including start-up companies and public companies.

Enrico Picozza has served on our board of directors since the completion of the Business Combination in August 2019. Since 2011, Mr. Picozza has served as partner of HLM Venture Partners, a venture firm that invests in tech-enabled healthcare services, healthcare information technology, and medical device and diagnostics companies. From 2018 to present, Mr. Picozza has served as chairman of the board of RubiconMD, Inc., an eConsult platform focused on eliminating unnecessary visits to specialists and providing better care and cost saving to patients and health systems. From 2016 to present, Mr. Picozza has served on the board of mPulse Mobile, Inc., a provider of conversational artificial intelligence solutions for the healthcare industry. From 2016 to present, Mr. Picozza has also served on the board of Able To, Inc., a provider of virtual behavioral healthcare. Mr. Picozza also currently serves on the council of advisors of BioAccel, a non-profit organization. From 2015 to 2018, Mr. Picozza served on the board of Aventura HQ, Inc., a developer of a software solution designed to simplify usability of electronic medical records in hospital settings. From 2016 to 2018, Mr. Picozza served on the board of Spinal Kinetics, Inc., a provider of freedom of motion spinal disk implants. From 2015 to 2017, Mr. Picozza served as chairman of the board of Vericare Management, Inc., a provider of behavioral health services and drug management, which merged with Medoptions, Inc. in 2016. From 2015 to 2017, Mr. Picozza also served on the board of Medicalis Corporation, a provider of a decision support platform designed to streamline the radiology approval process. From 2015 to 2016, Mr. Picozza served on the board of Transcend Medical, makers of an implantable device to help regulate interocular pressure for patients with glaucoma. Mr. Picozza has extensive management experience, including his experience in various leadership roles he held at Applied Biosystems, Inc. and PerkinElmer, Inc., where he was involved in the development and commercialization of polymerase chain reaction technology, and as a co-founder of HTS Biosystems, Inc., which was sold to Biacore International AB in 2005. Mr. Picozza is the inventor on several patents, the author of numerous scientific papers and a frequent domestic and international speaker. Mr. Picozza received his Bachelor of Science from the University of Connecticut in 1984 and attended the University of Connecticut for post-graduate studies while working at PerkinElmer, Inc. Mr. Picozza is qualified to serve on our board of directors because of his considerable experience serving as an officer and as a director of multiple life sciences companies.

Herm Rosenman has served on our board of directors since the completion of the Business Combination in August 2019 and on DermTech Operations' board of directors between February 2017 and August 2019. Additionally, Mr. Rosenman served as Natera's Chief Financial Officer from February 2014 to January 2017 and has served on its board of directors since February 2017. Prior to Natera, Mr. Rosenman served as senior vice president of finance and Chief Financial Officer at Gen-Probe Incorporated, or Gen-Probe, a developer, manufacturer and marketer of diagnostic and screening products using nucleic acid probes, from June 2001 to October 2012, when Gen-Probe was acquired by Hologic, Inc., a diagnostic products, medical imaging systems, and surgical products company. From August 2012 to February 2014, Mr. Rosenman focused on his board memberships. Mr. Rosenman has served on the board of directors of each of Oxford Immunotec Global PLC, a commercial-stage diagnostics company and of Vivus, Inc., a biopharmaceutical company, since 2013. Mr. Rosenman also previously served on the board of directors of Medistem, Inc., a stem cell therapy company, ARYx Therapeutics Inc., a private drug discovery and development

company, Infinity Pharmaceuticals, Inc., a drug discovery and development company, Biofire Diagnostics and a number of privately held companies. Mr. Rosenman holds a B.B.A. in accounting and finance from Pace University and an M.B.A. from the Wharton School of the University of Pennsylvania. Mr. Rosenman is qualified to serve on our board of directors because of his experience serving as the chief financial officer and as a director of multiple life sciences companies.

Gene Salkind, M.D., has served on our board of directors since the completion of the Business Combination in August 2019 and on the DermTech Operations' board of directors between 2004 and August 2019. Dr. Salkind also sits on the boards of Cure Pharmaceuticals, Inc. and Mobiquity Technolgies, Inc. Dr. Salkind's background includes more than 25 years as a practicing neurosurgeon in a private practice, with academic affiliation in Pennsylvania. He is the Chairman of Neurosurgery at the Holy Redeemer Hospital and Medical Center and is the former Chairman of Neurosurgery at the Albert Einstein Medical Center. Dr. Salkind has held professorships at the University of Pennsylvania and at the Temple University School of Medicine. Dr. Salkind has published multiple papers on general neurosurgical topics, has been a guest lecturer worldwide, and sits on numerous boards. Dr. Salkind received his B.A. (cum laude) from the University of Pennsylvania and his M.D. from the Temple University School of Medicine, with distinction. He completed his training in neurological surgery at the Hospital of the University of Pennsylvania where he became the Chief Resident in 1985. Dr. Salkind is qualified to serve on our board of directors because of his lengthy career as a practicing doctor and his experience serving on numerous boards of directors, including DermTech Operations' for fifteen years.

Composition of the Board of Directors

Our board of directors consists of eight directors and is divided into three staggered classes, each serving staggered three-year terms until their respective successors are duly elected and qualified, as follows:

- our Class I directors are Matt Posard, Cynthia Collins and Enrico Picozza and their terms will expire at the annual meeting of stockholders in 2022;
- our Class II directors are Herm Rosenman, John Dobak and Gary Jacobs and their terms will expire at the annual meeting of stockholders in 2021; and
- our Class III directors are Gene Salkind and Scott Pancoast and their terms will expire at the annual meeting of stockholders in 2020.

Our board of directors has voted to nominate Mr. Pancoast for re-election at the Company's upcoming annual meeting of stockholders for a term of three years to serve until the 2023 annual meeting of stockholders and until the election and qualification of his successor or his earlier death, resignation or removal. Our board of directors did not nominate a candidate to fill the vacancy in this election cycle that will result from the expiration of Dr. Salkind's term as a director. Accordingly, the board seat currently held by Dr. Salkind will remain vacant following the Company's upcoming annual meeting of the stockholders until filled by our board of directors in accordance with our certificate of incorporation and bylaws.

There are no familial relationships among any of our executive officers or directors.

Director Independence

Our common stock is listed on the Nasdaq Capital Market. Under the rules of The Nasdaq Stock Market, or Nasdaq, independent directors must comprise a majority of a listed company's board of directors. In addition, Nasdaq rules require that, subject to specified exceptions, each member of a listed company's audit, compensation and nominating committee be independent. Audit committee and compensation committee members must also satisfy the enhanced independence criteria set forth in Rules 10A-3 and 10C-1 under the Exchange Act, respectively, and corresponding Nasdaq rules.

Based on information requested from and provided by each director concerning his or her background, employment and affiliations, our board of directors has determined that each of Cynthia Collins, Gary Jacobs, Scott Pancoast, Enrico Picozza, Matthew Posard, Herm Rosenman and Gene Salkind, M.D. are independent directors within the meaning of applicable Nasdaq rules, and that each member of our audit committee and compensation committee satisfies the enhanced independence requirements of applicable Nasdaq and SEC rules. In making this determination, the current and prior relationships of each non-employee director with the Company and all other facts and circumstances deemed relevant were considered, including their beneficial ownership of our capital stock and any related party relationships involving the Company and any such director, as described under "Certain Relationships and Related Person Transactions" below. The board of directors has determined that John Dobak, M.D. is not independent because he is an employee of the Company.

There are no family relationships between any director or executive officer of the Company, and there are no arrangements or understandings between any director and any other person pursuant to which such director was selected as a director.

Committees of the Board of Directors

Our board of directors has an Audit Committee, a Compensation Committee and a Nominating and Corporate Governance Committee.

Audit Committee

The Audit Committee of our board of directors was established in accordance with Section 3(a)(58)(A) of the Exchange Act to oversee our corporate accounting and financial reporting processes and audits of its financial statements. For this purpose, our Audit Committee performs several functions, including, among other things:

- selecting a firm to serve as the independent registered public accounting firm to audit our financial statements;
- ensuring the independence of the independent registered public accounting firm;
- discussing the scope and results of the audit with the independent registered public accounting firm, and reviewing, with management and that firm, our interim and year-end operating results;
- establishing procedures for employees to anonymously submit concerns about questionable accounting or audit matters;
- considering the effectiveness of our internal controls and internal audit function;
- reviewing material related-party transactions or those that require disclosure; and
- approving or, as permitted, pre-approving all audit and non-audit services to be performed by the independent registered public accounting firm.

Our management has the primary responsibility for its consolidated financial statements and the reporting process including its system of internal accounting and financial controls.

The Audit Committee consists of Cynthia Collins, Scott Pancoast and Herm Rosenman, with Herm Rosenman serving as its chairperson.

The board of directors has determined that Mr. Rosenman qualifies as an “audit committee financial expert,” as defined in applicable SEC rules. The board of directors made a qualitative assessment of Mr. Rosenman’s level of knowledge and experience based on a number of factors, including his formal education and experience in financial roles.

Compensation Committee

The Compensation Committee of the board of directors acts on behalf of the board of directors to review, adopt or recommend for adoption, and oversee our compensation strategy, policies, plans and programs. For this purpose, the Compensation Committee performs several functions, including, among other things:

- reviewing and making recommendations to the board of directors with respect to the compensation of our chief executive officer;
- reviewing and approving the compensation of our executive officers other than the chief executive officer;
- reviewing and approving the compensation of our directors;
- reviewing or approving the compensation of employees other than executive officers;
- administering our stock and equity incentive plans;
- reviewing and approving, or making recommendations to our board of directors with respect to, incentive compensation and equity plans; and
- reviewing all overall compensation policies and practices.

Our Compensation Committee Charter, established by the board of directors, also provides that the Compensation Committee may, in its sole discretion, retain or obtain the advice of a compensation consultant, legal counsel or other advisor and is directly responsible for the appointment, compensation and oversight of the work of any such advisor. However, before engaging or receiving advice from a compensation consultant, external legal counsel or any other advisor, the Compensation Committee will consider the independence of each such advisor, including the factors required by Nasdaq and the SEC.

The Compensation Committee consists of Gary Jacobs, Scott Pancoast and Herm Rosenman, with Scott Pancoast serving as its chairperson.

Nominating and Corporate Governance Committee

The Nominating and Corporate Governance Committee of the board of directors is responsible for the following:

- identifying and recommending candidates for membership on the board of directors;
- recommending directors to serve on board committees;
- reviewing and recommending our corporate governance guidelines and policies;
- evaluating, and overseeing the process of evaluating, the performance of the board of directors and individual directors; and
- assisting the board of directors on corporate governance matters.

The Nominating and Corporate Governance Committee consists of Cynthia Collins, Gary Jacobs and Matthew Posard, with Cynthia Collins serving as its chairperson. The Nominating and Corporate Governance Committee is governed by a written charter approved by the board of directors.

EXECUTIVE OFFICER AND DIRECTOR COMPENSATION

The following discussion sets forth certain information regarding our executive compensation. Unless specifically noted or the context provides otherwise, as used throughout this section, "we," "our," "us" or the "Company" and the disclosures relating to executive compensation refer to DermTech Operations prior to, and the Company and its subsidiaries subsequent to, the completion of the Business Combination as the context requires.

This section discusses the material components of the executive compensation program offered to our named executive officers identified below.

Our named executive officers for the year ended December 31, 2019 are referred to in this prospectus as the "named executive officers." The named executive officers and their current positions (or former position, as applicable) are as follows:

Name	Title
John Dobak	Chief Executive Officer
Burkhard Jansen	Chief Medical Officer
Todd Wood	Chief Commercial Officer
Steve Kemper	Former Chief Financial Officer

Summary Compensation Table

The following table provides information regarding our named executive officers during the fiscal year ended December 31, 2019. For information regarding our current management, please see the section entitled "*Management and Corporate Governance – Executive Officers and Directors*" beginning on page 72 of this prospectus.

The following table presents information regarding the total compensation awarded to, earned by, and paid to our named executive officers for services rendered to us in all capacities for the years indicated.

Name and Principal Position	Year	Salary ($)	Bonus ($)(1)	Stock Awards ($)	Option Awards ($)	All Other Compensation ($)	Total ($)
John Dobak	2019	358,263	107,479	123,715(2)	186,063(3)	747,349(4)(5)	1,522,869
Chief Executive Officer	2018	349,525	68,158	280,381(6)	—	10,168	708,232
Burkhard Jansen	2019	275,706	55,141	33,902(2)	27,131(3)	88,949(4)	480,829
Chief Medical Officer	2018	270,300	35,139	76,540(6)	—	—	381,979
Todd Wood	2019	265,625	104,336	—	146,064(3)	320,592(4)	836,617
Chief Commercial Officer							
Steven Kemper	2019	287,809(7)	—	60,465(2)	50,921(3)	192,662(4)(8)	591,857
Former Chief Financial Officer	2018	271,625	35,311	136,207(6)	—	18,000	461,143

(1) Amounts reported represent bonus amounts paid in the discretion of our board of directors or our Compensation Committee.

(2) Amounts reported represent the aggregate incremental fair value of stock awards computed in accordance with Financial Accounting Standards Board Accounting Standards Codification No. 718, Compensation-Stock Compensation, or FASB ASC Topic 718, resulting from the acceleration of vesting of such stock awards in connection with the Business Combination (the "Incremental Stock Award Acceleration Fair Value").

(3) Amounts reported represent (i) the aggregate fair value of option awards computed as of the issuance date of each option award in accordance with FASB ASC Topic 718, in the amounts of: (a) Dr. Dobak $100,347, (b) Dr. Jansen $19,748, (c) Mr. Wood $99,761 and (d) Mr. Kemper $27,462; plus (ii) the aggregate incremental fair value of option awards computed in accordance with FASB ASC Topic 718 resulting from the acceleration of vesting of such option awards in connection with the Business Combination (the "Incremental Option Award Acceleration Fair Value"), in the amounts of: (a) Dr. Dobak $85,716, (b) Dr. Jansen $7,383, (c) Mr. Wood $46,303 and (d) Mr. Kemper $23,458.

(4) Of the total amounts of All Other Compensation in 2019 for each of our named executive officers, amounts attributable to the value of acceleration of vesting of stock awards and option awards in connection with the Business Combination are as follows: (i) Dr. Dobak $740,754, (ii) Dr. Jansen $88,949, (iii) Mr. Wood $320,592 and (iv) Mr. Kemper $192,662. Such amounts included in the All Other Compensation column represent: (a) the product of (1) the number of shares of common stock underlying stock awards and option awards held by such named executive officer with respect to which vesting accelerated in connection with the Business Combination and (2) $6.50, our estimate of the fair market value of our common stock as of the date of acceleration of vesting (which figure is based on the price per share in the 2019 PIPE Financing); less (b) the sum of (1) the aggregate exercise price of option awards held by such named executive officer with respect to which vesting accelerated in connection with the Business Combination, (2) the Incremental Stock Award Acceleration Fair Value (which amount is reported in the Stock Awards column) and (3) the Incremental Option Award Acceleration Fair Value (which amount is included in the amount reported in the Option Awards column).

(5) Of the total amount of All Other Compensation for Dr. Dobak in 2019, $6,595 represents reimbursement of certain fees paid by Dr. Dobak relating to his membership in the Young Presidents' Organization.
(6) Amounts reported represent the aggregate fair value of stock awards computed as of the issuance date of each stock award in accordance with FASB ASC Topic 718.
(7) Of this amount, $19,289 represents accrued vacation paid in connection with Mr. Kemper's resignation and $3,212 represents an amount paid in respect of the late payment of such accrued vacation.
(8) Of the total amount of All Other Compensation for Mr. Kemper in 2019, $15,000 represents reimbursement of certain health care expenses paid by Mr. Kemper.

Narrative Disclosure to Summary Compensation Table

Employment, Severance and Separation Agreements

We entered into executive employment agreements with our Chief Executive Officer, John Dobak, and our former Chief Financial Officer, Steven Kemper, and employment letters with our current Chief Financial Officer, Kevin Sun, our Chief Medical Officer, Burkhard Jansen, and our Chief Commercial Officer, Todd Wood, each in connection with their employment with us, the material terms of which are described below. Except as noted below, these documents provide for "at will" employment. In addition, each of the named executive officers and Mr. Sun have entered into confidentiality agreements obligating them to refrain from disclosing any of our proprietary information received during the course of their employment.

John Dobak, M.D.

We entered into an executive employment agreement with Dr. Dobak, as our Chief Executive Officer and President, on June 26, 2012. Pursuant to the terms of this agreement, Dr. Dobak's initial annual base salary was $250,000, which salary has since increased to $480,000 pursuant to annual discretionary raises granted by our Compensation Committee and board of directors. In connection with his hiring, Dr. Dobak received a stock option grant exercisable for up to 5% of DermTech Operations' fully-diluted capitalization at an exercise price equal to the fair market value of our common stock on the date of the grant. Following both the initial closing of the sale of our Series B Preferred Stock and the May 11, 2017 closing of the sale of our Series C Preferred Stock, Dr. Dobak also received one-time additional options to purchase the number of shares of common stock such that, immediately following each such closing, the aggregate number of shares subject to options granted to Dr. Dobak would represent 5% of our outstanding shares of common stock. Dr. Dobak is eligible to receive annual discretionary bonuses of up to 30% of his annual base salary.

Dr. Dobak's employment agreement provides that in the event that Dr. Dobak is terminated without cause or resigns from his position for good reason (as defined in the employment agreement), he is entitled to receive his then in effect base salary, prorated to the date of termination, his accrued benefits and a severance package consisting of (a) a payment equal to six months of his then in effect base salary payable in a lump sum, (b) payment by us of the premiums required to continue Dr. Dobak's group health care coverage for a period of six months following termination, provided that Dr. Dobak remains eligible for Consolidated Omnibus Budget Reconciliation Act, or COBRA, benefits and (c) except in the event that Dr. Dobak's termination without cause or resignation for good reason occurs within 18 months following a change of control (as defined in the employment agreement), six months additional vesting of any of Dr. Dobak's outstanding equity awards under our stock plan, with one year after the date of termination to exercise any vested portion of any stock option under the stock plan. On February 28, 2014, we amended our employment agreement with Dr. Dobak, which amendment, among other things, provided for the payment of cash and equity bonus awards in connection with the closing of our next qualified financing, which occurred on May 11, 2017 at one of the closings of the sale of our Series C Preferred Stock.

On January 4, 2019, Dr. Dobak was granted an option to purchase 137,175 shares of DermTech Operations common stock, at an exercise price of $1.12 per share and vesting monthly over four years.

Our Compensation Committee deemed the Business Combination a change in control for purposes of Dr. Dobak's employment agreement. In addition, our board of directors deemed any resignation of Dr. Dobak during the 18-month period following such change in control a resignation for good reason for purposes of his employment agreement. The board of directors also fully accelerated the vesting of all shares of DermTech Operations common stock underlying each of Dr. Dobak's outstanding stock options and restricted stock units effective as of immediately prior to the consummation of the Business Combination.

On January 14, 2020, following the recommendation of the Compensation Committee, the board of directors granted to Dr. Dobak (i) an option to purchase 76,861 shares of common stock and (ii) 26,901 restricted stock units representing the contingent right to receive shares of common stock. The option grant was effective on January 14, 2020 and the grant of restricted stock units was effective on January 17, 2020. The options have an exercise price of $9.73 per share and vest in equal monthly installments over the 36 months following the date of grant. Twenty-five percent of the restricted stock units awarded to Dr. Dobak vest on September 7, 2020 and the remaining seventy-five percent vest in equal quarterly installments until fully vested on December 7, 2022.

On March 18, 2020, the board of directors approved a discretionary grant to Dr. Dobak under our stock plan of restricted stock units representing the contingent right to receive 17,842 shares of our common stock. All of the restricted stock units awarded to Dr. Dobak vest in a single installment on March 18, 2021, subject to certain acceleration events described in Dr. Dobak's award agreement evidencing such restricted stock units.

As further described below in the section entitled "2020 Corporate Bonus Plan," Dr. Dobak is eligible to receive a performance-based cash bonus pursuant to our 2020 Bonus Plan. Dr. Dobak's target bonus under the 2020 Bonus Plan is 60% of his actual wages earned during the 2020 fiscal year, with a maximum payout of 73.2% upon exceeding targets for specified corporate objectives and achieving stretch goals.

Burkhard Jansen, M.D.

Dr. Jansen's employment, initially as our Vice President of Clinical Development and then as our Chief Medical Officer as of January 2017, is at-will and began on October 1, 2015 pursuant to an offer of employment letter from us. Dr. Jansen's initial annual base salary was $240,000 and has since increased to $285,000 pursuant to annual discretionary raises granted by our Compensation Committee. Dr. Jansen is eligible to receive an annual discretionary bonus of up to 20% of his annual base salary. In connection with his hiring, Dr. Jansen received a stock option to purchase 21,244 shares of our common stock, as adjusted for the Exchange Ratio and the Reverse Stock Split. If, subsequent to an acquisition of us by another company, Dr. Jansen is terminated within one year following the acquisition, and the acquiring company does not assume liability for Dr. Jansen's stock options, 100% of his unvested options will vest. In the event that Dr. Jansen's employment is terminated by us other than for cause, he is entitled to payment of his then in effect base salary for a period of three months.

On January 4, 2019, Dr. Jansen was granted an option to purchase 26,995 shares of DermTech Operations common stock, at an exercise price of $1.12 per share and vesting monthly over four years.

In connection with the Business Combination, the Compensation Committee accelerated two years of vesting of all shares of DermTech Operations common stock underlying all outstanding stock options and restricted stock units held by persons who had been employed or contracted by DermTech Operations, or served as members of DermTech Operations' board of directors, for at least six months, effective as of immediately prior to the consummation of the Business Combination. Accordingly, the vesting of Dr. Jansen's stock options and restricted stock units accelerated by two years immediately prior to the consummation of the Business Combination.

On January 14, 2020, the Compensation Committee granted to Dr. Jansen an option to purchase 43,120 shares of common stock. The option grant was effective on January 14, 2020. The options have an exercise price of $9.73 per share and vest in equal monthly installments over the 36 months following the date of grant.

As further described below in the section entitled "2020 Corporate Bonus Plan," Dr. Jansen is eligible to receive a performance-based cash bonus pursuant to our 2020 Bonus Plan. Dr. Jansen's target bonus under the 2020 Bonus Plan is 35% of his actual wages earned during the 2020 fiscal year, with a maximum payout of 42.7% upon exceeding targets for specified corporate objectives and achieving stretch goals.

Todd Wood

Mr. Wood's employment as our Chief Commercial Officer is at-will and began on January 14, 2019 pursuant to an offer of employment letter from us. Mr. Wood's initial annual base salary was $275,000. Mr. Wood's annual base salary increased to $300,000 upon the closing of the Business Combination pursuant to the offer of employment letter and it has since increased to $315,000 pursuant to an annual discretionary raise granted by our Compensation Committee. Mr. Wood was eligible to and did receive a bonus of $25,000 upon the closing of the Business Combination. Mr. Wood is eligible to receive an annual target performance bonus of up to 30% of his gross base salary. In connection with his hiring, Mr. Wood received a stock option to purchase 136,373 shares of our common stock, as adjusted for the Exchange Ratio and the Reverse Stock Split.

In connection with the Business Combination, the Compensation Committee accelerated two years of vesting of all shares of DermTech Operations common stock underlying all outstanding stock options and restricted stock units held by persons who had been employed or contracted by DermTech Operations, or served as members of DermTech Operations' board of directors, for at least six months, effective as of immediately prior to the consummation of the Business Combination. Accordingly, the vesting of Mr. Wood's stock option accelerated by two years immediately prior to the consummation of the Business Combination.

On January 14, 2020, the Compensation Committee granted to Mr. Wood (i) an option to purchase 22,535 shares of common stock and (ii) 14,647 restricted stock units representing the contingent right to receive shares of common stock. The option grant was effective on January 14, 2020 and the grant of restricted stock units was effective on January 17, 2020. The options have an exercise price of $9.73 per share and vest in equal monthly installments over the 36 months following the date of grant. Twenty-five percent of the restricted stock units awarded to Mr. Wood vest on September 7, 2020 and the remaining seventy-five percent vest in equal quarterly installments until fully vested on December 7, 2022.

As further described below in the section entitled "2020 Corporate Bonus Plan," Mr. Wood is eligible to receive a performance-based cash bonus pursuant to our 2020 Bonus Plan. Mr. Wood's target bonus under the 2020 Bonus Plan is 50% of his actual wages earned during the 2020 fiscal year, with a maximum payout of 61% upon exceeding targets for specified corporate objectives and achieving stretch goals.

Steven Kemper, CPA, MBA

We entered into an executive employment agreement with Mr. Kemper, our former Chief Financial Officer, as our then Chief Financial Officer and Treasurer on April 1, 2014. Pursuant to the terms of this agreement, Mr. Kemper's initial annual base salary was $125,000, which salary was increased to $278,416 pursuant to annual discretionary raises granted by our board of directors. In addition, Mr. Kemper received a stock option grant exercisable at an exercise price equal to the fair market value of our common stock on the date of the grant for up to 13,101 shares of our common stock, as adjusted for stock splits, including the Reverse Stock Split, and for the Exchange Ratio. Mr. Kemper was also eligible to receive annual discretionary bonuses of up to 20% of his annual base salary.

Mr. Kemper's employment agreement provided that in the event that Mr. Kemper was terminated without cause or resigned for good reason (as defined in the employment agreement), other than during a period beginning three months prior to and ending 18 months following a change in control (as defined in the employment agreement), he was entitled to a severance package consisting of (a) a payment equal to six months of his then in effect base salary payable in a lump sum, (b) the immediate vesting of the number of eligible shares (as defined in the employment agreement) that would have vested had Mr. Kemper remained an employee of the Company for six months following his termination, (c) 18 months of additional time to exercise any vested stock options and (d) payment by us of the premiums required to continue Mr. Kemper's (and his eligible dependents') group health care coverage for a period of six months following termination, provided that Mr. Kemper remained eligible for COBRA benefits. In addition, if Mr. Kemper's termination without cause occurred subsequent to a change in the Company's Chief Executive Officer, then 100% of Mr. Kemper's unvested options would vest. In the event that Mr. Kemper was terminated without cause or resigned for good reason during a period beginning three months prior to and ending 18 months following a change in control, he was entitled to receive a payment equal to twelve months of his then in effect base salary payable in a lump sum, continued health care benefits for a period of twelve months and immediate vesting of 100% of the eligible shares subject to his option that was granted pursuant to his employment agreement.

On January 4, 2019, Mr. Kemper was granted an option to purchase 37,541 shares of DermTech Operations common stock, at an exercise price of $1.12 per share and vesting monthly over four years.

Our Compensation Committee deemed the Business Combination a change in control for purposes of Mr. Kemper's employment agreement. In addition, our board of directors deemed any resignation of Mr. Kemper during the 18-month period following such change in control a resignation for good reason for purposes of his employment agreement. The board of directors also fully accelerated the vesting of all shares of DermTech Operations common stock underlying each of Mr. Kemper's outstanding stock options and restricted stock units effective as of immediately prior to the consummation of the Business Combination.

Mr. Kemper notified the board of directors on September 11, 2019 that he would retire in October 2019 following a transition period. On November 22, 2019, we entered into a letter agreement in connection with Mr. Kemper's retirement from the Company. The letter agreement memorialized the terms of Mr. Kemper's separation from the Company. In accordance with the letter agreement, following a seven-day revocation period provided for by the letter agreement, Mr. Kemper became entitled to receive, among other things, (i) a lump sum payment of $278,416, less applicable payroll withholdings and (ii) reimbursement for any COBRA premiums paid by Mr. Kemper between October 15, 2019 and October 15, 2020. Also pursuant to the letter agreement, Mr. Kemper (i) released us from any potential legal claims that could be made by Mr. Kemper and (ii) agreed to certain other covenants, including a mutual non-disparagement provision. In accordance with the letter agreement , on January 14, 2020, after Mr. Kemper was no longer deemed an affiliate of the Company we released Mr. Kemper's shares of our common stock from the lock-up agreement entered into in connection with the Business Combination..

Kevin Sun, MBA

Mr. Sun's employment, initially as our Vice President of Finance and then as our Chief Financial Officer, Treasurer and Secretary as of September 12, 2019, is at-will and began on August 22, 2019 pursuant to an offer of employment letter from us. Mr. Sun's initial annual base salary was $300,000 and has since increased to $307,500 pursuant to an annual discretionary raise granted by our Compensation Committee. Pursuant to his offer of employment letter, Mr. Sun is eligible to receive an annual target performance bonus of up to 20% of his gross base salary. Mr. Sun's offer of employment letter also provided that Mr. Sun was to be granted an initial incentive stock option or restricted stock units representing up to one percent of the Company's fully diluted capitalization at the time of the grant, with vesting terms similar to equity awards previously granted to other officers of the Company.

On January 14, 2020, in accordance with Mr. Sun's offer of employment letter, the Compensation Committee granted to Mr. Sun 132,032 restricted stock units representing the contingent right to receive shares of common stock. The grant of restricted stock units was effective on January 17, 2020. Twenty-five percent of the restricted stock units awarded to Mr. Sun vest on September 7, 2020 and the remaining seventy-five percent vest in equal quarterly installments until fully vested on September 7, 2023.

Also on January 14, 2020, the Compensation Committee granted to Mr. Sun an option to purchase 30,983 shares of common stock. The option grant was effective on January 14, 2020. The options have an exercise price of $9.73 per share and vest in equal monthly installments over the 36 months following the date of grant.

Under Mr. Sun's offer of employment letter, if Mr. Sun is terminated by us without cause, he is entitled to (i) a lump sum severance payment equal to six months of his then in effect base salary, (ii) payment by us of the premiums required to continue health care benefits for a period of six months and (iii) six months additional vesting of any remaining unvested equity awards. In addition, if Mr. Sun is terminated without cause or resigns for good reason (as defined in the offer of employment letter) within three months prior to, or 18 months following, a change in control (as defined in the offer of employment letter), he is entitled to receive accelerated vesting of any outstanding and unvested equity awards.

As further described below in the section entitled "2020 Corporate Bonus Plan," Mr. Sun is eligible to receive a performance-based cash bonus pursuant to our 2020 Bonus Plan. Mr. Sun's target bonus under the 2020 Bonus Plan is 35% of his actual wages earned during the 2020 fiscal year, with a maximum payout of 42.7% upon exceeding targets for specified corporate objectives and achieving stretch goals.

2020 Corporate Bonus Plan

On March 18, 2020, at the recommendation of the Compensation Committee, the board of directors approved the 2020 Corporate Bonus Plan, or the 2020 Bonus Plan, a performance-based cash bonus plan pursuant to which the board of directors sets target cash bonus amounts for certain eligible personnel, including our named executive officers and principal financial officer. Eligible participants include all management employees and select contributors with an employment start date prior to October 1, 2020 who are not eligible to participate in any of our other cash-based incentive compensation or bonus programs for the 2020 fiscal year.

For all participants in the 2020 Bonus Plan, the board of directors established target payout percentages to be based on the actual wages earned by such participants during the 2020 fiscal year. Target payout percentages are based on 100% achievement of specified corporate objectives and specified milestones. A threshold applies to each objective. The aggregate potential payout would be up to 122% of the target payout percentage upon exceeding targets for specified corporate objectives and achieving stretch goals.

Target bonuses for our named executive officers and the principal financial officer will range from 35% to 60% of such executive officer's actual wages earned during the 2020 fiscal year. Specifically, the target bonus will be 60% for Dr. Dobak, 50% for Mr. Wood and 35% for each of Dr. Jansen and Mr. Sun, with maximum payouts of 73.2%, 61% and 42.7%, respectively. The amount of the bonus, if any, paid to each such executive officer will be based on the Company's achievement level against the corporate objectives, as approved by the Compensation Committee. The corporate objectives consist primarily of financial objectives and product milestones, and also include a 20% discretionary component based on additional corporate goals.

The Compensation Committee will administer the 2020 Bonus Plan and has authority to use its discretion to approve goals and bonus targets, adjust goals and bonus payments, and determine goal achievement, and to modify, increase or decrease any bonus payments at any time and regardless of whether any of the performance goals are achieved. Bonuses under the 2020 Bonus Plan will be paid following the end of the 2020 fiscal year based on the goals that have been achieved, and any bonus tied to a goal related to our audited financial statements will be paid after the financial statement audit is complete. Participants must be employed and in good standing on the date that the bonus is paid in order to be eligible to receive the bonus payment.

Outstanding Equity Awards at 2019-Fiscal Year End

The following table presents outstanding equity awards held by our named executive officers as of December 31, 2019.

	Option Awards				Stock Awards	
Name	Number of Securities Underlying Unexercised Options Exercisable	Number of Securities Underlying Unexercised Options Unexercisable	Option Exercise price	Option Expiration date	Number of shares of stock or units that have not vested	Market value of shares of stock or units that have not vested
John Dobak	—	—	—	—	—	—
Steve Kemper	—	—	—	—	—	—
Burkhard Jansen	21,244(1)	—	$ 6.94	3/14/2026	—	—
Todd Wood	—	—	—	—	36,936(2)	$ 458,006

(1) Upon the completion of the Business Combination the option fully vested.

(2) Reflects the number of shares of restricted stock received upon the early exercise of options that had not yet vested as of December 31, 2019.

Employee Benefit and Equity Incentive Plans

Amended and Restated 2010 Stock Plan

Summary of Amended and Restated 2010 Stock Plan. The Amended and Restated 2010 Stock Plan, or the 2010 Plan, was adopted by the DermTech Operations board of directors in July 2010 and became effective in November 2010 after approval by DermTech Operations' stockholders. The 2010 Plan was amended on July 13, 2015 and amended again on April 6, 2016. Upon the completion of the Business Combination on August 29, 2019, we assumed the 2010 Plan and the outstanding awards granted thereunder. The principal purpose of the 2010 Plan is to attract, retain and reward certain employees, consultants and directors through the granting of stock-based compensation awards.

Share Reserve. Under the 2010 Plan, 1,689,993 shares of our common stock have been reserved for issuance pursuant to a variety of stock-based compensation awards, including stock options, restricted stock, restricted stock purchase rights and restricted stock units.

The following counting provisions are in effect for the share reserve under the 2010 Plan:

- to the extent that an award terminates, expires, or is cancelled without having been exercised or settled in full, any shares subject to the award at such time will be available for future grants under the 2010 Plan;
- to the extent shares of our common stock are tendered or withheld to satisfy an exercise price or tax withholding obligation with respect to any award under the 2010 Plan, such tendered or withheld shares will be available for future grants under the 2010 Plan; and
- to the extent that shares of our common stock are forfeited or repurchased by us prior to vesting, such shares will be available for future grants under the 2010 Plan.

Administration. Our board of directors administers the 2010 Plan. Our board of directors may delegate to a committee of the board of directors any or all of the authority and responsibility of our board of directors under the 2010 Plan.

Subject to the terms and conditions of the 2010 Plan, the administrator has the authority to select the persons to whom awards are to be made, to determine the number of shares to be subject to awards and the terms and conditions of awards, and to make all other determinations and to take all other actions necessary or advisable for the administration of the 2010 Plan; provided that our board of directors shall be solely responsible for all questions of interpretation of the 2010 Plan, any award agreement or any other form of agreement or other document used by us in the administration of the 2010 Plan or any award.

Eligibility. All awards under the 2010 Plan may be granted to individuals who are then officers, directors, employees or consultants.

Awards. The 2010 Plan provides that the administrator may grant or issue stock options, restricted stock, restricted stock purchase rights, restricted stock units or any combination thereof. Each award granted under the 2010 Plan is set forth in a separate agreement with the person receiving the award. These agreements indicate the type, terms and conditions of the award.

- *Nonstatutory Stock Options*, or NSOs, provide for the right to purchase shares of our common stock at a specified price which may not be less than fair market value on the date of grant. NSOs may be granted for any term specified by the administrator that does not exceed ten years.
- *Incentive Stock Options*, or ISOs, are designed in a manner intended to comply with the provisions of Section 422 of the IRC, and are subject to specified restrictions contained in the IRC. Among such restrictions, ISOs must have an exercise price of not less than the fair market value of a share of common stock on the date of grant, may only be granted to employees, and must not be exercisable after a period of ten years measured from the date of grant and no later than five years after the date of grant for 10% stockholders. In the case of an ISO granted to an individual who owns (or is deemed to own) at least 10% of the total combined voting power of all classes of our capital stock, the 2010 Plan provides that the exercise price must be at least 110% of the fair market value of a share of our common stock on the date of grant and the ISO must not be exercisable after a period of five years measured from the date of grant.
- *Restricted Stock* may be granted to any eligible individual, typically without payment of consideration, and may be made subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Restricted stock, typically, may be forfeited for no consideration or repurchased by us at the original purchase price if the conditions or restrictions on vesting are not met. Restricted stock may not be sold or otherwise transferred until the restrictions thereto are removed or expire. Recipients of restricted stock, unlike recipients of options, have voting rights and have the right to receive dividends, if any, prior to the time when the restrictions lapse, provided, however, that the administrator may subject any such dividends otherwise payable to a holder of restricted stock to the same vesting conditions applicable to the holder's restricted stock if determined by the administrator and provided for in the holder's award agreement.
- *Restricted Stock Purchase Rights* may be awarded to any eligible individual for a purchase price established by the administrator, and may be made subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Restricted Stock Purchase Right holders may be eligible to receive dividend equivalents if granted by the administrator. Like restricted stock, restricted stock purchase rights may not be sold or otherwise transferred until the vesting conditions thereto are removed or expire. Unlike restricted stock, stock underlying restricted stock purchase rights will not be issued until the holder exercises his or her purchase rights. Like restricted stock, recipients of restricted stock have voting rights and have the right to receive dividends, if any, prior to the time when the restrictions lapse, provided, however, that the administrator may subject any such dividends otherwise payable to a holder of a restricted stock purchase right to the same vesting conditions applicable to the holder's restricted stock purchase right if determined by the administrator and provided for in the holder's award agreement.
- *Restricted Stock Units* may be awarded to any eligible individual, typically without payment of consideration, but subject to vesting conditions based on continued employment or service or on performance criteria established by the administrator. Restricted Stock Unit holders may be eligible to receive dividend equivalents if granted by the administrator. Like restricted stock, restricted stock units may not be sold or otherwise transferred until the vesting conditions thereto are removed or expire. Unlike restricted stock, stock underlying restricted stock units will not be issued until the restricted stock units have vested, and recipients of restricted stock units generally have no voting or dividend rights prior to the time when the vesting conditions thereto are satisfied.

Change in Control. The administrator may, in its sole discretion, make appropriate adjustments to awards under the 2010 Plan and is authorized to provide for the acceleration, assumption, cash-out, continuation or substitution of such awards in the event of a change in control. Under the 2010 Plan, a change in control is generally defined as:

- the direct or indirect sale or exchange in a single transaction or series of related transactions by our stockholders of more than 50% of our voting stock;
- a merger or consolidation in which we are a party, other than a merger or consolidation which results in our outstanding voting securities immediately before the transaction continuing to represent at least 50% or more of the combined voting power of voting securities of the surviving entity immediately after the transaction;
- the sale, exchange, or transfer of all or substantially all of our assets to an entity which our stockholders do not retain at least 50% or more of the voting power of the voting securities of the entity receiving our assets immediately after such sale, exchange or transfer; or
- stockholder approval of our liquidation or dissolution.

Adjustments of Awards. In the event of any change in our common stock effected without receipt of consideration by us, whether through merger, consolidation, reorganization, reincorporation, recapitalization, reclassification, stock dividend, stock split, reverse stock split, split-up, split-off, spin-off, combination of shares, exchange of shares, or similar change in our capital structure, or in the event of payment of a dividend or distribution to our stockholders in a form other than common stock (excepting regular, periodic cash dividends) that has a material effect on the fair market value of our common stock, then the administrator shall make appropriate, proportionate adjustments to reflect the event giving rise to the need for such adjustments, with respect to:

- the aggregate number and type of shares subject to the 2010 Plan;
- the number and kind of shares subject to outstanding awards; and
- the exercise or purchase price per share of any outstanding awards under the 2010 Plan.

Amendment and Termination. The administrator may terminate, amend or suspend the 2010 Plan at any time and from time to time. However, we must generally obtain stockholder approval:

- to increase the number of shares of our common stock available under the 2010 Plan (other than in connection with certain corporate adjustment events described above);
- to change the class of individuals eligible to receive ISOs under the 2010 Plan; or
- to the extent required by applicable law, rule or regulation (including any applicable stock exchange rule).

Termination. The administrator may terminate the 2010 Plan at any time, the 2010 Plan shall continue in effect until that time. All awards granted under the 2010 Plan shall have been made on or before July 29, 2020.

Summary of U.S. Federal Income Tax Consequences. The following summary is intended only as a general guide to the material U.S. federal income tax consequences of participation in the 2010 Plan. The summary is based on existing U.S. laws and regulations, and there can be no assurance that those laws and regulations will not change in the future. The summary does not purport to be complete and does not discuss the tax consequences upon a participant's death, or the provisions of the income tax laws of any municipality, state or foreign country in which the participant may reside. As a result, tax consequences for any particular participant may vary based on individual circumstances.

- *ISOs*. An optionee recognizes no taxable income for regular income tax purposes as a result of the grant or exercise of an ISO qualifying under Section 422 of the IRC. Optionees who neither dispose of their shares within two years following the date the option was granted nor within one year following the exercise of the option normally will recognize a capital gain or loss equal to the difference, if any, between the sale price and the purchase price of the shares. If an optionee satisfies such holding periods upon a sale of the shares, we will not be entitled to any deduction for federal income tax purposes. If an optionee disposes of shares within two years after the date of grant or within one year after the date of exercise (each such disposition is referred to as a disqualifying disposition), the difference between the fair market value of the shares on the exercise date and the option exercise price (not to exceed the gain realized on the sale if the disposition is a transaction with respect to which a loss, if sustained, would be recognized) will be taxed as ordinary income at the time of disposition. Any gain in excess of that amount will be a capital gain. If a loss is recognized, there will be no ordinary income, and such loss will be a capital loss. Any ordinary income recognized by the optionee upon the disqualifying disposition of the shares generally should be deductible by us for federal income tax purposes, except to the extent such deduction is limited by applicable provisions of the IRC. The difference between the option exercise price and the fair market value of the shares on the exercise date is treated as an adjustment in computing the optionee's alternative minimum taxable income and may be subject to an alternative minimum tax which is paid if such tax exceeds the regular tax for the year. Special rules may apply with respect to certain subsequent sales of the shares in a disqualifying disposition, certain basis adjustments for purposes of computing the alternative minimum taxable income on a subsequent sale of the shares and certain tax credits which may arise with respect to optionees subject to the alternative minimum tax.
- *NSOs*. Options not designated or qualifying as ISOs will be NSOs having no special U.S. tax status. An optionee generally recognizes no taxable income as the result of the grant of such an option. Upon exercise of an NSO, the optionee normally recognizes ordinary income equal to the amount that the fair market value of the shares on such date exceeds the exercise price. If the optionee is an employee, such ordinary income generally is subject to withholding of income and employment taxes. Upon the sale of stock acquired by the exercise of an NSO, any gain or loss, based on the difference between the sale price and the fair market value on the exercise date, will be taxed as capital gain or loss. No tax deduction is available to us with respect to the grant of an NSO or the sale of the stock acquired pursuant to such grant.

- *Restricted Stock*. A participant receiving restricted stock generally will recognize ordinary income equal to the fair market value of the shares on the vesting date. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. The participant may elect, pursuant to Section 83(b) of the IRC, to accelerate vesting to the date of grant by filing an election with the IRS no later than 30 days after the date the shares are received. Upon the sale of shares received pursuant to a restricted stock award, any gain or loss, based on the difference between the sale price and the fair market value on the date the ordinary income tax event occurs, will be taxed as capital gain or loss.
- *Restricted Stock Units*. There are no immediate tax consequences of receiving an award of restricted stock units. A participant who is awarded restricted stock units generally will be required to recognize ordinary income in an amount equal to the fair market value of shares issued to such participant at the end of the applicable vesting period or, if later, the settlement date elected by the administrator or a participant. Any additional gain or loss recognized upon any later disposition of any shares received would be capital gain or loss.
- *Restricted Stock Purchase Rights.* A participant receiving the right to acquired restricted stock generally will recognize ordinary income equal to the fair market value of the shares on the vesting date, less amounts paid for the restricted stock. If the participant is an employee, such ordinary income generally is subject to withholding of income and employment taxes. The participant may elect, pursuant to Section 83(b) of the IRC, to accelerate vesting to the date of acquisition or grant by filing an election with the IRS no later than 30 days after the date the shares are acquired or received. Upon the sale of shares acquired or received pursuant to a restricted stock purchase right, any gain or loss, based on the difference between the sale price and the fair market value on the date the ordinary income tax event occurs, will be taxed as capital gain or loss.
- *Section 409A*. Section 409A of the IRC provides certain requirements for non-qualified deferred compensation arrangements with respect to an individual's deferral and distribution elections and permissible distribution events. Awards granted under the 2010 Plan with a deferral feature will be subject to the requirements of Section 409A of the IRC. If an award is subject to and fails to satisfy the requirements of Section 409A of the IRC, the recipient of that award may recognize ordinary income on the amounts deferred under the award, to the extent vested, which may be prior to when the compensation is actually or constructively received. Also, if an award that is subject to Section 409A fails to comply with Section 409A's provisions, Section 409A imposes an additional 20% federal income tax on compensation recognized as ordinary income, as well as interest on such deferred compensation. Certain states have enacted laws similar to Section 409A which impose additional taxes, interest and penalties on non-qualified deferred compensation arrangements. We will also have withholding and reporting requirements with respect to such amounts.
- *Tax Effect for the Company*. We generally will be entitled to a tax deduction in connection with an award under the 2010 Plan in an amount equal to the ordinary income realized by a participant and at the time the participant recognizes such income (for example, the exercise of an NSO).

2020 Equity Incentive Plan

Summary of 2020 Equity Incentive Plan. The DermTech, Inc. 2020 Equity Incentive Plan, or the 2020 Plan, was adopted by our board of directors on April 12, 2020, subject to the approval of our stockholders at our upcoming annual meeting of stockholders. The 2020 Plan will become effective upon such stockholder approval. If the 2020 Plan is approved by the stockholders, the 2010 Plan will terminate and no additional awards will be made thereunder after May 26, 2020. However, all outstanding awards under the 2010 Plan will remain in effect. The principal purpose of the 2020 Plan is to attract, retain and motivate key individuals, further align employee and stockholder interests, and closely link compensation with our corporate performance.

Certain Provisions of the 2020 Plan. The 2020 Plan includes the following provisions:

- No Discounted Options or Stock Appreciation Rights: Stock options and stock appreciation rights may not be granted with exercise prices or measurement prices lower than the fair market value of the underlying shares on the grant date except to replace equity awards due to a corporate transaction.
- No Repricing without Stockholder Approval: Other than in connection with corporate reorganizations or restructurings, at any time when the exercise price of a stock option or strike price of a stock appreciation right is above the fair market value of a share, the Company will not, without stockholder approval, reduce the exercise price of such stock option or strike price of such stock appreciation right and will not exchange such stock option or stock appreciation right for a new award with a lower (or no) purchase price or for cash.
- No Transferability: Awards generally may not be transferred, except by will or the laws of descent and distribution, unless approved by the Compensation Committee. In no event shall any award be transferred for value.

- Limits on Director Grants: The 2020 Plan limits the awards to be granted to any non-employee director in any calendar year to an aggregate grant date fair value of $600,000 except that the foregoing limitation shall not apply to awards granted (i) pursuant to an election by a non-employee director to receive the award in lieu of cash for all or a portion of cash fees to be received for service on the board of directors or any committee thereof or (ii) in connection with a non-employee director initially joining the board of directors.
- Clawback Policy: The awards shall be subject to forfeiture in the event the Company's Clawback Policy then in effect is triggered.

Shares Available for Issuance. Subject to stockholder approval of the 2020 Plan, the 2020 Plan provides for the issuance of up to (i) 1,900,000 shares plus (ii) the number of shares underlying any stock option and other stock-based awards previously granted under the 2010 Plan that are forfeited, canceled, or terminated (other than by exercise) on or after May 26, 2020; provided that no more than 1,400,000 shares, which is approximately the number of shares subject to currently outstanding stock option and other stock-based awards outstanding under the 2010 Plan, may be added to the 2020 Plan pursuant to such forfeitures, cancellations and terminations. In addition, per the terms of the 2020 Plan, this reserve will automatically increase on the first day of each fiscal year beginning in fiscal year 2021 and ending on the second day of fiscal year 2025, by an amount equal to the lesser of (i) 3.5% of the number of shares of Common Stock outstanding on such date, and (ii) an amount determined by the administrator of the 2020 Plan. Shares of Common Stock reserved for awards under the 2020 Plan that are forfeited, canceled or terminated (other than by exercise) generally are added back to the share reserve available for future awards. If shares of Common Stock are tendered in payment for an award or withheld for taxes, the number of shares deemed to have been issued under the 2020 Plan will be the net number of shares actually issued. Shares purchased by us with the proceeds of the option exercise price of any option award may not be reissued under the 2020 Plan. The 2020 Plan limits the number of shares to be granted to any non-employee director in any calendar year to an aggregate grant date fair value of $600,000, except that the foregoing limitation shall not apply to awards granted (i) pursuant to an election by a non-employee director to receive the award in lieu of cash for all or a portion of cash fees to be received for service on the board of directors or any committee thereof or (ii) in connection with a non-employee director initially joining the board of directors.

Administration. In accordance with the terms of the 2020 Plan, our board of directors has authorized the Compensation Committee to administer the 2020 Plan. The Compensation Committee may delegate part of its authority and powers under the 2020 Plan, but only the Compensation Committee can make awards to participants who are subject to the reporting and other requirements of Section 16 of the Securities Exchange Act of 1934. In accordance with the provisions of the 2020 Plan, the Compensation Committee determines the terms of awards, including:

- which employees, directors and consultants will be granted awards;
- the number of shares subject to each award;
- the vesting provisions of each award;
- the termination or cancellation provisions applicable to awards; and
- all other terms and conditions upon which each award may be granted in accordance with the 2020 Plan.

In addition, the Compensation Committee may, in its discretion, amend any term or condition of an outstanding award provided (i) such term or condition as amended is permitted by the 2020 Plan, and (ii) any such amendment shall be made only with the consent of the participant to whom such award was made, if the amendment is adverse to the participant.

Eligibility. The 2020 Plan will allow us to make grants of stock options, restricted and unrestricted stock awards and other stock-based awards to employees, directors and consultants of the Company.

Awards. The 2020 Plan provides that the administrator may grant or issue stock options, restricted stock, restricted stock purchase rights, restricted stock units or any combination thereof. Each award granted under the 2020 Plan is set forth in a separate agreement with the person receiving the award. These agreements indicate the type, terms and conditions of the award.

- *Stock Options.* Stock options granted under the 2020 Plan may be either incentive stock options, which are intended to satisfy the requirements of Section 422 of the IRC, or non-qualified stock options, which are not intended to meet those requirements. The exercise price of a stock option may not be less than 100% of the fair market value of our Common Stock on the date of grant. The term of stock options granted under the 2020 Plan may not be longer than ten years. Moreover, if an incentive stock option is granted to an individual who owns more than 10% of the combined voting power of all classes of our capital stock, the exercise price may not be less than 110% of the fair market value of our Common Stock on the date of grant and the term of the option may not be longer than five years. Award agreements for stock options include rules for exercise of the stock options after termination of service. Options may not be exercised unless they are vested, and no option may be exercised after the end of the term set forth in the award agreement. Generally, stock options will be exercisable for three months after termination of service for any reason other than death or total and permanent disability, and for 12 months after termination of service on account of death or total and permanent disability. Options, however, will not be exercisable if the termination of service was due to cause.

- *Restricted Stock.* Restricted stock is Common Stock that is subject to restrictions, including a prohibition against transfer and a substantial risk of forfeiture, until the end of a "restricted period" during which the grantee must satisfy certain vesting conditions. If the grantee does not satisfy the vesting conditions by the end of the restricted period, the restricted stock is forfeited. During the restricted period, the holder of restricted stock has certain of the rights and privileges of a regular stockholder, except that the restrictions set forth in the applicable award agreement apply. For example, the holder of restricted stock may vote the shares, but he or she may not sell the shares until the restrictions are lifted.
- *Restricted Stock Units and Performance Stock Units.* Restricted stock units and performance stock units are the grant of phantom shares that provide the grantee with the right to receive a fixed number of shares of Common Stock in the future based on the grantee providing continuing service for the period specified in the award agreement in the case of restricted stock units and until the performance goals are met in the case of performance stock units. If the vesting is achieved the grantee shall be entitled to receive such number of shares based on the number of units specified in the award agreement. If the grantee does not satisfy the vesting conditions by the end of the applicable period specified in the award agreement the award is forfeited and shares are not issued. Restricted stock units may entitle the grantee to receive a payout in cash, shares or a combination thereof based on the number of restricted stock units as specified in the award agreement, subject to the vesting/lapse of restrictions.
- *Other Stock-Based Awards.* The 2020 Plan also authorizes the grant of other types of stock-based compensation including, but not limited to, the grant of shares, stock appreciation rights, phantom stock awards or stock units. Under no circumstances may the agreement covering stock appreciation rights (a) have an exercise price per share that is less than 100% of the fair market value per share of our Common Stock on the date of grant or (b) expire more than ten years following the date of grant.
- *Stock Dividends and Stock Splits.* If our Common Stock is subdivided or combined into a greater or smaller number of shares or if we issue any shares of Common Stock as a stock dividend, the number of shares of our Common Stock thereafter deliverable upon the exercise of an outstanding option or upon issuance under another type of award shall be appropriately increased or decreased proportionately, and appropriate adjustments shall be made in the per share purchase price and performance goals applicable to performance-based awards, if any, to reflect such subdivision, combination or stock dividend.

Corporate Transactions. Upon a merger, consolidation or other reorganization event, our board of directors may, in its sole discretion, take any one or more of the following actions pursuant to the 2020 Plan, as to some or all outstanding awards (to the extent then exercisable or, at the discretion of the administrator, any such awards being made partially or fully exercisable for purposes of this provision):

- provide that all outstanding options shall be assumed or substituted by the successor corporation;
- upon written notice to a participant provide that the participant's unexercised options will terminate immediately prior to the consummation of such transaction unless exercised by the participant;
- in the event of a merger pursuant to which holders of our Common Stock will receive a cash payment for each share surrendered in the merger, make or provide for a cash payment to the participants equal to the difference between the merger price times the number of shares of our Common Stock subject to such outstanding options, and the aggregate exercise price of all such outstanding options, in exchange for the termination of such options;
- provide that outstanding awards shall be assumed or substituted by the successor corporation, become realizable or deliverable, or restrictions applicable to an award will lapse, in whole or in part, prior to or upon the merger or reorganization event; and
- with respect to stock grants and in lieu of any of the foregoing, our board of directors or an authorized committee may provide that, upon consummation of the transaction, each outstanding stock grant shall be terminated in exchange for payment of an amount equal to the consideration payable upon consummation of such transaction to a holder of the number of shares of Common Stock comprising such award (to the extent such stock grant is no longer subject to any forfeiture or repurchase rights then in effect or, at the discretion of our board of directors or an authorized committee, all forfeiture and repurchase rights being waived upon such transaction).

Amendment and Termination. The 2020 Plan may be amended by our stockholders. It may also be amended by our board of directors, provided that any amendment approved by our board of directors which is of a scope that requires stockholder approval as required (1) by the rules of the Nasdaq Stock Market, (2) in order to ensure favorable federal income tax treatment for any incentive stock options under Section 422 of the IRC, or (3) for any other reason, is subject to obtaining such stockholder approval. In addition, other than in connection with stock dividends, stock splits, recapitalizations or reorganizations, at any time when the exercise price of a stock option is above the fair market value of a share, the Compensation Committee may not without stockholder approval reduce the exercise price or cancel any outstanding option in exchange for a replacement option having a lower exercise price, or for any other equity award or for cash. In addition, the Compensation Committee may not take any other

action that is considered a direct or indirect "repricing" for purposes of the stockholder approval rules of the applicable securities exchange or inter-dealer quotation system on which the Shares are listed, including any other action that is treated as a repricing under generally accepted accounting principles.

Duration of the 2020 Plan. The 2020 Plan will expire on the earlier of (i) April 12, 2030 and (ii) a date approved by a vote of the shareholders or the board of directors; provided, however, that any such earlier termination shall not affect any award agreements executed or equity awards issued prior to the effective date of such termination. No equity awards may be made after termination of the 2020 Plan, although previously granted awards may continue beyond the termination date in accordance with their terms.

Summary of U.S. Federal Income Tax Consequences. The following summary is intended only as a general guide to the material U.S. federal income tax consequences of participation in the 2020 Plan, based on the current provisions of the IRC and regulations, are as follows. Changes to these laws or regulations could alter the tax consequences described below. This summary assumes that all awards granted under the 2020 Plan are exempt from or comply with, the rules under Section 409A of the IRC related to nonqualified deferred compensation.

- *Incentive Stock Options.* Incentive stock options are intended to qualify for treatment under Section 422 of the IRC. An incentive stock option does not result in taxable income to the optionee or deduction to us at the time it is granted or exercised, provided that no disposition is made by the optionee of the shares acquired pursuant to the option within two years after the date of grant of the option nor within one year after the date of issuance of shares to the optionee (the ISO holding period). However, the difference between the fair market value of the shares on the date of exercise and the option price will be an item of tax preference includible in "alternative minimum taxable income" of the optionee. Upon disposition of the shares after the expiration of the ISO holding period, the optionee will generally recognize long term capital gain or loss based on the difference between the disposition proceeds and the option price paid for the shares. If the shares are disposed of prior to the expiration of the ISO holding period, the optionee generally will recognize taxable compensation, and we will have a corresponding deduction, in the year of the disposition, equal to the excess of the fair market value of the shares on the date of exercise of the option over the option price. Any additional gain realized on the disposition will normally constitute capital gain. If the amount realized upon such a disqualifying disposition is less than fair market value of the shares on the date of exercise, the amount of compensation income will be limited to the excess of the amount realized over the optionee's adjusted basis in the shares.

- *Non-Qualified Options.* Options otherwise qualifying as incentive stock options, to the extent the aggregate fair market value of shares with respect to which such options are first exercisable by an individual in any calendar year exceeds $100,000, and options designated as non-qualified options, will be treated as options that are not incentive stock options. A non-qualified option ordinarily will not result in income to the optionee or deduction to us at the time of grant. The optionee will recognize compensation income at the time of exercise of such non-qualified option in an amount equal to the excess of the then value of the shares over the option price per share. Such compensation income of optionees may be subject to withholding taxes, and a deduction may then be allowable to us in an amount equal to the optionee's compensation income. An optionee's initial basis in shares so acquired will be the amount paid on exercise of the non-qualified option plus the amount of any corresponding compensation income. Any gain or loss as a result of a subsequent disposition of the shares so acquired will be capital gain or loss.

- *Stock Grants.* With respect to stock grants under the 2020 Plan that result in the issuance of shares that are either not restricted as to transferability or not subject to a substantial risk of forfeiture, the grantee must generally recognize ordinary income equal to the fair market value of shares received. Thus, deferral of the time of issuance will generally result in the deferral of the time the grantee will be liable for income taxes with respect to such issuance. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee. With respect to stock grants involving the issuance of shares that are restricted as to transferability and subject to a substantial risk of forfeiture, the grantee must generally recognize ordinary income equal to the fair market value of the shares received at the first time the shares become transferable or are not subject to a substantial risk of forfeiture, whichever occurs earlier. A grantee may elect to be taxed at the time of receipt of shares rather than upon lapse of restrictions on transferability or substantial risk of forfeiture, but if the grantee subsequently forfeits such shares, the grantee would not be entitled to any tax deduction, including as a capital loss, for the value of the shares on which he previously paid tax. The grantee must file such election with the Internal Revenue Service within 30 days of the receipt of the shares. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee.

- *Stock Units.* The grantee recognizes no income until the issuance of the shares. At that time, the grantee must generally recognize ordinary income equal to the fair market value of the shares received. We generally will be entitled to a deduction in an amount equal to the ordinary income recognized by the grantee.

2020 Employee Stock Purchase Plan

General. On April 12, 2020, our board of directors unanimously approved, subject to stockholder approval at our upcoming annual meeting of stockholders, the adoption of the DermTech, Inc. 2020 Employee Stock Purchase Plan, or the ESPP. The ESPP provides eligible employees with the opportunity to purchase shares of our Common Stock at a discount, on a tax-favored basis, through regular payroll deductions in compliance with Section 423 of the IRC. If approved by the stockholders, eligible employees who elect to participate in the ESPP will first be granted options to purchase Common Stock under the ESPP on September 1, 2020, unless an alternative later date is determined by our board of directors. Participating employees will purchase shares in August and February of each year using funds deducted from their paychecks during the preceding six months.

Administration. The ESPP will be administered by our Compensation Committee. The Compensation Committee and our board of directors has authority to interpret the ESPP and to make all other determinations necessary or advisable in administering it, including, without limitation, adopting sub-plans applicable to specific designated subsidiaries or locations, which sub plans may be designed to be outside the scope of Section 423 of the IRC.

Eligibility. All full-time employees and certain part-time employees of the Company and its designated subsidiaries who have been continuously employed for at least one (1) month prior to an offering date will be eligible to participate in the ESPP. For part-time employees of the Company to be eligible, they must have customary employment of more than five months in any calendar year and more than 20 hours per week. However, no employee shall be eligible to participate to the extent that, immediately after the grant, (i) that employee would own stock and/or options or securities to purchase stock possessing 5% or more of the combined voting power or the value of all classes of capital stock of the Company, or (ii) his or her rights to purchase stock under all employee stock purchase plans of the Company accrues at a rate that exceeds $25,000 for each calendar year in which such rights are outstanding and exercisable. As of April 1, 2020, approximately 66 employees of the Company will be eligible to participate in the ESPP. Participation in the ESPP is at the election of each eligible employee and the amounts received by a participant under the ESPP depend on the fair market value of our Common Stock on future dates; therefore, the benefits or amounts that will be received by any participant if the ESPP is approved by our stockholders are not currently determinable.

Shares Available for Issuance. Assuming the ESPP is approved by our stockholders at the 2020 annual meeting, there will be 400,000 shares of our Common Stock available for issuance under the ESPP, plus an annual increase on the first day of the Company's fiscal years beginning in 2021 and ending on the first day of 2030, equal to the lesser of (i) 300,000 shares, (ii) 1% of the shares of our Common Stock outstanding on the last day of the immediately preceding fiscal year, or (iii) such lesser number of shares as is determined by the board of directors, subject to adjustment upon changes in capitalization of the Company.

Participation. To participate in the ESPP, an eligible employee authorizes payroll deductions in an amount not less than 1% nor greater than 15% of his or her "compensation" (i.e., total base salary and bonuses, but excluding employee benefit plans or other additional payments), in increments not less than 1%, for each full payroll period in the offering period. The maximum number of shares of Common Stock that may be purchased by any participant during an offering period shall equal $25,000 divided by the fair market value of our Common Stock on the first date of an offering period. To ensure that IRS share limitations are not exceeded, we do not accept contributions from an individual participant in excess of $21,250 per calendar year.

Purchases. Eligible employees enroll in a six-month offering period during the open enrollment period prior to the start of that offering period. A new offering period begins approximately every March 1 and September 1. At the end of each offering period, the accumulated deductions are used to purchase shares of our Common Stock from us. Shares are purchased at a price equal to 85% of the lower of: (x) the fair market value of our Common Stock on the first business day of an offering period or (y) the fair market value of our Common Stock on the last business day of an offering period.

Termination of Employment. If a participating employee voluntarily resigns or is terminated prior to the last day of an offering period, the employee's option to purchase terminates and the amount in the employee's account is returned to the employee.

Transferability. Neither contributions credited to a participant's account nor any rights with regard to the exercise of an option or to receive shares under the ESPP may be assigned, transferred, pledged or otherwise disposed of in any way (other than by will, the laws of descent or distribution to a designated beneficiary upon the participant's death) by the participant.

Adjustments upon Change in Capitalization. Subject to any required action by our stockholders, the number of shares of Common Stock covered by unexercised options under the ESPP, the number of shares of Common Stock which have been authorized for issuance under the ESPP, but are not yet subject to options, the maximum number of shares of Common Stock that may be purchased by a participant in an offering period, as well as the price per share of Common Stock covered by each unexercised option under the ESPP, shall be proportionately adjusted for any increase or decrease in the number of issued shares of Common Stock resulting from a stock split, reverse stock split, stock dividend, combination or reclassification of the Common Stock. In the event of the proposed dissolution or liquidation of the Company, any offering period then in progress will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by our board of directors. In the event of a proposed sale of all or substantially all of the assets of the Company, or the merger, consolidation or other capital reorganization of the Company with or into another corporation, each option outstanding under the ESPP shall be assumed or an equivalent option shall be substituted by such successor corporation unless our board of directors determines, in its sole discretion and in lieu of such assumption or substitution, to shorten an offering period then in progress.

Participation Adjustment. If the number of unsold shares that are available for purchase under the ESPP is insufficient to permit exercise of all rights deemed exercised by all participating employees, a participation adjustment will be made, and the number of shares purchasable by all participating employees is reduced proportionately. Any funds remaining in a participating employee's account after such exercise are refunded to the employee, without interest.

Amendment. The board of directors may amend the ESPP at any time and in any respect unless stockholder approval of the amendment in question is required under Section 423 of the IRC, any national securities exchange or system on which our Common Stock is then listed or reported, or under any other applicable laws, rules, or regulations.

Termination. The board of directors may terminate the ESPP at any time and for any reason or for no reason, provided that no termination shall impair any rights of participating employees that have vested at the time of termination. Without further action of the board of directors, the ESPP shall terminate on May 26, 2030 or, if earlier, at such time as all shares of Common Stock that may be made available for purchase under the ESPP have been issued.

U.S. Federal Income Tax Consequences. The following discussion briefly describes the material U.S. federal income tax consequences of the ESPP generally applicable to the Company and to participants who are subject to U.S. federal taxation. The discussion is general in nature and does not address issues relating to the tax circumstances of any individual participant or any participant who is not subject to U.S. federal taxation. The discussion is based on the IRC, applicable Treasury regulations and administrative and judicial interpretations thereof, each as in effect on the date hereof and is, therefore, subject to future changes in the law, possibly with retroactive effect. No attempt has been made to address any state, local, foreign or estate and gift tax consequences that may arise in connection with participation in the ESPP.

The ESPP, and the rights of participant employees to make purchases thereunder, qualify for treatment under the provisions of Sections 421(a) and 423(a) of the IRC. Under these provisions, no income will be taxable to a participant until the shares purchased under the ESPP are sold or otherwise disposed of.

Upon sale or other disposition of the shares, the participant will generally be subject to tax and the amount of the tax will depend upon the holding period. If the shares are sold or otherwise disposed of more than two years from the first day of the relevant offering period (and more than one year from the date the shares are purchased) or the participant dies while holding the shares, whether before or after the participant has met the foregoing holding periods, then the participant generally will recognize ordinary income measured as the lesser of:

- the excess of the fair market value of the shares at the time of such disposition or death over the purchase price paid for the shares, and
- an amount equal to 15% of the fair market value of the shares as of the first day of the applicable offering period. Any additional gain should be treated as long-term capital gain.

If the shares are sold or otherwise disposed of before the expiration of this holding period, the participant will recognize ordinary income at the time of such disposition generally measured as the excess of the fair market value of the shares on the date the shares are purchased over the purchase price. Any additional gain or loss on such sale or disposition will be long-term or short-term capital gain or loss, depending on the holding period.

The Company is not entitled to a deduction for amounts taxed as ordinary income or capital gain to a participant except to the extent ordinary income is recognized by participants upon a sale or disposition of shares prior to the expiration of the holding period(s) described above. In all other cases, no deduction is allowed to the Company.

Director Compensation

The table below shows all compensation earned by our non-employee directors during the year ended December 31, 2019.

Name	Fees Earned ($)	Stock Awards ($)(1)	Option Awards ($)(2)(3)	All Other Compensation ($)(4)	Total ($)
Matthew Posard	41,087	13,317	14,502	40,030	108,936
Gary Jacobs	32,250	13,865	14,395	37,237	97,747
Scott Pancoast	35,293	14,847	14,725	38,154	103,019
Herm Rosenman	36,650	15,052	12,592	37,702	101,996
Cynthia Collins	34,010	11,608	11,725	32,347	89,690
Gene Salkind	16,167	6,365	7,007	18,092	47,631
Enrico Picozza(5)	12,833	—	—	—	12,833

(1) For each non-employee director, consists of the aggregate incremental fair value of stock awards computed in accordance with FASB ASC Topic 718 resulting from the acceleration of vesting of such stock awards in connection with the Business Combination (the "Incremental Stock Award Acceleration Fair Value").

(2) Amounts reported represent (i) the aggregate fair value of option awards computed as of the issuance date of each option award in accordance with FASB ASC Topic 718, in the amounts of: (a) Mr. Posard $9,707, (b) Mr. Jacobs $9,635, (c) Mr. Pancoast $9,856, (d) Mr. Rosenman $8,428, (e) Ms. Collins $7,848 and (f) Dr. Salkind $4,690; plus (ii) the aggregate incremental fair value of option awards computed in accordance with FASB ASC Topic 718 resulting from the acceleration of vesting of such option awards in connection with the Business Combination (the "Incremental Option Award Acceleration Fair Value"), in the amounts of: (a) Mr. Posard $4,796, (b) Mr. Jacobs $4,760, (c) Mr. Pancoast $4,869, (d) Mr. Rosenman $4,164, (e) Ms. Collins $3,877 and (f) Dr. Salkind $2,317.

(3) As of December 31, 2019, our non-employee directors listed in the following table held the following aggregate number of shares subject to outstanding option awards (representing both exercisable and unexercisable option awards):

Name	Number of Shares Underlying Outstanding Stock Options
Matthew Posard	9,702
Gary Jacobs	22,535
Scott Pancoast	21,453
Herm Rosenman	—
Cynthia Collins	—
Gene Salkind	11,891
Enrico Picozza	—

(4) For each non-employee director, All Other Compensation represents: (i) the product of (a) the number of shares of common stock underlying stock awards and option awards held by such director with respect to which vesting accelerated in connection with the Business Combination and (b) $6.50, our estimate of the fair market value of our common stock as of the date of acceleration of vesting (which figure is based on the price per share in the 2019 PIPE Financing); less (ii) the sum of (x) the aggregate exercise price of option awards held by such director with respect to which vesting accelerated in connection with the Business Combination, (y) the Incremental Stock Award Acceleration Fair Value (which amount is reported in the Stock Awards column) and (z) the Incremental Option Award Acceleration Fair Value (which amount is included in the amount reported in the Option Awards column).

(5) Mr. Picozza became a member of our board of directors upon the closing of the Business Combination on August 29, 2019.

Narrative to Director Compensation Table

2019 Non-Employee Director Compensation

On January 4, 2019, our non-employee directors listed in the following table were granted options to purchase the following aggregate number of shares, at an exercise price of $1.12 and vesting monthly over four years:

Name	Number of Shares Underlying Stock Options
Matthew Posard	13,269
Gary Jacobs	13,171
Scott Pancoast	13,473
Herm Rosenman	11,521
Cynthia Collins	10,728
Gene Salkind	6,411

In connection with the Business Combination, the Compensation Committee accelerated two years of vesting of all shares of DermTech Operations common stock underlying all outstanding stock options and restricted stock units held by persons who had been employed or contracted by DermTech Operations or served as members of DermTech Operations' board of directors for at least six months, effective as of immediately prior to the consummation of the Business Combination.

For the first eight months of 2019, aggregate annual fees payable to non-employee directors for their service as directors and as members of applicable committees of the board of directors were set by our board of directors at $25,000 per year, except with respect to Dr. Salkind, who received an aggregate annual fee of $5,000 per year.

Mr. Picozza became a member of our board of directors upon the closing of the Business Combination on August 29, 2019.

On September 12, 2019, after the completion of the Business Combination, our board of directors approved increases in the annual fees payable to non-employee directors for their service as directors and as members of committees of the board of directors, to the following amounts, effective from September 1, 2019, which increases were recommended to the board of directors by the Compensation Committee on September 12, 2019:

- the chairperson of our board of directors will receive an annual fee in the amount of $69,960 per year;
- each member of our board of directors, other than the chairperson of our board of directors, will receive an annual fee in the amount of $38,500 per year;
- the chairperson of the Audit Committee will receive additional annual cash compensation in the amount of $16,500 per year for such chairperson's service on the Audit Committee. Each non-chairperson member of the Audit Committee will receive additional annual cash compensation in the amount of $6,380 per year for such member's service on the Audit Committee;
- the chairperson of the Compensation Committee will receive additional annual cash compensation in the amount of $11,000 per year for such chairperson's service on the Compensation Committee. Each non-chairperson member of the Compensation Committee will receive additional annual cash compensation in the amount of $4,950 per year for such member's service on the Compensation Committee; and
- The chairperson of the Nominating and Corporate Governance Committee will receive additional annual cash compensation in the amount of $7,150 per year for such chairperson's service on the Nominating and Corporate Governance Committee. Each non-chairperson member of the Nominating and Corporate Governance Committee will receive additional annual cash compensation in the amount of $3,300 per year for such member's service on the Nominating and Corporate Governance Committee.

Interim Equity Awards

On January 30, 2020, at the recommendation of the Compensation Committee, our board of directors granted an award of 6,000 restricted stock units to each of our non-employee directors, representing a pro-rated grant in respect of such non-employee directors' service between the date of the Business Combination on August 29, 2019 and the anticipated date of the 2020 annual meeting of our stockholders, with such restricted stock units to vest in a single installment on the date of the 2020 annual meeting of our stockholders.

Non-Employee Director Compensation Policy Commencing in 2020

On January 30, 2020, at the recommendation of our Compensation Committee, our board of directors approved a Non-Employee Director Compensation Policy, or the 2020 Policy. Under the 2020 Policy, each non-employee director will be eligible to receive compensation for his or her service consisting of annual fees and equity awards.

Fees. The annual fees payable to our non-employee directors effective as of January 1, 2020 under the 2020 Policy remain the same as those initially approved on September 12, 2019, and such annual fees are described above.

Equity Awards. Under the 2020 Policy, equity awards for non-employee directors will be as follows:

- Incumbent Directors. Incumbent non-employee directors will receive an annual equity award consisting of 8,000 restricted stock units, to be granted on the date of the first meeting of our board of directors held following the annual meeting of our stockholders in each year commencing in 2020. Each annual grant of restricted stock units shall vest in a single installment on the first anniversary of the date of grant.
- Newly Elected or Appointed Directors. Newly elected or appointed non-employee directors will receive an initial equity award consisting of 8,000 restricted stock units, to be granted at the first regularly scheduled meeting of our board of directors following his or her initial appointment, provided that if the first regularly scheduled meeting of our board of directors following his or her initial appointment is not the first meeting of our board of directors held following the annual meeting of our stockholders, the initial equity award shall consist of a pro-rated number of shares of common stock underlying restricted stock units based on the nearest number of whole months remaining from such meeting of our board of directors until the next annual stockholder meeting. Each initial grant of restricted stock units shall vest in a single installment on (i) the first anniversary of the date of grant, if granted at the first meeting of our board of directors held following the annual meeting of our stockholders, or (ii) the first anniversary of the most recent annual meeting of our stockholders, if not granted at the first meeting of our board of directors held following the annual meeting of our stockholders.

Directors may be reimbursed for travel, food, lodging and other expenses directly related to their service as directors. Directors are also entitled to the protection provided by their indemnification agreements and the indemnification provisions in our Amended and Restated Certificate of Incorporation and our bylaws.

CERTAIN RELATIONSHIPS AND RELATED PERSON TRANSACTIONS

Unless specifically noted otherwise, as used throughout this Certain Relationships and Related Person Transactions section, "we," "our," or "us" refers to relationships and related party transactions with respect to DermTech Operations prior to, and the Company and its subsidiaries subsequent to, the completion of the Business Combination as the context requires.

Company Policy Regarding Related Person Transactions

Our Audit Committee is responsible for reviewing and approving all transactions in which we are a participant and in which any parties related to us, including our executive officers, directors, beneficial owners of more than 5% of our securities, immediate family members of the foregoing persons, and any other persons whom our board of directors determines may be considered related parties, have or will have a direct or indirect material interest. For purposes of our Audit Committee charter, a material interest is deemed to be any consideration received by such a party in excess of the lesser of (i) $120,000 per year or (ii) $119,375 (one percent of the average of the Company's total assets at year end for the last two completed fiscal years) per year.

In reviewing and approving such transactions, the Audit Committee will obtain, or will direct our management to obtain on its behalf, and consider all information that it believes to be relevant to a review of the transaction prior to its approval. Approval may be given by written consent of the Audit Committee.

The Audit Committee will approve only those related party transactions that are determined to be in, or not inconsistent with, the best interests of the Company and its stockholders, taking into account all available facts and circumstances as the Audit Committee determines in good faith to be necessary. These facts and circumstances will typically include, but not be limited to, the material terms of the transaction, the nature of the related party's interest in the transaction, the significance of the transaction to the related party and the nature of our relationship with the related party, the significance of the transaction to us, and whether the transaction is on terms no less favorable to us than terms we could have generally obtained from an unaffiliated third party under the same or similar circumstances. No member of the Audit Committee may participate in any review, consideration, or approval of any related party transaction with respect to which the member or any of his or her immediate family members is the related party, except that such member of the Audit Committee will be required to provide all material information concerning the related party transaction to the Audit Committee.

Except as set forth below, since January 1, 2017 there were no transactions to which we were a party, nor are there any currently proposed transactions to which we will be a party, in which:

- the amounts involved exceeded or will exceed the lesser of (i) $120,000 per year or (ii) $119,375 (one percent of the average of the Company's total assets at year end for the last two completed fiscal years) per year; and
- any of our directors, nominees for director, executive officers or holders of more than 5% of our outstanding capital stock, or any immediate family member of, or person sharing the household with, any of these individuals or entities, had or will have a direct or indirect material interest, other than compensation, termination and change of control arrangements that are described under the section entitled "Executive Officer and Director Compensation" beginning on page 78 of this prospectus.

DermTech Operations Series C Preferred Stock Financings

From October 2016 through May 2018, DermTech Operations sold and issued an aggregate of 2,624,393 shares of its Series C Preferred Stock, or the Series C Financing, at a purchase price of $5.54 per share for gross cash proceeds to DermTech Operations of approximately $14.5 million. In addition, each investor who purchased at least $1.0 million of Series C Preferred Stock in a single closing received a Series C Warrant, a three-year warrant to purchase a number of shares of DermTech Operations common stock equal to 20% of the shares of Series C Preferred Stock purchased by such investor, at an exercise price of $5.54 per share.

Certain directors, executive officers, and/or holders of more than 5% of DermTech Operations capital stock and their affiliates, or the Principal DermTech Operations Stockholders, participated in the Series C Financing.

Entities affiliated with Elliot Feuerstein purchased an aggregate of 180,506 shares of Series C Preferred Stock for a cash purchase price of $1.0 million and received Series C Warrants exercisable for an aggregate of 36,100 shares of common stock.

Entities affiliated with Paulson Investment Company LLC purchased an aggregate of 709,987 shares of Series C Preferred Stock for a cash purchase price of approximately $3.9 million, received Series C Warrants exercisable for an aggregate of 141,993 shares of common stock, and also received separate ten-year warrants to purchase an aggregate of 125,147 shares of DermTech Operations common stock at an exercise price of $5.54 per share pursuant to a side agreement with DermTech Operations.

Entities affiliated with RTW Investments, LP purchased an aggregate of 541,516 shares of Series C Preferred Stock for a cash purchase price of $3.0 million and received Series C Warrants exercisable for an aggregate of 108,302 shares of common stock.

Irwin and Joan Jacobs Trust 6-2-80 purchased an aggregate of 1,083,033 shares of Series C Preferred Stock for a cash purchase price of $6.0 million and received Series C Warrants exercisable for an aggregate of 216,606 shares of common stock. A director of the Company, Gary Jacobs, is the son of Irwin Jacobs and Joan Jacobs, trustees of the Irwin and Joan Jacobs Trust 6-2-80.

Immediately prior to the completion of the Business Combination, each share of Series C Preferred Stock of DermTech Operations outstanding as of such time was automatically converted into one share of common stock of DermTech Operations. The foregoing share numbers do not reflect the effects of the Exchange Ratio or the Reverse Stock Split.

DermTech Operations Amended and Restated Investors' Rights Agreement

In connection with the Series C Financing, DermTech Operations entered into an amended and restated investors' rights agreement, or the Series C IRA, with purchasers of its Series C Preferred Stock. The Series C IRA provided for, among other things, certain demand, piggy-back and S-3 registration rights. Principal DermTech Operations Stockholders who entered into the Series C IRA included Irwin and Joan Jacobs Trust 6-2-80, entities affiliated with RTW Investments, LP, entities affiliated with Elliot Feuerstein, and entities affiliated with Gary Jacobs. The Series C IRA terminated upon the completion of the Business Combination.

DermTech Operations Right of First Refusal and Co-Sale Agreement

In connection with the Series C Financing, DermTech Operations entered into a right of first refusal and co-sale agreement, or the Series C ROFR, with purchasers of its Series C Preferred Stock. The Series C ROFR provided for, among other things, certain right of first refusal and co-sale rights. Principal DermTech Operations Stockholders who entered into the Series C ROFR included Irwin and Joan Jacobs Trust 6-2-80, entities affiliated with RTW Investments, LP, entities affiliated with Elliot Feuerstein, and entities affiliated with Gary Jacobs. The Series C ROFR terminated upon the completion of the Business Combination.

DermTech Operations Amended and Restated Voting Agreement

In connection with the Series C Financing, DermTech Operations entered into an amended and restated voting agreement, or the Series C Voting Agreement, with purchasers of its Series C Preferred Stock. The Series C Voting Agreement provided for, among other things, drag along arrangements and voting provisions. Principal DermTech Operations Stockholders who entered into the Series C Voting Agreement included Irwin and Joan Jacobs Trust 6-2-80, entities affiliated with RTW Investments, LP, entities affiliated with Elliot Feuerstein, and entities affiliated with Gary Jacobs. The Series C Voting Agreement terminated upon the completion of the Business Combination.

DermTech Operations Convertible Promissory Notes

During 2018, DermTech Operations issued several convertible promissory notes, or the 2018 Bridge Notes, to various investors for an aggregate principal amount of $6.8 million. Principal DermTech Operations Stockholders who purchased such notes include Irwin Jacobs Trust 6-2-80 ($2.6 million), various entities affiliated with RTW Investments, LP ($3.0 million), and various entities affiliated with Elliot Feuerstein ($1.2 million). The outstanding principal and accrued but unpaid interest of all 2018 Bridge Notes converted into shares of DermTech Operations common stock immediately prior to the completion of the Business Combination at a price per share equal to 70% of the lesser of (i) $3.75 and (ii) the offering price per share of the 2019 PIPE Financing, which was $3.25, multiplied by the quotient resulting from dividing 16,000,000 by the number of fully diluted shares of DermTech Operations as of immediately after the conversion of all then outstanding DermTech Operations bridges notes and immediately prior to the completion of the Business Combination.

In June 2019, DermTech Operations issued additional convertible promissory notes, or the 2019 Bridge Notes, to various investors for an aggregate principal amount of $2.6 million. Principal DermTech Operations Stockholders who purchased such notes include an entity affiliated with Gary Jacobs ($500,000), various entities affiliated with RTW Investments, LP ($1.5 million), and various entities affiliated with Elliot Feuerstein ($500,000). The outstanding principal and accrued but unpaid interest of such convertible promissory notes will convert into shares of DermTech Operations common stock immediately prior to the completion of the Business Combination. The price per share at which 2019 Bridge Notes would convert depended on whether the completion of the Business Combination occurred before or after September 25, 2019. If the completion of the Business Combination occurred prior to September 25, 2019, the price per share at which the 2019 Bridge Notes would convert would equal the lesser of (i) $3.37 and (ii) 90% of the offering price per share of the 2019 PIPE Financing, which was $3.25, multiplied by the quotient resulting from dividing 16,000,000 by the number of fully diluted shares of DermTech Operations as of immediately prior to the completion of the Business Combination (including any DermTech Operations shares that were to be issued pursuant to outstanding promissory notes converting immediately prior to the completion of the Business Combination and any DermTech Operations shares underlying all outstanding options, restricted stock unit awards and warrants). If the completion of the Business Combination occurred after September 25, 2019, the price per share at which the 2019 Bridge Notes would have converted would have equaled the lesser of (i) $2.62 and (ii) 70% of the offering price per share of the 2019 PIPE Financing multiplied by the quotient described in the preceding sentence.

On August 29, 2019, immediately prior to the completion of the Business Combination, all unpaid principal and interest on the 2019 Bridge Notes and the 2018 Bridge Notes was converted into 2,267,042 shares of DermTech Operations common stock, which number of shares does not reflect the effects of the Exchange Ratio or the Reverse Stock Split.

2019 PIPE Financing

On August 29, 2019, immediately prior to the completion of the Business Combination, the Company issued an aggregate of 3,076,925 shares of common stock and 1,230.77 shares of Series A Convertible Preferred Stock, which are convertible into an aggregate of up to 615,385 shares of common stock, for an aggregate purchase price of $24.0 million, to certain accredited investors pursuant to the terms of separate Subscription Agreements and Amended and Restated Subscription Agreements, dated between May 22, 2019 and August 1, 2019, entered into by the Company and such investors. We refer to this transaction as the 2019 PIPE Financing.

Certain directors and/or holders of more than 5% of the Company's capital stock and their affiliates participated in the 2019 PIPE Financing.

An entity affiliated with Gary Jacobs purchased an aggregate of 76,923 shares of our common stock for a cash purchase price of $500,000.

Entities affiliated with Farallon Capital Management, L.L.C. purchased an aggregate of 615,385 shares of our common stock for a cash purchase price of $4.0 million and 1,230.77 shares of Series A Convertible Preferred Stock for a cash purchase price of $4.0 million.

HLM Venture Partners IV, L.P. purchased an aggregate of 615,385 shares of our common stock for a cash purchase price of $4.0 million. Enrico Picozza, a director of the Company, has a pecuniary interest in HLM Venture Associates IV, LLC, the general partner of HLM Venture Partners IV, L.P. Mr. Picozza disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

Irwin & Joan Jacobs Trust 6-2-80 purchased an aggregate of 461,539 shares of our common stock for a cash purchase price of $3.0 million.

The foregoing share numbers reflect the effect of the Reverse Stock Split.

2020 PIPE Financing

On March 4, 2020, the Company issued an aggregate of 2,467,724 shares of common stock at a price of $10.50 per share, 3,198.9419 shares of Series B-1 Convertible Preferred Stock, at a price of $10,500.00 per share, and 523.8094 shares of Series B-2 Convertible Preferred Stock, at a price of $10,500.00 per share, for aggregate gross proceeds of approximately $65.0 million, to certain institutional investors pursuant to a Securities Purchase Agreement, dated February 28, 2020, between the Company and such investors. We refer to this transaction as the 2020 PIPE Financing.

Certain holders of more than 5% of the Company's capital stock and their affiliates, as well as an affiliate of a director of the Company, participated in the 2020 PIPE Financing.

Entities affiliated with RTW Investments, LP purchased an aggregate of 152,456 shares of our common stock and 228.4963 shares of Series B-1 Convertible Preferred Stock for a cash purchase price of approximately $4.0 million.

Entities affiliated with Farallon Capital Management, L.L.C. purchased an aggregate of 523.8094 shares of Series B-2 Convertible Preferred Stock for a cash purchase price of approximately $5.5 million.

HLM Venture Partners IV, L.P. purchased an aggregate of 76,228 shares of our common stock and 114.2481 shares of Series B-1 Convertible Preferred Stock for a cash purchase price of approximately $2.0 million. As noted above, Enrico Picozza, a director of the Company, has a pecuniary interest in HLM Venture Associates IV, LLC, the general partner of HLM Venture Partners IV, L.P. Mr. Picozza disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

Marketing Services Agreement

During 2019, we engaged EVERSANA Life Science Services, LLC, or EVERSANA, to provide certain marketing services to the Company. Leana Wood, the spouse of Todd Wood, our Chief Commercial Offer, is an employee of EVERSANA. As of December 31, 2019 we had incurred $0.4 million in costs.

Consulting Services Agreement

On October 1, 2019, we entered into a consulting agreement with Michael Dobak pursuant to which we will compensate Michael Dobak, in an amount not to exceed $100,000, for certain public relations and marketing services. Michael Dobak is the brother of Dr. John Dobak, the Company’s Chief Executive Officer. As of December 31, 2019 we had incurred $20,000 in costs.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information concerning the ownership of our common stock as of April 1, 2020, by (i) those persons who are known by us to be the beneficial owner(s) of more than five percent of our common stock, (ii) each of our directors and named executive officers and (iii) all of our current directors and executive officers as a group. The share numbers in the table and in the footnotes thereto, as well as the share numbers discussed in this section below, reflect the effects of the Reverse Stock Split and the Exchange Ratio.

The number of shares beneficially owned by each entity, person, director or executive officer is determined in accordance with the rules of the SEC, and the information is not necessarily indicative of beneficial ownership for any other purpose. Under such rules, beneficial ownership generally includes any shares over which the individual has sole or shared voting power or investment power as well as any shares that the individual has the right to acquire within 60 days of April 1, 2020, such as through the exercise of stock options, warrants or other rights or the vesting of restricted stock units. Unless otherwise indicated in the footnotes to this table, we believe each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned.

The percentage of shares beneficially owned is computed on the basis of 14,899,701 shares of our common stock outstanding as of April 1, 2020. Shares of our common stock that the entity, person, or group has the right to acquire within 60 days of April 1, 2020, including common stock subject to (i) stock options exercisable within 60 days of April 1, 2020, (ii) warrants exercisable within 60 days of April 1, 2020, (iii) restricted stock units vesting within 60 days of April 1, 2020, and (iv) preferred stock convertible within 60 days of April 1, 2020, are in each case deemed outstanding for purposes of computing the percentage ownership of the person holding such rights, but are not deemed outstanding for purposes of computing the percentage ownership of any other person, except with respect to the percentage ownership of all directors and executive officers as a group. Unless otherwise indicated below, the address of each beneficial owner listed is c/o DermTech, Inc., 11099 N. Torrey Pines Road, Suite 100, La Jolla, CA 92037.

Name and Address of Beneficial Owner	Shares Beneficially Owned	Percentage of Beneficial Ownership
5% or Greater Stockholders		
Entities and persons affiliated with Gary Jacobs(1)	1,336,348	8.95%
Irwin & Joan Jacobs Trust 6-2-80(2)	1,850,366	12.35%
Entities affiliated with RTW Investments, LP(3)	2,690,168	17.98%
Entities affiliated with Farallon Capital Management, L.L.C.(4)	1,216,840	7.84%
Named Executive Officers and Directors		
Matthew Posard(5)	44,965	*
Gary Jacobs(1)	1,336,348	8.95%
Scott Pancoast(6)	47,347	*
Herm Rosenman(7)	35,224	*
Cynthia Collins(8)	25,483	*
Gene Salkind(9)	191,045	1.28%
John Dobak(10)	457,039	3.06%
Steven Kemper(11)	102,859	*
Burkhard Jansen(12)	97,197	*
Enrico Picozza(13)	6,000	*
Todd Wood(14)	138,873	*
All current directors and executive officers as a group (13 persons)(15)	2,482,600	16.48%

* Indicates beneficial ownership of less than 1%.

(1) Consists of (i) 797,978 shares of common stock held by Jacobs Investment Company LLC, (ii) 509,211 shares of common stock held by Gary Jacobs, 22,535 shares of common stock that may be acquired pursuant to the exercise of stock options held by Gary Jacobs within 60 days after April 1, 2020 and 6,000 shares of restricted stock units held by Gary Jacobs that vest within 60 days after April 1, 2020 and (iii) 624 shares of common stock held by Gary & Jerri-Ann Trustee. Gary Jacobs has the power to direct the vote and disposition of the common stock held by Jacobs Investment Company LLC and Gary & Jerri-Ann Trustee. Accordingly, Gary Jacobs may be deemed to be the beneficial owner of such shares.

(2) Consists of 1,766,502 shares of common stock and 83,864 shares of common stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Irwin Jacobs and Joan Jacobs have the power to direct the vote and

disposition of the common stock held by Irwin & Joan Jacobs Trust 6-2-80. Accordingly, Irwin Jacobs and Joan Jacobs may be deemed to be the beneficial owners of such shares.

(3) Consists of 2,627,268 shares of common stock beneficially owned by RTW Investments, LP and 62,900 shares of common stock that may be acquired pursuant to the exercise of Warrants beneficially owned by RTW Investments, LP. RTW Investments, LP has the power to direct the vote and disposition of securities held by RTW Master Fund, Ltd., RTW Innovation Master Fund, Ltd. and RTW Venture Fund Limited. Accordingly, RTW Investments, LP may be deemed to be the beneficial owner of such securities. Roderick Wong, M.D. has the power to direct the vote and disposition of the securities held by RTW Investments, LP. Dr. Wong is the managing partner of RTW Investments GP, LLC, which is the managing partner of RTW Investments, LP. Dr. Wong disclaims beneficial ownership of the shares held by RTW Master Fund, Ltd., RTW Innovation Master Fund, Ltd., and RTW Venture Fund Limited, except to the extent of his pecuniary interest therein. The address and principal office of RTW Investments, LP and Dr. Wong is 412 West 15th Street, Floor 9, New York, New York 10011.

(4) Consists of shares held by eight limited partnerships for which Farallon Capital Management, L.L.C. is the registered investment advisor, including (i) 9,025 shares of common stock held by Farallon Capital (AM) Investors, L.P., or FCAMI, and 9,225 shares of common stock issuable upon the conversion of 18.45 shares of Series A Convertible Preferred Stock held by FCAMI within 60 days after April 1, 2020, (ii) 24,125 shares of common stock held by Farallon Capital F5 Master I, L.P., or F5MI, and 24,625 shares of common stock issuable upon the conversion of 49.25 shares of Series A Convertible Preferred Stock held by F5MI within 60 days after April 1, 2020, (iii) 148,900 shares of common stock held by Farallon Capital Institutional Partners, L.P., or FCIP, and 152,300 shares of common stock issuable upon the conversion of 304.60 shares of Series A Convertible Preferred Stock held by FCIP within 60 days after April 1, 2020, (iv) 30,075 shares of common stock held by Farallon Capital Institutional Partners II, L.P., or FCIP II, and 30,775 shares of common stock issuable upon the conversion of 61.55 shares of Series A Convertible Preferred Stock held by FCIP II within 60 days after April 1, 2020, (v) 16,625 shares of common stock held by Farallon Capital Institutional Partners III, L.P., or FCIP III, and 16,925 shares of common stock issuable upon the conversion of 33.85 shares of Series A Convertible Preferred Stock held by FCIP III within 60 days after April 1, 2020, (vi) 243,305 shares of common stock held by Farallon Capital Offshore Investors II, L.P., or FCOI II, and 249,235 shares of common stock issuable upon the conversion of 498.47 shares of Series A Convertible Preferred Stock held by FCOI II within 60 days after April 1, 2020, (vii) 106,725 shares of common stock held by Farallon Capital Partners, L.P., or FCP, and 109,225 shares of common stock issuable upon the conversion of 218.45 shares of Series A Convertible Preferred Stock held by FCP within 60 days after April 1, 2020, and (viii) 22,675 shares of common stock held by Four Crossings Institutional Partners V, L.P., or FCIP V, and 23,075 shares of common stock issuable upon the conversion of 46.15 shares of Series A Convertible Preferred Stock held by FCIP V within 60 days after April 1, 2020. Farallon Partners, L.L.C., or FPLLC, as the general partner of FCP, FCIP, FCIP II, FCIP III, FCOI II and FCAMI, or the FPLLC Entities, may be deemed to beneficially own such shares of common stock held by or issuable to each of the FPLLC Entities. Farallon F5 (GP), L.L.C., or F5MI GP, as the general partner of F5MI, may be deemed to beneficially own such shares of common stock held by or issuable to F5MI. Farallon Institutional (GP) V, L.L.C., or FCIP V GP, as the general partner of FCIP V, may be deemed to beneficially own such shares of common stock held by or issuable to FCIP V. Each of Philip D. Dreyfuss, Michael B. Fisch, Richard B. Fried, David T. Kim, Michael G. Linn, Rajiv A. Patel, Thomas G. Roberts, Jr., William Seybold, Andrew J. M. Spokes, John R. Warren and Mark C. Wehrly, or the Farallon Managing Members, as a (i) managing member or senior managing member, as the case may be, of FPLLC, or (ii) manager or senior manager, as the case may be, of F5MI GP and FCIP V GP, in each case with the power to exercise investment discretion with respect to the shares that may be deemed to be beneficially owned by FPLLC, F5MI GP or FCIP V GP, may be deemed to beneficially own such shares of common stock held by or issuable to the FCPLLC Entities, F5MI or FCIP V. Each of FPLLC, F5MI GP, FCIP V GP and the Farallon Managing Members disclaims beneficial ownership of any such shares of common stock. The address for each of the entities and individuals identified in this footnote is One Maritime Plaza, Suite 2100, San Francisco, California 94111.

(5) Consists of 29,263 shares of common stock, 9,702 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020 and 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(6) Consists of 38,514 shares of common stock, 2,833 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020 and 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(7) Consists of 29,224 shares of common stock and 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(8) Consists of 19,483 shares of common stock and 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(9) Consists of 173,154 shares of common stock, 11,891 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020 and 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(10) Consists of 439,280 shares of common stock, 9,219 shares of common stock that may be acquired pursuant to the exercise of common stock warrants within 60 days after April 1, 2020 and 8,540 shares that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020.

(11) Consists of 89,758 shares of common stock and 13,101 shares of common stock that may be acquired pursuant to the exercise of common stock warrants within 60 days after April 1, 2020.

(12) Consists of 71,165 shares of common stock and 26,032 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020.

(13) Consists of 6,000 shares of common stock underlying restricted stock units vesting within 60 days after April 1, 2020.

(14) Consists of 136,373 shares of common stock and 2,500 shares of common stock that may be acquired pursuant to the exercise of stock options within 60 days after April 1, 2020.

(15) Includes (i) the shares described in footnote 1, footnotes 5 through 10 and footnotes 12 through 14, (ii) 71,047 shares of common stock held by Zuxu Yao and 28,592 shares of common stock that may be acquired pursuant to the exercise of stock options held by Zuxu Yao within 60 days after April 1, 2020, and (iii) 3,440 shares of common stock that may be acquired pursuant to the exercise of stock options held by Kevin Sun within 60 days after April 1, 2020. Claudia Ibarra is not the beneficial owner of any shares of the Company that may be acquired within 60 days after April 1, 2020.

SELLING SECURITYHOLDERS

The shares of Common Stock being offered by the selling securityholders, or their assignees or successors-in-interest are up to an aggregate amount of 6,627,685 shares of Common Stock, consisting of: (i) an aggregate of up to 2,467,724 shares of Common Stock issued in the 2020 PIPE Financing; (ii) an aggregate of up to 2,588 shares of Common Stock issued in connection with the exercise of certain Placement Agent Warrants and Series C Warrants; (iii) an aggregate of up to 3,198,949 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-1 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; (iv) an aggregate of up to 523,814 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-2 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; and (v) an aggregate of up to 434,610 shares of Common Stock underlying the Warrants. We are registering the above referenced shares of Common Stock in order to permit the selling securityholders, or their assignees or successors-in-interest, to offer the shares for resale from time to time. The share numbers in the table below and in the footnotes thereto, as well as the share numbers discussed in this section, reflect the effects of the Reverse Stock Split and the exchange ratio in accordance with the Merger Agreement, in each case, as applicable.

The selling securityholders may sell all, some or none of their shares listed below in this offering. See the section entitled “Plan of Distribution” elsewhere in this prospectus.

Except as otherwise disclosed in the footnotes below or the sections entitled “Certain Relationships and Related Person Transactions” or “Security Ownership of Certain Beneficial Owners and Management” elsewhere in this prospectus, with respect to any selling securityholder, none of the selling securityholders have, and within the past three years have not had, any position, office or other material relationship with us or any of our predecessors or affiliates.

The table below lists the selling securityholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act and the rules and regulations thereunder) of the shares of Common Stock held by the selling securityholders. The second column lists the percentage of shares of Common Stock beneficially owned by the selling securityholders, based on its ownership of shares of Common Stock, as of April 1, 2020. The percentage of shares beneficially owned prior to the offering is based on 14,899,701 shares of our Common Stock outstanding as of April 1, 2020. The number of shares in the column “Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus” represents all of the shares that the selling securityholders may offer under this prospectus, assuming the conversion of the shares of Series B-1 Convertible Preferred Stock, the conversion of the shares of Series B-2 Convertible Preferred Stock and the exercise of the Warrants currently held by such selling securityholders, as applicable, and does not take into account the date of, or any limitations on, the conversion of the shares of Series B-1 Convertible Preferred Stock, the conversion of the shares of Series B-2 Convertible Preferred Stock or the exercise of the Warrants.

	Shares of Common Stock Beneficially Owned Before this Offering(1)		**Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus(3)**	**Shares of Common Stock to be Beneficially Owned Upon Completion of this Offering**	
Selling Securityholders	Number	Percentage (2)	Number	Number	Percentage(2)
Casdin Partners Master Fund, LP(4)	571,713	3.84%	1,428,572	0	*
Federated Kaufmann Small Cap Fund, a portfolio of Federated Equity Funds(5)	457,370	3.07%	1,142,858	0	*
Perceptive Life Sciences Master Fund LTD(6)	285,856	1.92%	714,286	0	*
Entities affiliated with Farallon Capital Management, L.L.C.(7)	1,216,840	7.84%	523,814	1,216,840	7.84%
Maven Investment Partners US Limited – New York Branch(8)	214,960	1.44%	523,810	5,332	*
USAA Science & Technology Fund(9)	185,997	1.25%	464,762	0	*
Entities affiliated with RTW Investments, LP(10)	2,690,168	17.98%	443,854	2,246,314	15.01%
T. Rowe Price Health Science Fund, Inc.(11)	285,592	1.92%	285,592	0	*
TD Mutual Funds – TD Health Science Fund(11)	17,807	*	17,807	0	
VALIC Company I – Health Science Fund(11)	16,942	*	16,942	0	
T. Rowe Price Health Sciences Portfolio(11)	12,992	*	12,992	0	
Pura Vida Master Fund, Ltd.(12)	308,916	2.07%	297,143	190,000	1.28%
HLM Venture Partners IV, L.P.(13)	691,613	4.64%	190,477	615,385	4.13%
Entities affiliated with Monashee Investment Management LLC(14)	47,642	*	119,049	0	*
Irwin and Joan Jacobs Trust 6-2-80(15)	1,850,366	12.35%	83,864	1,766,502	11.79%
Soleus Capital Master Fund, L.P.(16)	28,585	*	71,429	0	*

Selling Securityholders	Shares of Common Stock Beneficially Owned Before this Offering(1)		Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus(3)	Shares of Common Stock to be Beneficially Owned Upon Completion of this Offering	
	Number	Percentage (2)	Number	Number	Percentage(2)
Christopher Clark(17)	28,156	*	42,285	0	*
Robert Setteducati(18)	28,156	*	42,285	0	*
Thomas Parigian(19)	28,156	*	42,285	0	*
Entities affiliated with Paulson Investment Company, LLC(20)	121,047	*	15,513	105,534	*
Starla Goff and an affiliated entity(21)	4,841	*	15,275	0	*
Peter Fogarty(22)	12,225	*	12,839	0	*
Gary Saccaro(23)	8,452	*	12,574	0	*
Entities affiliated with Brian Mark Miller(24)	11,532	*	11,532	0	*
Timothy Touloukian(25)	3,563	*	10,919	0	*
Kevin Graetz(26)	5,280	*	5,732	0	*
Minish Joe Hede(27)	5,280	*	5,732	0	*
Carrie Snyder(28)	4,243	*	5,582	0	*
Byron Crowe(29)	4,748	*	5,025	0	*
Albert Landstrom(30)	2,526	*	4,817	0	*
Thomas and Patricia Nolan(31)	12,246	*	4,192	8,054	*
Tanya Urbach(32)	2,728	*	3,934	0	*
Malcolm Alexander Winks(33)	1,797	*	2,911	0	*
Lorraine Maxfield(34)	2,021	*	2,579	0	*
Eugene Webb(35)	349	*	2,558	0	*
Ahmed Gheith(36)	2,063	*	2,448	0	*
DTA Investments LLC(37)	0	*	2,249	0	*
MIS Equity Strategies, LP(38)	8,484	*	2,097	6,387	*
Asian Gateway Limited(39)	9,406	*	1,568	7,838	*
Basil Christakos(40)	1,010	*	1,568	0	*
Dmitry Aksenov(41)	1,473	*	1,473	0	*
Douglas Harnar LLC(42)	1,161	*	1,469	0	*
Christopher DeGroat(43)	926	*	1,347	0	*
Jacob Gamble(44)	462	*	1,204	0	*
William Corbett(45)	1,154	*	1,154	0	*
Mark Finckle(46)	0	*	1,113	0	*
Barret Marshall Miller(47)	1,048	*	1,048	0	*
Allen Gabriel(48)	980	*	980	0	*
Troy Stevens(49)	10,363	*	980	9,383	*
William and Stephanie Costigan(50)	5,879	*	980	4,899	*
William J. Truxal(51)	980	*	980	0	*
Paul Norwood(52)	5,929	*	979	4,950	*
Peter Colettis(53)	917	*	917	0	*
Larry Cohen(54)	909	*	909	0	*
Rodney Baber(55)	793	*	793	0	*
Millennium Trust Company, LLC CUST FBO Christopher Hermann IRA(56)	0	*	690	0	*
Peter J Bowen & Diane S Bowen Revocable Living Trust(57)	687	*	687	0	*
Northlea Partners(58)	3,528	*	588	2,940	*
Entities affiliated with Daniel Gilbert(59)	0	*	572	0	*
Millennium Trust Company, LLC CUST FBO Nancy Cowgill IRA(60)	0	*	570	0	*
Randall J. & Maribeth M. Wolfe Revocable Trust Agreement dtd 12/23/2003(61)	0	*	570	0	*
Theodore H. Hustead(62)	0	*	570	0	*
Thomas Endres(63)	0	*	557	0	*
David Wolfsohn(64)	543	*	543	0	*
Adam Lipson(65)	490	*	490	0	*
Anthony Farello(66)	2,940	*	490	2,450	*
Brian Langham(67)	490	*	490	0	*
Danny Cornwell(68)	2,450	*	490	2,450	*
Gerald B. Johnston(69)	2,940	*	490	2,450	*
Keith Wright(70)	2,940	*	490	2,450	*

Selling Securityholders	Shares of Common Stock Beneficially Owned Before this Offering(1)		Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus(3)	Shares of Common Stock to be Beneficially Owned Upon Completion of this Offering	
	Number	Percentage (2)	Number	Number	Percentage(2)
Mike and Lisa Zupan(71)	490	*	490	0	*
The GBS Living Trust(72)	2,300	*	490	2,300	*
Hazem Algendi(73)	374	*	480	0	*
Ralph Wharton(74)	456	*	456	0	*
David Kimball(75)	392	*	392	0	*
Marc A Cohen(76)	5,350	*	392	5,350	*
Roger Ramsey(77)	2,353	*	392	1,961	*
William Pedersen(78)	347	*	347	0	*
Fred & Betty Bialek Revocable Trust dtd 12/20/2004(79)	0	*	313	0	*
Keith and Jeanne Fishback(80)	0	*	286	0	*
Millennium Trust Company, LLC CUST FBO Deborah J Wilson IRA(81)	0	*	286	0	*
Sandip Patel(82)	0	*	286	0	*
Xenium Trust U/A dtd 1/1/2012(83)	0	*	286	0	*
Greg Buffington(84)	0	*	252	0	*
Thomas Hoare(85)	232	*	232	0	*
Mike Nye(86)	5,388	*	229	5,388	*
Pat Welch and an affiliated entity(87)	0	*	228	0	*
Steven L. Ludmerer(88)	209	*	209	0	*
BCS Capital, LLC(89)	196	*	196	0	*
Tyson Robbins(90)	196	*	196	0	*
John Nole(91)	0	*	149	0	*
Mitchell J. Tracy(92)	0	*	143	0	*
The Scott and Mary Schroeder Living Trust Dated 2/10/2015(93)	0	*	131	0	*
Roger and Joyce Langeliers(94)	0	*	117	0	*
William Massie(95)	116	*	116	0	*
C. Joseph Van Haverbeke Trust dated 2/15/1995(96)	0	*	114	0	*
Jud and Barbara Longaker(97)	0	*	114	0	*

(*) Indicates beneficial ownership of less than 1%.

(1) “Beneficial ownership” is a term broadly defined in Rule 13d-3 under the Exchange Act, and includes more than the typical form of stock ownership, that is, stock held in a person’s name. The term also includes what is referred to as “indirect ownership,” meaning ownership of shares as to which a person has or shares investment power. For purposes of this column, a person or group of persons is deemed to have “beneficial ownership” of any shares that such person or group of persons has the right to acquire within 60 days after April 1, 2020, including through the exercise of a warrant or the conversion of a security.

(2) The calculation of the percentage ownership for each securityholder assumes, in each case only to the extent that such securities are currently convertible or exercisable or are convertible or exercisable within 60 days after April 1, 2020 (taking into account for such purpose any limitations on such conversion or exercise under applicable beneficial ownership rules, including the restrictions on the conversion of the Series B-1 and Series B-2 Convertible Preferred Stock to Common Stock pending approval by our stockholders), (i) the conversion into Common Stock of any shares of Series A Convertible Preferred Stock held by the securityholder, (ii) the conversion into Common Stock of any shares of Series B-1 or Series B-2 Convertible Preferred Stock held by the securityholder, (iii) the exercise of the Warrants held by the securityholder, and (iv) the conversion or exercise of any other derivative securities held by the securityholder, but does not assume the conversion of any convertible securities or exercise of warrants or other derivative securities by any other securityholder.

(3) The number of shares in this column represents all of the shares that the selling securityholders may offer under this prospectus, assuming the conversion of the shares of Series B-1 Convertible Preferred Stock, the conversion of the shares of Series B-2 Convertible Preferred Stock and the exercise of the Warrants currently held by such selling securityholders, as applicable, and does not take into account the date of, or any limitations on, the conversion of the shares of Series B-1 Convertible Preferred Stock, the conversion of the shares of Series B-2 Convertible Preferred Stock or the exercise of the Warrants.

(4) The shares reflected as beneficially owned by Casdin Partners Master Fund, LP in the table above consist of 571,713 shares of Common Stock. Such securities are owned directly by Casdin Partners Master Fund, LP and may be deemed to be indirectly beneficially owned by (i) Casdin Capital, LLC, the investment adviser to Casdin Partners Master Fund, LP, (ii)

Casdin Partners GP, LLC, the general partner of Casdin Partners Master Fund LP, and (iii) Eli Casdin, the managing member of Casdin Capital, LLC and Casdin Partners GP, LLC. Each of Casdin Capital, LLC, Casdin Partners GP, LLC and Eli Casdin disclaims beneficial ownership of such securities except to the extent of their respective pecuniary interest therein.

(5) The shares reflected as beneficially owned by Federated Kaufmann Small Cap Fund, a portfolio of Federated Equity Funds, or the Fund, in the table above consist of 457,370 shares of Common Stock. The Fund is managed by Federated Equity Management Company of Pennsylvania and subadvised by Federated Global Investment Management Corp., which are wholly owned subsidiaries of FII Holdings, Inc., which is a wholly owned subsidiary of Federated Hermes, Inc., or the Parent. All of the Parent's outstanding voting stock is held in the Voting Shares Irrevocable Trust, or the Trust, for which Thomas R. Donahue, Rhodora J. Donahue and J. Christopher Donahue, who are collectively referred to as Trustees, act as trustees. The Parent's subsidiaries have the power to direct the vote and disposition of the securities held by the Fund. Each of the Parent, its subsidiaries, the Trust, and each of the Trustees expressly disclaim beneficial ownership of such securities.

(6) The shares reflected as beneficially owned by Perceptive Life Sciences Master Fund LTD in the table above consist of 285,856 shares of Common Stock. Joseph Edelman has the power to direct the vote and disposition of the securities held by Perceptive Life Sciences Master Fund LTD. Mr. Edelman disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

(7) The shares reflected as beneficially owned by the entities affiliated with Farallon Capital Management, L.L.C. in the table above consists of shares held by eight limited partnerships for which Farallon Capital Management, L.L.C. is the registered investment advisor, including (i) 9,025 shares of common stock held by Farallon Capital (AM) Investors, L.P., or FCAMI, and 9,225 shares of common stock issuable upon the conversion of 18.45 shares of Series A Convertible Preferred Stock held by FCAMI within 60 days after April 1, 2020, (ii) 24,125 shares of common stock held by Farallon Capital F5 Master I, L.P., or F5MI, and 24,625 shares of common stock issuable upon the conversion of 49.25 shares of Series A Convertible Preferred Stock held by F5MI within 60 days after April 1, 2020, (iii) 148,900 shares of common stock held by Farallon Capital Institutional Partners, L.P., or FCIP, and 152,300 shares of common stock issuable upon the conversion of 304.60 shares of Series A Convertible Preferred Stock held by FCIP within 60 days after April 1, 2020, (iv) 30,075 shares of common stock held by Farallon Capital Institutional Partners II, L.P., or FCIP II, and 30,775 shares of common stock issuable upon the conversion of 61.55 shares of Series A Convertible Preferred Stock held by FCIP II within 60 days after April 1, 2020, (v) 16,625 shares of common stock held by Farallon Capital Institutional Partners III, L.P., or FCIP III, and 16,925 shares of common stock issuable upon the conversion of 33.85 shares of Series A Convertible Preferred Stock held by FCIP III within 60 days after April 1, 2020, (vi) 243,305 shares of common stock held by Farallon Capital Offshore Investors II, L.P., or FCOI II, and 249,235 shares of common stock issuable upon the conversion of 498.47 shares of Series A Convertible Preferred Stock held by FCOI II within 60 days after April 1, 2020, (vii) 106,725 shares of common stock held by Farallon Capital Partners, L.P., or FCP, and 109,225 shares of common stock issuable upon the conversion of 218.45 shares of Series A Convertible Preferred Stock held by FCP within 60 days after April 1, 2020, and (viii) 22,675 shares of common stock held by Four Crossings Institutional Partners V, L.P., or FCIP V, and 23,075 shares of common stock issuable upon the conversion of 46.15 shares of Series A Convertible Preferred Stock held by FCIP V within 60 days after April 1, 2020. Farallon Partners, L.L.C., or FPLLC, as the general partner of FCP, FCIP, FCIP II, FCIP III, FCOI II and FCAMI, or the FPLLC Entities, may be deemed to beneficially own such shares of common stock held by or issuable to each of the FPLLC Entities. Farallon F5 (GP), L.L.C., or F5MI GP, as the general partner of F5MI, may be deemed to beneficially own such shares of common stock held by or issuable to F5MI. Farallon Institutional (GP) V, L.L.C., or FCIP V GP, as the general partner of FCIP V, may be deemed to beneficially own such shares of common stock held by or issuable to FCIP V. Each of Philip D. Dreyfuss, Michael B. Fisch, Richard B. Fried, David T. Kim, Michael G. Linn, Rajiv A. Patel, Thomas G. Roberts, Jr., William Seybold, Andrew J. M. Spokes, John R. Warren and Mark C. Wehrly, or the Farallon Managing Members, as a (i) managing member or senior managing member, as the case may be, of FPLLC or (ii) manager or senior manager, as the case may be, of F5MI GP and FCIP V GP, in each case with the power to exercise investment discretion with respect to the shares that may be deemed to be beneficially owned by FPLLC, F5MI GP or FCIP V GP, may be deemed to beneficially own such shares of common stock held by or issuable to the FCPLLC Entities, F5MI or FCIP V. Each of FPLLC, F5MI GP, FCIP V GP and the Farallon Managing Members disclaims beneficial ownership of any such shares of common stock.

(8) The shares reflected as beneficially owned by Maven Investment Partners US Limited – New York Branch in the table above consist of 214,960 shares of Common Stock. Anand K. Sharma has the power to direct the vote and disposition of the securities held by Maven Investment Partners US Limited – New York Branch. Mr. Sharma disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

(9) The shares reflected as beneficially owned by USAA Science & Technology Fund, a series of USAA Mutual Funds Trust, in the table above consist of 185,997 shares of Common Stock. Chris Clark has the power to direct the vote and disposition of such securities. Mr. Clark disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

(10) The shares reflected as beneficially owned by RTW Investments, LP in the table above consist of consists of 2,627,268 shares of common stock beneficially owned by RTW Investments, LP and 62,900 shares of common stock that may be acquired pursuant to the exercise of warrants beneficially owned by RTW Investments, LP. RTW Investments, LP has the

power to direct the vote and disposition of securities held by RTW Master Fund, Ltd., RTW Innovation Master Fund, Ltd. and RTW Venture Fund Limited. Accordingly, RTW Investments, LP may be deemed to be the beneficial owner of such securities. Roderick Wong, M.D. has the power to direct the vote and disposition of the securities held by RTW Investments, LP. Dr. Wong is the managing partner of RTW Investments GP, LLC, which is the managing partner of RTW Investments, LP. Dr. Wong disclaims beneficial ownership of the shares held by RTW Master Fund, Ltd., RTW Innovation Master Fund, Ltd., and RTW Venture Fund Limited, except to the extent of his pecuniary interest therein.

(11) T. Rowe Price Associates, Inc., or TRPA, serves as investment adviser or subadviser, as applicable, with power to direct investments and/or sole power to vote the securities owned by these funds and accounts. The T. Rowe Price Proxy Committee develops the firm's positions on all major proxy voting issues, creates guidelines, and oversees the voting process. Once the Proxy Committee establishes its recommendations, they are distributed to the firm's portfolio managers as voting guidelines. Ultimately, the portfolio managers for each account decide how to vote on the proxy proposals of companies in their portfolios. More information on the T. Rowe Price proxy voting guidelines is available at troweprice.com. The T. Rowe Price portfolio manager of the funds and accounts that hold such securities is Ziad Bakri. For purposes of reporting requirements under the Exchange Act, TRPA may be deemed to be the beneficial owner of such securities; however, TRPA expressly disclaims that it is, in fact, the beneficial owner of such securities. T. Rowe Price Investment Services, Inc., or TRPIS, a registered broker-dealer, is a subsidiary of TRPA. TRPIS was formed primarily for the limited purpose of acting as the principal underwriter and distributor of shares of the funds in the T. Rowe Price fund family and complements the other services provided to shareholders of the T. Rowe Price funds. TRPIS does not engage in underwriting or market-making activities involving individual securities. TRPA is a wholly-owned subsidiary of T. Rowe Price Group, Inc., which is a publicly-traded financial services holding company.

(12) The shares reflected as beneficially owned by Pura Vida Master Fund, Ltd. in the table above consist of (i) 118,916 shares of Common Stock held by Pura Vida Master Fund, Ltd. and (ii) 190,000 shares of Common Stock held by certain separately managed accounts, or the Accounts. Pura Vida Investments, LLC, or PVI, serves as investment manager to Pura Vida Master Fund, Ltd. and to the Accounts. Efrem Kamen serves as the managing member of PVI. By virtue of these relationships, PVI and/or Efrem Kamen may be deemed to have shared voting and dispositive power with respect to the shares owned directly by Pura Vida Master Fund, Ltd. and the Accounts. This shall not be deemed an admission that PVI and/or Efrem Kamen are beneficial owners of such shares for purposes of Section 13 of the Exchange Act or for any other purpose. Each of PVI and Efrem Kamen disclaim beneficial ownership of such shares except to the extent of PVI's and/or Efrem Kamen's pecuniary interest therein.

(13) The shares reflected as beneficially owned by HLM Venture Partners IV, L.P. consist of 691,613 shares of Common Stock. HLM Venture Associates IV, LLC, or HLM GP, as the general partner of HLM Venture Partners IV, L.P., or HLM LP, has the power to direct the vote and disposition of the Common Stock held by HLM LP. Accordingly, HLM GP may be deemed to be the beneficial owner of such shares. Edward Cahill and Peter Grua, as the Class A Members of HLM GP, have the power to direct the vote and disposition of the securities held by HLM GP. Accordingly, Mr. Cahill and Mr. Grua may be deemed to be the beneficial owners of the shares of Common Stock held by HLM LP. Additionally, Enrico Picozza, a director of the Company, has a pecuniary interest in HLM GP, the general partner of HLM LP. Mr. Picozza disclaims beneficial ownership of such securities except to the extent of his pecuniary interest therein.

(14) The shares reflected as beneficially owned by entities and persons affiliated with Monashee Investment Management LLC in the table above consist of shares held by three entities for which Monashee Investment Management LLC serves is the registered investment advisor, including (i) 23,240 shares of Common Stock held by BEMAP Master Fund LTD, (ii) 13,944 shares of Common Stock held by Monashee Solitario Fund LP and (iii) 10,458 shares of Common Stock held by Monashee Pure Alpha SPV I LP. Jeff Muller, as CCO of Monashee Investment Management LLC, has the power to direct the vote and disposition of the securities held by each of BEMAP Master Fund LTD, Monashee Solitario Fund LP and Monashee Pure Alpha SPV I LP. Jeff Muller and Monashee Investment Management LLC disclaim beneficial ownership of such securities except to the extent of their respective pecuniary interests therein.

(15) The shares reflected as beneficially owned by Irwin & Joan Jacobs Trust 6-2-80 in the table above consist of 1,766,502 shares of Common Stock and 83,864 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Irwin Jacobs and Joan Jacobs have the power to direct the vote and disposition of the Common Stock held by Irwin & Joan Jacobs Trust 6-2-80. Accordingly, Irwin Jacobs and Joan Jacobs may be deemed to be the beneficial owners of such shares.

(16) The shares reflected as beneficially owned by Soleus Capital Master Fund, L.P., or Soleus Master Fund, in the table above consist of 28,585 shares of Common Stock. Mr. Guy Levy is the sole managing member of Soleus Capital Group, LLC , or Soleus Group, which is the sole managing member of Soleus Capital, LLC, which is referred to together with Soleus Group as the Soleus Funds, and which is the general partner of Soleus Master Fund. Accordingly, Mr. Levy and Soleus Funds may be deemed the beneficial owners of shares of Common Stock held by Soleus Master Fund. Mr. Levy disclaims beneficial ownership of shares held by any of the entities named herein pursuant to Rule 13d-4 under the Exchange Act.

(17) The shares reflected as beneficially owned by Christopher Clark in the table above consist of 28,500 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Mr. Clark is chairman of the board of Paulson Investment Company, LLC, which held with its affiliates greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(18) The shares reflected as beneficially owned by Robert Setteducati in the table above consist of 28,156 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Mr. Setteducati is a managing partner of Paulson Investment Company, LLC, which held with its affiliates greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(19) The shares reflected as beneficially owned by Thomas Parigian in the table above consist of 28,156 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Mr. Parigian is a managing partner of Paulson Investment Company, LLC, which held with its affiliates greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(20) The shares reflected as beneficially owned by entities affiliated with Paulson Investment Company, LLC in the table above consist of (i) 102,787 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Paulson Investment Company, LLC within 60 days after April 1, 2020, (ii) 18,260 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Paulson DermTech Investments III, LLC within 60 days after April 1, 2020 and (iii) no shares of Common Stock beneficially owned by Paulson Capital Holding Company, LLC as of April 1, 2020. Paulson Capital Holding Company, LLC is the parent company of Paulson Investment Company, LLC. Paulson Investment Company, LLC has the power to direct the vote and disposition of the Common Stock held by Paulson DermTech Investments III, LLC. Trent Davis has the power to direct the vote and disposition of the securities held by each of Paulson Investment Company LLC and Paulson Capital Holding Company, LLC. Trent Davis disclaims beneficial ownership of the shares held by each of Paulson Investment Company LLC and Paulson Capital Holding Company, LLC, except to the extent of his pecuniary interest therein. Entities affiliated with Paulson Investment Company, LLC held greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(21) The shares reflected as beneficially owned by Starla Goff and an affiliated entity in the table above consist of (i) 4,841 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Starla Goff within 60 days after April 1, 2020 and (ii) no shares of Common Stock beneficially owned by River Integrity Investments, LLC as of April 1, 2020. Starla Goff has the power to direct the vote and disposition of the Common Stock held by River Integrity Investments, LLC.

(22) The shares reflected as beneficially owned by Peter Fogarty in the table above consist of 12,225 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(23) The shares reflected as beneficially owned by Gary Saccaro in the table above consist of 8,452 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(24) The shares reflected as beneficially owned by entities and persons affiliated with Brian Mark Miller in the table above consist of (i) 2,097 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Alliance Trust Co Cust FBO Brian Mark Miller IRA within 60 days after April 1, 2020, (ii) 2,097 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by BMM Capital LLC within 60 days after April 1, 2020, (iii) 2,097 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Fourfathom Capital within 60 days after April 1, 2020, (iv) 524 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by EKM Capital LLC within 60 days after April 1, 2020, (v) 524 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by KAM Capital LLC within 60 days after April 1, 2020 and (vi) 4,193 shares of Common Stock that may be acquired pursuant to the exercise of Warrants held by Velcro LLC within 60 days after April 1, 2020. Brian Mark Miller has the power to direct the vote and disposition of the Common Stock held by each of Alliance Trust Co Cust FBO Brian Mark Miller IRA, BMM Capital LLC, Fourfathom Capital, EKM Capital LLC, KAM Capital LLC and Velcro LLC.

(25) The shares reflected as beneficially owned by Timothy Touloukian in the table above consist of 3,563 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(26) The shares reflected as beneficially owned by Kevin Graetz in the table above consist of 5,280 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(27) The shares reflected as beneficially owned by Minish Joe Hede in the table above consist of 5,280 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(28) The shares reflected as beneficially owned by Carrie Snyder in the table above consist of 4,243 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(29) The shares reflected as beneficially owned by Byron Crowe in the table above consist of 4,748 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(30) The shares reflected as beneficially owned by Albert Landstrom in the table above consist of 2,526 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(31) The shares reflected as beneficially owned by Thomas and Patricia Nolan in the table above consist of 8,054 shares of Common Stock and 4,192 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(32) The shares reflected as beneficially owned by Tanya Urbach in the table above consist of 2,728 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Ms. Urbach was, within the past three years, general counsel of Paulson Investment Company, LLC, which held with its affiliates greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(33) The shares reflected as beneficially owned by Malcolm Alexander Winks in the table above consist of 1,797 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Mr. Winks is president and chief financial officer of Paulson Investment Company, LLC, which held with its affiliates greater than 5% of the voting securities of DermTech Operations, Inc. prior to the Business Combination and within the past three years.

(34) The shares reflected as beneficially owned by Lorraine Maxfield in the table above consist of 2,021 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(35) The shares reflected as beneficially owned by Eugene Webb in the table above consist of 349 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(36) The shares reflected as beneficially owned by Ahmed Gheith in the table above consist of 2,063 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(37) DTA Investments LLC did not beneficially own any shares of Common Stock as of April 1, 2020. Dale Ragan has the power to direct the vote and disposition of such securities.

(38) The shares reflected as beneficially owned by MIS Equity Strategies, LP in the table above consist of 8,484 shares of Common Stock. Tony Reed has the power to direct the vote and disposition of such securities.

(39) The shares reflected as beneficially owned by Asian Gateway Limited in the table above consist of 7,838 shares of Common Stock and 1,568 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Per Gustafsson has the power to direct the vote and disposition of such securities.

(40) The shares reflected as beneficially owned by Basil Christakos in the table above consist of 1,010 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(41) The shares reflected as beneficially owned by Dmitry Aksenov in the table above consist of 1,473 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(42) The shares reflected as beneficially owned by Douglas Harnar LLC in the table above consist of 1,161 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Douglas Harnar has the power to direct the vote and disposition of such securities.

(43) The shares reflected as beneficially owned by Christopher DeGroat in the table above consist of 926 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(44) The shares reflected as beneficially owned by Jacob Gamble in the table above consist of 462 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(45) The shares reflected as beneficially owned by William Corbett in the table above consist of 1,154 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(46) Mark Finckle did not beneficially own any shares of Common Stock as of April 1, 2020.

(47) The shares reflected as beneficially owned by Barret Marshall Miller in the table above consist of 1,048 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(48) The shares reflected as beneficially owned by Allen Gabriel in the table above consist of 980 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(49) The shares reflected as beneficially owned by Troy Stevens in the table above consist of 9,383 shares of Common Stock and 980 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(50) The shares reflected as beneficially owned by William and Stephanie Costigan in the table above consist of 4,899 shares of Common Stock and 980 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(51) The shares reflected as beneficially owned by William J. Truxal in the table above consist of 980 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(52) The shares reflected as beneficially owned by Paul Norwood in the table above consist of 4,950 shares of Common Stock and 979 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(53) The shares reflected as beneficially owned by Peter Colettis in the table above consist of 917 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(54) The shares reflected as beneficially owned by Larry Cohen in the table above consist of 909 shares of Common Stock.

(55) The shares reflected as beneficially owned by Rodney Baber in the table above consist of 793 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(56) Millennium Trust Company, LLC CUST FBO Christopher Hermann IRA did not beneficially own any shares of Common Stock as of April 1, 2020. Christopher Hermann has the power to direct the vote and disposition of securities held by Millennium Trust Company, LLC CUST FBO Christopher Hermann IRA.

(57) The shares reflected as beneficially owned by Peter J Bowen & Diane S Bowen Revocable Living Trust in the table above consist of 687 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020. Peter J. Bowen and Diane S. Bowen have the power to direct the vote and disposition of the Common Stock held by Peter J Bowen & Diane S Bowen Revocable Living Trust.

(58) The shares reflected as beneficially owned by Northlea Partners in the table above consist of 2,940 shares of Common Stock and 588 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1,

2020. John H. Abeles, M.D. has the power to direct the vote and disposition of the Common Stock held by Northlea Partners.

(59) Neither Frances Gilbert Family LP nor Millennium Trust Company, LLC CUST FBO Daniel Gilbert IRA beneficially owned any shares of Common Stock as of April 1, 2020. Daniel Gilbert has the power to direct the vote and disposition of securities held by each of Frances Gilbert Family LP and Millennium Trust Company, LLC CUST FBO Daniel Gilbert IRA.

(60) Millennium Trust Company, LLC CUST FBO Nancy Cowgill IRA did not beneficially own any shares of Common Stock as of April 1, 2020. Nancy Cowgill has the power to direct the vote and disposition of securities held by Millennium Trust Company, LLC CUST FBO Nancy Cowgill IRA.

(61) Randall J. & Maribeth M. Wolfe Revocable Trust Agreement dtd 12/23/2003 did not beneficially own any shares of Common Stock as of April 1, 2020. Randall J. Wolfe has the power to direct the vote and disposition of securities held by Randall J. & Maribeth M. Wolfe Revocable Trust Agreement dtd 12/23/2003.

(62) Theodore H. Hustread did not beneficially own any shares of Common Stock as of April 1, 2020.

(63) Thomas Endres did not beneficially own any shares of Common Stock as of April 1, 2020.

(64) The shares reflected as beneficially owned by David Wolfsohn in the table above consist of 543 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(65) The shares reflected as beneficially owned by Adam Lipson in the table above consist of 490 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(66) The shares reflected as beneficially owned by Anthony Farello in the table above consist of 2,450 shares of Common Stock and 490 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(67) Brian Langham did not beneficially own any shares of Common Stock as of April 1, 2020.

(68) The shares reflected as beneficially owned by Danny Cornwell in the table above consist of 2,450 shares of Common Stock.

(69) The shares reflected as beneficially owned by Gerald B. Johnston in the table above consist of 2,450 shares of Common Stock and 490 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(70) The shares reflected as beneficially owned by Keith Wright in the table above consist of 2,940 shares of Common Stock.

(71) The shares reflected as beneficially owned by Mike and Lisa Zupan in the table above consist of 490 shares of Common Stock.

(72) The shares reflected as beneficially owned by The GBS Living Trust in the table above consist of 2,300 shares of Common Stock. Gregory B. Stewart has the power to direct the vote and disposition of the Common Stock held by The GBS Living Trust.

(73) The shares reflected as beneficially owned by Hazem Algendi in the table above consist of 374 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(74) The shares reflected as beneficially owned by Ralph Wharton in the table above consist of 456 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(75) The shares reflected as beneficially owned by David Kimball in the table above consist of 392 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(76) The shares reflected as beneficially owned by Marc A. Cohen in the table above consist of 5,350 shares of Common Stock.

(77) The shares reflected as beneficially owned by Roger Ramsey in the table above consist of 1,961 shares of Common Stock and 392 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(78) The shares reflected as beneficially owned by William Pendersen in the table above consist of 347 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(79) Fred & Betty Bialek Revocable Trust dtd 12/20/2004 did not beneficially own any shares of Common Stock as of April 1, 2020. Fred Bialek has the power to direct the vote and disposition of securities held by Fred & Betty Bialek Revocable Trust dtd 12/20/2004.

(80) Keith and Jeanne Fishback did not beneficially own any shares of Common Stock as of April 1, 2020.

(81) Millennium Trust Company, LLC CUST FBO Deborah J Wilson IRA did not beneficially own any shares of Common Stock as of April 1, 2020. Deborah J. Wilson has the power to direct the vote and disposition of securities held by Millennium Trust Company, LLC CUST FBO Deborah J Wilson IRA.

(82) Sandip Patel did not beneficially own any shares of Common Stock as of April 1, 2020.

(83) Xenium Trust U/A dtd 1/1/2012 did not beneficially own any shares of Common Stock as of April 1, 2020. David C. Devendorf has the power to direct the vote and disposition of securities held by Xenium Trust U/A dtd 1/1/2012.

(84) Greg Buffington did not beneficially own any shares of Common Stock as of April 1, 2020.

(85) The shares reflected as beneficially owned by Thomas Hoare in the table above consist of 232 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.

(86) The shares reflected as beneficially owned by Mike Nye in the table above consist of 5,388 shares of Common Stock.

(87) Neither Boly:Welch, Inc. nor Pat Welch beneficially owned any shares of Common Stock as of April 1, 2020. Pat Welch has the power to direct the vote and disposition of securities held by Boly:Welch, Inc.

(88) The shares reflected as beneficially owned by Steven L. Ludmerer in the table above consist of 209 shares of Common Stock.
(89) The shares reflected as beneficially owned by BCS Capital, LLC in the table above consist of 196 shares of Common Stock. Katherine Barton has the power to direct the vote and disposition of securities held by BCS Capital, Inc.
(90) The shares reflected as beneficially owned by Tyson Robbins in the table above consist of 196 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.
(91) John Nole did not beneficially own any shares of Common Stock as of April 1, 2020.
(92) Mitchell J. Tracy did not beneficially own any shares of Common Stock as of April 1, 2020.
(93) The Scott and Mary Schroeder Living Trust Dated 2/10/2015 did not beneficially own any shares of Common Stock as of April 1, 2020. Scott Schroeder has the power to direct the vote and disposition of securities held by The Scott and Mary Schroeder Living Trust Dated 2/10/2015.
(94) Roger and Joyce Langeliers did not beneficially own any shares of Common Stock as of April 1, 2020.
(95) The shares reflected as beneficially owned by William Massie in the table above consist of 116 shares of Common Stock that may be acquired pursuant to the exercise of Warrants within 60 days after April 1, 2020.
(96) C. Joseph Van Haverbeke Trust dated 2/15/1995 did not beneficially own any shares of Common Stock as of April 1, 2020. C. Joseph Van Haverbeke has the power to direct the vote and disposition of securities held by C. Joseph Van Haverbeke Trust dated 2/15/1995.
(97) Roger and Joyce Langeliers did not beneficially own any shares of Common Stock as of April 1, 2020.

PLAN OF DISTRIBUTION

We are registering the shares of Common Stock (i) issued to the selling securityholders, (ii) issuable upon conversion of the Series B-1 Convertible Preferred Stock and the Series B-2 Convertible Preferred Stock issued to the selling securityholders and (iii) issuable upon exercise of the Warrants issued to the selling securityholders, to permit the resale of these shares of Common Stock by the holders of the shares of Common Stock, Series B-1 Convertible Preferred Stock and Series B-2 Convertible Preferred Stock and the Warrants from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling securityholders of the shares of Common Stock. We will bear all fees and expenses incident to our obligation to register the shares of Common Stock.

The selling securityholders may sell all or a portion of the shares of Common Stock beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of Common Stock are sold through underwriters or broker-dealers, the selling securityholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of Common Stock may be sold on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, in the over-the-counter market or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The selling securityholders may use any one or more of the following methods when selling shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the selling securityholders to sell a specified number of such shares at a stipulated price per share;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling securityholders also may resell all or a portion of the shares in open market transactions in reliance upon Rule 144 under the Securities Act of 1933, as amended, or the Securities Act, as permitted by that rule, or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by the selling securityholders may arrange for other broker-dealers to participate in sales. If the selling securityholders effect such transactions by selling shares of Common Stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling securityholders or commissions from purchasers of the shares of Common Stock for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.01.

In connection with sales of the shares of Common Stock or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the shares of Common Stock in the course of hedging in positions they assume. The selling securityholders may also sell shares of Common Stock short and if such short sale shall take place after the date that this registration statement is declared effective by the Commission, the selling securityholders may deliver shares of Common Stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling securityholders may also loan or pledge shares of Common Stock to broker-dealers that in turn may sell such shares, to the extent permitted by applicable law. The selling securityholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which

shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the selling securityholders have been advised that they may not use shares registered on this registration statement to cover short sales of our common stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the Securities and Exchange Commission.

The selling securityholders may, from time to time, pledge or grant a security interest in some or all of the shares of Common Stock, Series B-1 Convertible Preferred Stock or Series B-2 Convertible Preferred Stock or the Warrants owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of Common Stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act, amending, if necessary, the list of selling securityholders to include the pledgees, transferees or other successors in interest as selling securityholders under this prospectus. The selling securityholders also may transfer and donate the shares of Common Stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling securityholders and any broker-dealer or agent participating in the distribution of the shares of Common Stock may be deemed to be "underwriters" within the meaning of Section 2(a)(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling securityholders who are "underwriters" within the meaning of Section 2(a)(11) of the Securities Act will be subject to the applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Each selling stockholder has informed us that it is not a registered broker-dealer and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Common Stock. Upon our being notified in writing by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of common stock through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such selling stockholder and of the participating broker-dealer(s), (ii) the number of shares involved, (iii) the price at which such the shares of Common Stock were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction.

Under the securities laws of some states, the shares of Common Stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of Common Stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling stockholder will sell any or all of the shares of Common Stock registered pursuant to the registration statement of which this prospectus forms a part.

Each selling stockholder and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of Common Stock by the selling stockholder and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares of Common Stock to engage in market-making activities with respect to the shares of Common Stock. All of the foregoing may affect the marketability of the shares of Common Stock and the ability of any person or entity to engage in market-making activities with respect to the shares of Common Stock.

We will pay all expenses of the registration of the shares of Common Stock pursuant to the registration rights agreement, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, that each selling stockholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the selling securityholders against certain liabilities, including some liabilities under the Securities Act, in accordance with the registration rights agreement, or the selling securityholders will be entitled to contribution. We may be indemnified by the selling securityholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling securityholders specifically for use in this prospectus, in accordance with the registration rights agreement, or we may be entitled to contribution.

DESCRIPTION OF OUR SECURITIES TO BE REGISTERED

The securities to be registered on this registration statement on Form S-1 include up to an aggregate amount of 6,627,685 shares of Common Stock, consisting of (i) an aggregate of up to 2,467,724 shares of Common Stock issued in connection with the 2020 PIPE Financing; (ii) an aggregate of up to 2,588 shares of Common Stock issued in connection with the exercise of certain of the Placement Agent Warrants and certain of the Series C Warrants; (iii) an aggregate of up to 3,198,949 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-1 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; (iv) an aggregate of up to 523,814 shares of Common Stock that are issuable upon the conversion of outstanding shares of the Series B-2 Convertible Preferred Stock of the Company that were issued in the 2020 PIPE Financing; and (v) an aggregate of up to 434,610 shares of Common Stock underlying the Warrants held by certain selling securityholders.

General

The summaries below describe the current rights of our stockholders under Amended and Restated Certificate of Incorporation, or the Amended and Restated Certificate of Incorporation, filed with the Delaware Secretary of State on August 29, 2019, as amended by a Certificate of Amendment, or the Certificate of Amendment, filed with the Delaware Secretary of State on August 29, 2019, by the Certificate of Designation of Preferences, Rights and Limitations for our Series A Convertible Preferred Stock, or the Series A Certificate of Designation, filed with the Delaware Secretary of State on August 29, 2019, by the Certificate of Designation of Preferences, Rights and Limitations for our Series B-1 Convertible Preferred Stock, or the Series B-1 Certificate of Designation, filed with the Delaware Secretary of State on March 2, 2020, and by the Certificate of Designation of Preferences, Rights and Limitations for our Series B-2 Convertible Preferred Stock, or the Series B-2 Certificate of Designation, filed with the Delaware Secretary of State on March 2, 2020, and our bylaws; however, these summaries may not contain all of the information that is important to you. These summaries are not intended to be a complete discussion of the rights of our stockholders and are qualified in their entirety by reference to the Delaware General Corporation Law, or the DGCL, and the various documents of ours that are referred to in the summaries, as well as reference to our bylaws and the Amended and Restated Certificate of Incorporation, copies of which are filed as exhibits to the registration statement of which this prospectus forms a part.

The share numbers and exercise prices discussed below reflect the effects of the Reverse Stock Split and, as applicable, the Exchange Ratio.

Authorized Capital Stock

The Amended and Restated Certificate of Incorporation, as amended by the Certificate of Amendment and by the Series A Certificate of Designation, the Series B-1 Certificate of Designation and the Series B-2 Certificate of Designation, referred to collectively as the Amended and Restated Certificate of Incorporation, authorizes the issuance of up to 50,000,000 shares of Common Stock, $0.0001 par value per share, and 5,000,000 shares of preferred stock, $0.0001 par value per share.

Dividends

The Amended and Restated Certificate of Incorporation provides that holders of the Common Stock are entitled to receive dividends ratably, if any, as may be declared by our board of directors out of legally available funds, subject to any preferential dividend rights of any of our preferred stock then outstanding. Our board of directors is authorized, without action by our stockholders, to designate and issue shares of preferred stock in one or more series and to designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions, including with respect to the rights of holders of preferred stock to receive dividends. In connection with the completion of the Business Combination, we filed the Series A Certificate of Designation, and in connection with the 2020 PIPE Financing we filed the Series B-1 Certificate of Designation and Series B-2 Certificate of Designation. Pursuant to the Series A Certificate of Designation, the Series B-1 Certificate of Designation and the Series B-2 Certificate of Designation, holders of the Series A Convertible Preferred Stock, Series B-1 Convertible Preferred Stock and Series B-2 Convertible Preferred Stock, respectively, are entitled to receive dividends on an as-converted basis equal to and in the same form as dividends actually paid on shares of our Common Stock when, as and if such dividends are paid on such Common Stock.

Liquidation Preference

The Amended and Restated Certificate of Incorporation provides that in the event of dissolution, liquidation or winding up, holders of our Common Stock are entitled to share ratably in our net assets legally available after the payment of all of our debts and other liabilities, subject to the preferential rights of any of our preferred stock then outstanding. Our board of directors is authorized, without action by the our stockholders, to designate and issue shares of preferred stock in one or more series and to designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions, including with respect to the liquidation preference of holders of preferred stock. The Series A Certificate of Designation, the Series B-1 Certificate of Designation and the Series B-2 Certificate of Designation, provide that holders of the Series A

Convertible Preferred Stock, Series B-1 Convertible Preferred Stock and Series B-2 Convertible Preferred Stock, respectively, shall participate *pari passu* with the holders of our Common Stock on an as-converted basis.

Conversion Rights and Protective Provisions

Holders of our Common Stock have no conversion rights under the Amended and Restated Certificate of Incorporation or our bylaws. Our board of directors is authorized, without action by our stockholders, to designate and issue shares of preferred stock in one or more series and to designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions, including with respect to conversion rights. The Series A Certificate of Designation provides that each share of Series A Convertible Preferred Stock is convertible into 500 shares of Common Stock, subject to adjustment as set forth therein, and provided that in no event shall any shares of Series A Convertible Preferred Stock be convertible if such conversion would result in the holder of such shares beneficially owning more than 9.99% of our then-outstanding shares of Common Stock. We refer to the conversion limitation in the preceding sentence as the Beneficial Ownership Limitation. A holder of Series A Convertible Preferred Stock may reset the Beneficial Ownership Limitation to a higher or lower number upon providing written notice to the Company. Any such notice providing for an increase to such holder's Beneficial Ownership Limitation will be effective on the 61st day after its delivery to the Company.

The Series B-1 Certificate of Designation provides that each share of Series B-1 Convertible Preferred Stock will be convertible into 1,000 shares of Common Stock, subject to adjustment as set forth therein. Each share of Series B-1 Convertible Preferred Stock will automatically convert into Common Stock on the first trading day after the approval by our stockholders of our issuance of the shares of Common Stock underlying the Preferred Shares in the 2020 PIPE Financing, or Stockholder Approval, which we agreed to seek at a stockholder meeting to be held on or before June 30, 2020. We are seeking Stockholder Approval at our annual meeting of stockholders scheduled for May 26, 2020. We will not undertake any conversion of the Series B-1 Convertible Preferred Stock, and no stockholder will have the right to convert any portion of its Series B-1 Convertible Preferred Stock, until after we obtain Stockholder Approval.

The Series B-2 Certificate of Designation provides that each share of Series B-2 Convertible Preferred Stock will be convertible into 1,000 shares of Common Stock, subject to adjustment as provided therein and the Beneficial Ownership Limitation described below. Each share of Series B-2 Convertible Preferred Stock will be convertible into our Common Stock at the option of the holder, provided that conversion will be prohibited (i) until the first trading day after Stockholder Approval and (ii) following Stockholder Approval, if, as a result of any such conversion, the holder would beneficially own in excess of 9.99% of the total number of shares of Common Stock outstanding immediately after giving effect to such conversion. We refer to the conversion limitation described in clause (ii) of the preceding sentence as the Beneficial Ownership Limitation. A holder of Series B-2 Convertible Preferred Stock may reset the Beneficial Ownership Limitation to a higher or lower number upon providing written notice to the Company. Any such notice providing for an increase to such holder's Beneficial Ownership Limitation will be effective on the 61st day after its delivery to the Company.

Number and Classification of Directors

The Amended and Restated Certificate of Incorporation and our bylaws provide that our board of directors is divided into three classes serving three-year terms, with one class being elected each year. The number of directors, which may be fixed from time to time by our board of directors, was fixed at eight upon the completion of the Business Combination and classified into three separate classes. On August 29, 2019, the board of directors was reconstituted, with Matthew Posard, Cynthia Collins and Enrico Picozza appointed as Class I directors of the Company whose terms expire at our 2022 annual meeting of stockholders, Herm Rosenman, John Dobak, M.D. and Gary Jacobs appointed as Class II directors of the Company whose terms expire at our 2021 annual meeting of stockholders, and Gene Salkind, M.D. and Scott Pancoast appointed as Class III directors of the Company whose terms expire at our 2020 annual meeting of stockholders.

Preemption Rights

There are no preemption rights applicable to the issuance of new shares under the Amended and Restated Certificate of Incorporation.

Removal of Directors; Vacancies on the Board of Directors

The Amended and Restated Certificate of Incorporation and our bylaws provide that, subject to the rights of the holders of any series of our preferred stock, directors may be removed only for cause and then only by the affirmative vote of the holders of 75% or more of the shares then entitled to vote at an election of directors. Furthermore, subject to the rights of the holders of any series of our preferred stock, 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, or by a sole remaining director, and shall not be filled by a vote of the stockholders.

Voting Stock

The Amended and Restated Certificate of Incorporation provides that the holders of our Common Stock are entitled to one vote for each share of Common Stock held of record for the election of directors and on all matters submitted to a vote of stockholders. Our board of directors is authorized, without action by our stockholders, to designate and issue shares of our preferred stock in one or more series and to designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions, including with respect to the voting rights of the holders of our preferred stock. The Series A Certificate of Designation provides that holders of the Series A Convertible Preferred Stock shall have no voting rights, except with respect to certain protective provisions set forth in the Series A Certificate of Designation relating to the powers, preferences and rights of the Series A Convertible Preferred Stock, or as otherwise required by the DGCL. The Series B-1 Certificate of Designation provides that holders of the Series B-1 Convertible Preferred Stock shall have no voting rights, except with respect to certain protective provisions set forth in the Series B-1 Certificate of Designation relating to the powers, preferences and rights of the Series B-1 Convertible Preferred Stock, or as otherwise required by the DGCL. The Series B-2 Certificate of Designation provides that holders of the Series B-2 Convertible Preferred Stock shall have no voting rights, except with respect to certain protective provisions set forth in the Series B-2 Certificate of Designation relating to the powers, preferences and rights of the Series B-2 Convertible Preferred Stock, or as otherwise required by the DGCL.

Cumulative Voting

The Amended and Restated Certificate of Incorporation and our bylaws do not contain any provisions granting cumulative voting rights in the election of our directors.

Redemption

The Amended and Restated Certificate of Incorporation and our bylaws do not contain any provisions granting redemption rights to any holder of our Common Stock. Our board of directors is authorized, without action by our stockholders, to designate and issue shares of preferred stock in one or more series and to designate the rights, preferences and privileges of the shares of each series and any of its qualifications, limitations or restrictions, including with respect to the redemption rights of the holders of preferred stock. The Series A Certificate of Designation, the Series B-1 Certificate of Designation and the Series B-2 Certificate of Designation, provide that the Series A Convertible Preferred Stock, Series B-1 Convertible Preferred Stock and Series B-2 Convertible Preferred Stock, respectively, are not redeemable.

Amendment of Certificate of Incorporation or Bylaws

As required by the DGCL, any amendment of the Amended and Restated Certificate of Incorporation must first be approved by a majority of our board of directors and, if required by law or the Amended and Restated Certificate of Incorporation, 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 on the amendment as a class, except that the amendment of the provisions relating to stockholder action, directors, limitation of liability, and the amendment of our bylaws in the Amended and Restated Certificate of Incorporation must be approved by at least 75% of the outstanding shares entitled to vote on the amendment.

Our bylaws may be amended by the affirmative vote of a majority of our directors then in office, subject to any limitations set forth in our bylaws, and may also be amended by the affirmative vote of at least 75% of the outstanding shares entitled to vote on the amendment.

Rule 144

Pursuant to Rule 144, a person who has beneficially owned restricted shares or Warrants for at least six months would be entitled to sell such securities provided that (i) such person is not deemed to have been one of our affiliates at the time of, or at any time during the three months preceding, a sale and (ii) we are subject to the Exchange Act periodic reporting requirements for at least three months before the sale and have filed all required reports under Section 13 or 15(d) of the Exchange Act during the 12 months (or such shorter period as we were required to file reports) preceding the sale.

Persons who have beneficially owned our restricted shares or Warrants for at least six months but who are our affiliates at the time of, or at any time during the three months preceding, a sale, would be subject to additional restrictions, by which such person would be entitled to sell within any three-month period only a number of securities that does not exceed the greater of:

- 1% of the total number of shares then outstanding; or
- the average weekly reported trading volume of the shares during the four calendar weeks preceding the filing of a notice on Form 144 with respect to the sale.

Sales by our affiliates under Rule 144 are also limited by manner of sale provisions and notice requirements and to the availability of current public information about us.

Restrictions on the Use of Rule 144 by Shell Companies or Former Shell Companies

Rule 144 is not available for the resale of securities initially issued by shell companies (other than business combination related shell companies) or issuers that have been at any time previously a shell company. However, Rule 144 also includes an important exception to this prohibition if the following conditions are met:

- the issuer of the securities that was formerly a shell company that has ceased to be a shell company;
- the issuer of the securities is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act;
- the issuer of the securities has filed all Exchange Act reports and material required to be filed, as applicable, during the preceding 12 months (or such shorter period that the issuer was required to file such reports and materials), other than Form 8-K reports; and
- at least one year has elapsed from the time that the issuer filed current Form 10 type information with the SEC reflecting its status as an entity that is not a shell company.

The filing of our Current Report on Form 8-K on September 5, 2019 was intended to satisfy the filing of the "Form 10 Information" and commence the one year holding period of Rule 144(i).

Lock-Up Agreements

In connection with the 2020 PIPE Financing, the officers and directors of the Company entered into a lock-up agreement pursuant to which they agreed that, during the period commencing on the signing of the Purchase Agreement on February 28, 2020 and continuing to and including the date 90 days after the date of the signing of the Purchase Agreement, they would not sell, offer to sell, pledge, or transfer any Company securities, subject to certain limited exceptions.

In connection with, and as a condition to the completion of the Business Combination, certain of the selling securityholders and other securityholders of the Company entered into a Lock-Up Agreement, or the Lock-Up Agreement, pursuant to which the securityholders agreed that, during the period commencing on the completion of the Business Combination and continuing to and including the date 180 days after the date of the completion of the Business Combination, the securityholders would not sell, offer to sell, pledge, or transfer any Company securities, subject to certain limited exceptions. The lock-up period under the Lock-Up Agreement expired on February 26, 2020.

Additionally, certain of the selling securityholders are bound by a Letter Agreement, as amended, among the Company, the Company's previous sponsor Centripetal, LLC and certain former directors and officers of the Company, or the Letter Agreement, pursuant to which (i) 50% of the shares acquired prior to our initial public offering and currently held by those selling securityholders were locked up until the earlier of one year after the date of the Business Combination or the date on which the closing price of our common stock has equaled or exceeded $8.00 per share (which dollar amount reflects the Reverse Stock Split) for any 20 trading days within any 30-trading day period commencing after the Business Combination and (ii) the other 50% of such shares are locked up until one year after the date of the Business Combination. On December 12, 2019, as a result of our stock price during the preceding 30 trading days and in accordance with the Letter Agreement, we released 190,678 shares from the lock-up contained in the Letter Agreement. 190,678 shares remain subject to the lock-up contained in the Letter Agreement until one year after the date of the Business Combination.

Cowen Investments II LLC, a selling securityholder, is bound by an Amended and Restated Unit Subscription Agreement between the Company and Cowen Investments LLC, pursuant to which 68,125 shares acquired in connection with our initial public offering are locked up, with (i) 50% of such shares locked up until the earlier of one year after the date of the Business Combination or the date on which the closing price of our common stock has equaled or exceeded $25.00 per share (which dollar amount reflects the Reverse Stock Split) for any 20 trading days within any 30-trading day period commencing after the Business Combination and (ii) the other 50% of such shares locked up until one year after the date of the Business Combination.

On September 30, 2019, prior to the opening of trading on the Nasdaq Capital Market, we released certain parties who are not among the selling securityholders from the Lock-Up Agreement, which resulted in the release of approximately 1,910,707 shares of our Common Stock held by these parties.

Warrants

As of April 1, 2020, there were warrants to purchase 4,212,349 shares of our Common Stock issued and outstanding, consisting of (i) warrants to purchase 254,258 shares of Common Stock issued to a registered placement agent and its designees in connection with its assistance in marketing and selling common and preferred units of DermTech Operations in offerings conducted between 2015 and 2018, or the Placement Agent Warrants, (ii) warrants to purchase 201,708 shares of Common Stock that were issued to investors in DermTech Operations' Series C Financing, or the Series C Warrants, (iii) warrants to purchase 22,320 shares of Common Stock that were issued to executives of the Company, or the Management Warrants, (iv) 3,593,750 shares underlying 14,375,000 warrants to purchase our Common Stock originally sold as part of the units in our initial public offering, and (v) 140,313 shares underlying 561,250 Warrants to purchase our Common Stock that were sold as part of the private

units. The warrants described in clauses (iv) and (v) above constitute the publicly traded warrants currently trading on the Pink Market under the ticker symbol "DMTKW," or the Public Warrants. Of the shares of our Common Stock underlying the warrants described above, only 434,610 of the shares of Common Stock underlying certain of the Placement Agent Warrants and certain of the Series C Warrants, or the Warrants, are being registered on the registration statement of which this prospectus forms a part.

Placement Agent Warrants

The Placement Agent Warrants consist of (i) outstanding warrants to purchase 238,534 shares of Common Stock that were warrants to purchase common stock of DermTech Operations assumed by the Company in connection with the Business Combination, and (ii) warrants to purchase 15,724 shares of Common Stock issued by the Company on February 4, 2020. Of the Placement Agent Warrants, warrants to purchase 165,817 shares have an exercise price of $8.68 per share and warrants to purchase 88,441 shares have an exercise price of $9.54 per share.

The Placement Agent Warrants may be exercised on or prior to their respective expiration dates by delivery of a notice of exercise and the applicable purchase price. The Placement Agent Warrants expire at 5:00 p.m. Pacific Time on the seven (7) year anniversary of the original issue date of the warrants, with such warrants expiring between December 31, 2022, and May 31, 2025.

The purchase price under the Placement Agent Warrants is payable by wire transfer or certified, cashier's or other check acceptable to the Company, or, if applicable, upon surrender and cancellation of indebtedness. Additionally, the Placement Agent Warrants may be exercised on a cashless basis. If a holder of the Placement Agent Warrants elects to exercise such warrants on a cashless basis, the electing holder would pay the exercise price by surrendering the applicable Placement Agent Warrants for that number of shares equal to the quotient obtained by dividing (x) the product of the number of shares underlying the Placement Agent Warrants, multiplied by the difference between the exercise price of the Placement Agent Warrants and the "fair market value" (defined below) by (y) the fair market value. The "fair market value" for purposes of the Placement Agent Warrants is the closing bid price of the Common Stock or the closing price quoted on the national securities exchange on which the Common Stock is listed, as applicable, on the first trading day preceding the date of determination of the fair market value. Placement Agent Warrants exercisable for up to 165,817 shares of Common Stock at an exercise price of $8.68 per share will automatically exercise on a cashless basis immediately prior to the expiration date of such Placement Agent Warrants if the holders thereof have not elected to exercise such Placement Agent Warrants prior to their expiration date, unless such holders provide prior written notice to the Company that such holders desire that such Placement Agent Warrants expire unexercised.

The holders of the Placement Agent Warrants do not have the rights or privileges of holders of shares of Common Stock, including voting rights, until they exercise their warrants and receive shares of Common Stock. The exercise price and number of shares issuable on exercise of the Placement Agent Warrants may be adjusted in certain circumstances, including in the event of a reorganization, recapitalization, merger or consolidation of the Company, a reclassification of the Company's shares, or a subdivision or consolidation of the shares of the Company's Common Stock.

The Placement Agent Warrants, in certain cases as amended by Omnibus Warrant Amendments we entered into with the holders of such Placement Agent Warrants in March 2020 or April 2020, have piggyback registration rights pursuant to which the Company, upon request from the holders thereof, must use commercially reasonable efforts to register the shares of Common Stock underlying such Placement Agent Warrants in the event that the Company registers any of its Common Stock in connection with a public offering of such securities solely for cash, except for certain excluded registrations. Of the shares of our Common Stock underlying the Placement Agent Warrants, only 253,827 of the shares of Common Stock underlying certain of the Placement Agent Warrants are being registered on the registration statement of which this prospectus forms a part in accordance with such registration rights, of which warrants to purchase 165,422 shares have an exercise price of $8.68 per share and warrants to purchase 88,405 shares have an exercise price of $9.54 per share.

No fractional shares will be issued upon the exercise of the Placement Agent Warrants.

Series C Warrants

The Series C Warrants are outstanding warrants to purchase common stock of DermTech Operations that were assumed by the Company in connection with the Business Combination. The Series C Warrants may be exercised on or prior to their respective expiration dates by delivery of a notice of exercise together with the exercise price of $9.54 per share. The Series C Warrants expire at 5:00 p.m. Pacific Time on the three (3) year anniversary of the original issue date of the warrants, with such warrants expiring between April 28, 2020, and May 25, 2021.

The purchase price under the Series C Warrants is payable by wire transfer or certified, cashier's or other check acceptable to the Company, or, if applicable, upon surrender and cancellation of indebtedness. The holders of the Series C Warrants do not have the rights or privileges of holders of shares of Common Stock, including voting rights, until they exercise their warrants and receive shares of Common Stock. The exercise price and number of shares issuable on exercise of the Series C Warrants may be adjusted in certain circumstances, including in the event of a reorganization, recapitalization, merger or consolidation of the Company, a reclassification of the Company's shares, or a subdivision or consolidation of the shares of the Company's Common Stock.

Of the shares of our Common Stock underlying the Series C Warrants, only 180,783 of the shares of Common Stock underlying certain of the Series C Warrants are being registered on the registration statement of which this prospectus forms a part. No fractional shares will be issued upon the exercise of the Series C Warrants.

Management Warrants

The shares of our Common Stock underlying the Management Warrants are not being registered on the registration statement of which this prospectus forms a part. The Management Warrants are outstanding warrants to purchase common stock of DermTech Operations that were assumed by the Company in connection with the Business Combination, consisting of warrants to purchase 9,219 shares that were issued to John Dobak, M.D., the Company's Chief Executive Officer, and warrants to purchase 13,101 shares of Common Stock that were issued to Steve Kemper, the Company's former Chief Financial Officer.

The Management Warrants may be exercised on or prior to their respective expiration dates by delivery of a notice of exercise together with the exercise price of $1.08 per share. The Management Warrants expire at 5:00 p.m. Pacific Time on the ten (10) year anniversary of the original issue date of the warrants, with warrants to purchase 13,101 shares expiring on December 17, 2023, and warrants to purchase 9,219 shares expiring February 25, 2024.

The purchase price under the Management Warrants is payable by wire transfer or certified, cashier's or other check acceptable to the Company, or, if applicable, upon surrender and cancellation of indebtedness. Additionally, the Management Warrants may be exercised on a cashless basis. If one or more of the holders of the Management Warrants elect to exercise such warrants on a cashless basis, each electing holder would pay the exercise price by surrendering the applicable Management Warrants for that number of shares equal to the quotient obtained by dividing (x) the product of the number of shares underlying the Management Warrants, multiplied by the difference between the exercise price of the Management Warrants and the "fair market value" (defined below) by (y) the fair market value. The "fair market value" for purposes of the Management Warrants is the average of the closing bid prices of the Common Stock or the closing price quoted on the national securities exchange on which the Common Stock is listed as published in the Wall Street Journal, as applicable, for the ten (10) trading day period ending five (5) trading days prior to the date of determination of fair market value.

The holders of the Management Warrants do not have the rights or privileges of holders of shares of Common Stock, including voting rights, until they exercise their warrants and receive shares of Common Stock. The exercise price and number of shares issuable on exercise of the Management Warrants may be adjusted in certain circumstances, including in the event of a reorganization, recapitalization, merger or consolidation of the Company, a reclassification of the Company's shares, or a subdivision or consolidation of the shares of the Company's Common Stock.

No fractional shares will be issued upon the exercise of the Management Warrants.

Public Warrants

The shares of our Common Stock underlying the Public Warrants are not being registered on the registration statement of which this prospectus forms a part. Each Public Warrant entitles the holder thereof to purchase one-fourth of one share of Common Stock at a price of $23.00 per full share, subject to adjustment, at any time commencing on the date of the Business Combination, August 29, 2019. The Public Warrants may only be exercised for whole numbers of shares, and therefore only numbers of Public Warrants in multiples of four may be exercised at any given time. In addition, except with respect to certain of the Public Warrants described below, the Public Warrants are exercisable for cash only if we have an effective and current registration statement covering the issuance of the Common Stock issuable upon exercise of the Public Warrants and a current prospectus relating to such shares. Notwithstanding the foregoing, if a registration statement covering the issuance of the Common Stock issuable upon exercise of the publicly traded warrants is not effective during any period when we shall have failed to maintain an effective registration statement, holders may exercise Public Warrants on a cashless basis pursuant to an available exemption from registration under the Securities Act. If an exemption from registration is not available, holders will not be able to exercise their Public Warrants on a cashless basis. The Public Warrants will expire five years from the closing of the Business Combination (which occurred on August 29, 2019) at 5:00 p.m. New York City time, or earlier upon redemption.

Certain of the Public Warrants were sold to investors as part of private units in a private placement that occurred simultaneously with the closing of the Company's initial public offering in 2017. Such Public Warrants are exercisable for cash (even if a registration statement covering the issuance of the Common Stock issuable upon exercise of such Public Warrants is not effective) or on a cashless basis, at the holder's option, and will not be redeemable by us, in each case so long as they are still held by the initial purchasers or their affiliates. In addition, any of such Public Warrants that are held by Cowen Investments or its designees or affiliates may not be exercised after June 19, 2022 if they remain held by such parties as of that date.

Except as set forth above, we may call the Public Warrants for redemption, in whole and not in part, at a price of $0.01 per Public Warrant: (i) at any time while the Public Warrants are exercisable, (ii) upon not less than 30 days' prior written notice of redemption to each Public Warrant holder, (iii) if, and only if, the reported last sale price of the Common Stock equals or exceeds $36.00 per share (as adjusted for stock splits, stock dividends, reorganizations and recapitalizations) for any 20 trading days within a 30-trading day period ending on the third trading business day prior to the notice of redemption to Public Warrant holders, and

(iv) if, and only if, there is a current registration statement in effect with respect to the issuance of the Common Stock underlying such Public Warrants at the time of redemption and for the entire 30-day trading period referred to above and continuing each day thereafter until the date of redemption. In the event of a redemption, right to exercise will be forfeited unless the Public Warrants are exercised prior to the date specified in the notice of redemption. On and after the redemption date, a record holder of a Public Warrant will have no further rights except to receive the redemption price for such holder's Public Warrant upon surrender of such Public Warrant.

If we call the Public Warrants for redemption as described above, our management will have the option to require all holders that wish to exercise Public Warrants to do so on a cashless basis. In such event, each holder would pay the exercise price by surrendering the Public Warrants for that number of shares equal to the quotient obtained by dividing (x) the product of the number of shares underlying the Public Warrants, multiplied by the difference between the exercise price of the Public Warrants and the "fair market value" (defined below) by (y) the fair market value. The "fair market value" shall mean the average reported last sale price of the ordinary shares for the 10 trading days ending on the third trading day prior to the date on which the notice of redemption is sent to the holders of Public Warrants.

The Public Warrants may be amended without the consent of any holder to cure any ambiguity or correct any defective provision, but require the approval, by written consent or vote, of the holders of a majority of the then outstanding Public Warrants in order to make any change that adversely affects the interests of the registered holders.

The exercise price and number of shares of Common Stock issuable on exercise of the Public Warrants may be adjusted in certain circumstances including in the event of a share dividend, extraordinary dividend or our recapitalization, reorganization, merger or consolidation. However, the Public Warrants will not be adjusted for issuances of shares at a price below their respective exercise prices.

The Public Warrant holders do not have the rights or privileges of holders of shares or any voting rights until they exercise their Public Warrants and receive shares. After the issuance of shares upon exercise of the Public Warrants, each holder will be entitled to one vote for each share held of record on all matters to be voted on by our stockholders.

Except as set forth above, if the prospectus relating to the shares issuable upon the exercise of the Public Warrants is not current or if the issuance of the shares is not qualified or exempt from qualification in the jurisdictions in which the holders of the Public Warrants reside, we will not be required to net cash settle or cash settle the Public Warrant exercise, the Public Warrants may have no value, the market for the Public Warrants may be limited and the Public Warrants may expire worthless.

Public Warrant holders may elect to be subject to a restriction on the exercise of their Public Warrants such that an electing Public Warrant holder would not be able to exercise their Public Warrants to the extent that, after giving effect to such exercise, such holder would beneficially own in excess of 9.8% of our shares outstanding.

No fractional shares will be issued upon the exercise of the Public Warrants.

LEGAL MATTERS

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., San Diego, California, will pass upon the validity of the securities being offered by this prospectus.

EXPERTS

The consolidated financial statements of DermTech, Inc. as of December 31, 2019 and 2018, and for each of the years in the two-year period ended December 31, 2019, have been included in the prospectus in reliance upon the report of KPMG LLP, independent registered public accounting firm, appearing elsewhere herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the December 31, 2019 financial statements refers to a change to the method of accounting for revenue due to the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-1 with respect to the shares of common stock offered by this prospectus with the SEC in accordance with the Securities Act and the rules and regulations enacted under its authority. This prospectus, which constitutes a part of the registration statement, does not contain all of the information included in the registration statement and its exhibits and schedules. Any statement made in this prospectus concerning the contents of any contract, agreement or other document is only a summary of the actual contract, agreement or other document. If we have filed or incorporated by reference any contract, agreement or other document as an exhibit to the registration statement, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement regarding a contract, agreement or other document is qualified by reference to the actual document. For further information regarding us and the shares of common stock offered by this prospectus, we refer you to the full registration statement, including its exhibits and schedules, filed under the Securities Act.

The SEC maintains a website at http://www.sec.gov that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Our registration statement, of which this prospectus constitutes a part, can be downloaded from the SEC's website.

We also file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings on the SEC's website at http://www.sec.gov.

Our website address is http://www.dermtech.com. There we make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with the SEC. The information contained on, or that can be accessed through, our website is not a part of this prospectus, and our reference to the address for our website is intended to be an inactive textual reference only.

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DERMTECH, INC.

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Report of Independent Registered Public Accounting Firm

DermTech, Inc.
San Diego, California

To the Stockholders and Board of Directors
DermTech, Inc.:

Opinion on the Consolidated Financial Statements
We have audited the accompanying consolidated balance sheets of DermTech, Inc. and its subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of operations and comprehensive loss, convertible preferred stock and stockholders' equity (deficit), and cash flows for each of the years in the two-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the two-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

Change in Accounting Principle
As discussed in Note 1 to the consolidated financial statements, the Company has changed its method of accounting for revenue as of January 1, 2019 due to the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended.

Basis for Opinion
These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ KPMG LLP

We have served as the Company's auditor since 2016.

San Diego, California
March 10, 2020

DERMTECH, INC.
Consolidated Balance Sheets
(in thousands, except share and per share data)

	December 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 15,374	$ 4,753
Accounts receivable, net	680	580
Inventory	35	40
Prepaid expenses and other current assets	1,061	26
Total current assets	17,150	5,399
Property and equipment, net	977	215
Other assets	84	50
Total assets	$ 18,211	$ 5,664
Liabilities, Convertible Preferred Stock and Stockholders' Equity (Deficit)		
Current liabilities:		
Accounts payable	$ 1,609	$ 286
Accrued compensation	1,142	480
Accrued liabilities	218	286
Deferred revenue	1,390	1,552
Deferred underwriting fees	1,363	—
Convertible notes payable, net	—	5,019
Derivative liability	—	2,880
Total current liabilities	5,722	10,503
Notes payable, noncurrent	—	516
Total liabilities	5,722	11,019
Commitments and contingencies		
Series A convertible preferred stock, $0.0001 par value per share; 5,000,000 and zero Series A shares authorized as of December 31, 2019 and 2018, respectively; 1,231 and zero shares issued and outstanding at December 31, 2019 and 2018, respectively; $7.6 million and zero liquidation preference at December 31, 2019 and 2018, respectively	—	—
Series C convertible preferred stock, $0.0001 par value per share; zero and 1,626,106 Series C shares authorized as of December 31, 2019 and 2018, respectively; zero and 1,524,122 shares issued and outstanding at December 31, 2019 and 2018, respectively; zero and $14.5 million liquidation preference at December 31, 2019 and 2018, respectively	—	—
Stockholders' equity (deficit):		
Common stock, $0.0001 par value per share; 50,000,000 and 15,099,554 shares authorized as of December 31, 2019 and 2018, respectively; 12,344,818 and 4,411,567 shares issued and outstanding at December 31, 2019 and 2018, respectively	1	1
Additional paid-in capital	103,599	66,021
Accumulated deficit	(91,111)	(71,377)
Total stockholders' equity (deficit)	12,489	(5,355)
Total liabilities, convertible preferred stock and stockholders' equity (deficit)	$ 18,211	$ 5,664

See accompanying notes to consolidated financial statements.

DERMTECH, INC.
Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)

	Year Ended December 31,	
	2019	2018
Revenues:		
Assay revenue	$ 1,403	$ 1,281
Contract revenue	1,961	1,161
Total revenues	3,364	2,442
Cost of revenues	3,304	2,627
Gross profit / (loss)	60	(185)
Operating expenses:		
Sales and marketing	6,303	2,806
Research and development	2,497	2,054
General and administrative	8,865	3,515
Total operating expenses	17,665	8,375
Loss from operations	(17,605)	(8,560)
Other income (expense), net:		
Gain on debt extinguishment	928	—
Interest expense, net	(2,657)	(1,093)
Other expense	(355)	(351)
Total other income (expense), net	(2,084)	(1,444)
Net loss and comprehensive loss	$ (19,689)	$ (10,004)
Weighted average shares outstanding used in computing net loss per share, basic and diluted	7,005,037	4,410,913
Net loss per common share outstanding, basic and diluted	$ (2.81)	$ (2.27)

See accompanying notes to consolidated financial statements.

DERMTECH, INC.
Consolidated Statements of Convertible Preferred Stock and Stockholders' Equity (Deficit)
(in thousands, except share and per share data)

	Series A convertible preferred stock		Series C convertible preferred stock		Common stock		Additional paid-in capital	Accumulated deficit	Total stockholders' equity (deficit)
	Shares	Amount	Shares	Amount	Shares	Amount			
Balance, December 31, 2017	—	$ —	1,017,583	$ —	4,410,841	$ 1	$ 60,567	$ (61,373)	$ (805)
Issuance of Series C preferred stock and common stock warrants at $9.54 per share, net of $0.3 million issuance costs	—	—	506,539	—	—	—	4,537	—	4,537
Issuance of common stock	—	—	—	—	726	—	5	—	5
Stock-based compensation	—	—	—	—	—	—	912	—	912
Net loss	—	—	—	—	—	—	—	(10,004)	(10,004)
Balance, December 31, 2018	—	$ —	1,524,122	$ —	4,411,567	$ 1	$ 66,021	$ (71,377)	$ (5,355)
Cumulative effect adjustment of accounting method change	—	—	—	—	—	—	—	(45)	(45)
Issuance of common stock	—	—	—	—	726,139	—	934	—	934
Conversion of Series C preferred stock to common stock	—	—	(1,524,122)	—	1,524,122	—	—	—	—
Conversion of convertible notes to common stock	—	—	—	—	2,267,042	—	12,687	—	12,687
Additional paid in capital assumed in Business Combination	—	—	—	—	—	—	420	—	420
Issuance of Series A preferred stock at $3,250 per share	1,231	—	—	—	—	—	4,000	—	4,000
Issuance of common stock at $6.50 per share, net of $0.2 million issuance costs	—	—	—	—	3,076,923	—	19,802	—	19,802
Restricted stock unit release					339,025	—	(1,569)		(1,569)
Stock-based compensation	—	—	—	—	—	—	1,304	—	1,304
Net loss	—	—	—	—	—	—	—	(19,689)	(19,689)
Balance, December 31, 2019	1,231	$ —	—	$ —	12,344,818	$ 1	$ 103,599	$ (91,111)	$ 12,489

See accompanying notes to consolidated financial statements.

DERMTECH, INC.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended December 31,	
	2019	2018
Cash flows from operating activities:		
Net loss	$ (19,689)	$ (10,004)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	89	76
Stock-based compensation	1,304	912
Amortization of debt discount and issuance costs	1,983	963
Change in fair value of derivative liability	355	351
Gain on extinguishment of convertible notes	(928)	—
Payment in connection with restricted stock unit release	(1,569)	—
Changes in operating assets and liabilities:		
Accounts receivable, net	(100)	(219)
Inventory	5	8
Prepaid expenses and other current assets	(1,069)	60
Accounts payable and accrued compensation	1,337	(145)
Accrued liabilities and deferred revenue	491	393
Net cash used in operating activities	(17,791)	(7,605)
Cash flows from investing activities:		
Purchases of property and equipment	(210)	(12)
Net cash used in investing activities	(210)	(12)
Cash flows from financing activities:		
Proceeds from convertible notes payable	2,600	6,800
Payments of debt issuance costs	—	(215)
Payments of notes payable	(516)	—
Proceeds from issuance of Series A Convertible Preferred Stock	4,000	—
Proceeds received from close of Business Combination	1,802	—
Proceeds from issuance of common stock	19,802	—
Proceeds from sale of convertible preferred stock and common stock warrants, net of issuance costs	—	4,538
Proceeds from exercise of common stock warrants	5	—
Proceeds from exercise of stock options	929	5
Net cash provided by financing activities	28,622	11,128
Net increase/(decrease) in cash and cash equivalents	10,621	3,511
Cash and cash equivalents, beginning of period	4,753	1,242
Cash and cash equivalents, end of period	$ 15,374	$ 4,753
Supplemental cash flow information:		
Income taxes paid	$ —	$ 1
Purchases of property and equipment recorded in accounts payable	$ 641	$ —
Non-cash investing and financing activities		
Debt discount and derivative liability at issuance of convertible notes payable	$ 270	$ 2,529

See accompanying notes to consolidated financial statements.

1. The Company and a Summary of its Significant Accounting Policies

(a) Nature of Operations

On August 29, 2019, DermTech, Inc., formerly known as Constellation Alpha Capital Corp, (the Company), and DermTech Operations, Inc., formerly known as DermTech, Inc., (DermTech Operations), consummated the transactions contemplated by the Agreement and Plan of Merger, dated as of May 29, 2019, by and among the Company, DT Merger Sub, Inc., a wholly owned subsidiary of the Company (Merger Sub), and DermTech Operations. The Company refers to this agreement, as amended by that certain First Amendment to Agreement and Plan of Merger dated as of August 1, 2019, as the Merger Agreement. Pursuant to the Merger Agreement, Merger Sub merged with and into DermTech Operations, with DermTech Operations surviving as a wholly-owned subsidiary of the Company. The Company refers to this transaction as the Business Combination. In connection with and two days prior to the completion of the Business Combination, the Company domesticated from the British Virgin Islands to Delaware. DermTech Operations changed its name from DermTech, Inc. to DermTech Operations, Inc. shortly before the completion of the Business Combination. On August 29, 2019, immediately following the completion of the Business Combination, the Company changed its name from Constellation Alpha Capital Corp. to DermTech, Inc., and then effected a one-for-two reverse stock split of its common stock (Reverse Stock Split).

The Company is an emerging growth molecular diagnostic company developing and marketing its Clinical Laboratory Improvement Amendments of 1988, (CLIA), laboratory services including molecular pathology tests to facilitate the diagnosis of dermatologic conditions including melanoma. The Company has developed a proprietary, non-invasive technique for sampling the surface layers of the skin using an adhesive patch in order to collect individual biological information for commercial applications in the medical diagnostic field.

(b) Basis of Presentation, Reverse Stock Split and Going Concern

These consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles, (U.S. GAAP). In the opinion of management, all adjustments, which include only normal recurring adjustments considered necessary for a fair presentation, have been included.

The accompanying consolidated financial statements and notes to the consolidated financial statements give retroactive effect to the one-for-two Stock Split for all periods presented.

The Company has incurred net losses since the Company's formation and has an accumulated deficit of $91.1 million and a negative operating cash flow of $17.8 million as of December 31, 2019, which previously raised doubts of the Company's ability to continue as a going concern.

The Company expects to incur significant additional operating losses over at least the next several years. Management intends to pursue additional capital through equity offerings, debt financings, collaborations or licensing arrangements and believes this will be sufficient to provide the Company with the ability to continue to support its planned operations and to continue developing and commercializing gene expression tests. There can be no assurances as to the availability of additional financing or the terms upon which additional financing may be available to the Company. If the Company is unable to obtain sufficient funding at acceptable terms, it may be forced to significantly curtail its operations, and the lack of sufficient funding may have a material adverse impact on the Company's ability to continue as a going concern.

On February 28, 2020, the Company entered into a securities purchase agreement with certain institutional investors for a private placement of the Company's equity securities for aggregate gross proceeds of approximately $65.0 million, and net proceeds to the Company of approximately $60.0 million, after deducting estimated offering expenses payable by the Company. The private placement financing closed on March 4, 2020. Following the closing of the private placement financing and in light of the fact that the Company does not have any debt, the Company has evaluated the expected cash requirements for a 12-month period from the issuance date of the consolidated financial statements through March 2021 and believes it will have sufficient cash on hand to fund anticipated operations during this time. The financial statements included in this annual report reflect that our previous going concern position has been alleviated.

(c) Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires that management make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the

date of the consolidated financial statements and the amounts of revenues and expenses reported during the period. On an ongoing basis, management evaluates these estimates and judgments, including those related to assay revenue, stock-based compensation, accounts receivable and the realization of deferred tax assets. Actual results may differ from those estimates.

(d) Cash and Cash Equivalents

The Company considers all highly liquid investments with remaining maturities of three months or less when purchased to be cash equivalents. The Company maintains its cash balances at banks and financial institutions. The balances are insured up to the legal limit. The Company maintains cash balances that may, at times, exceed this insured limit.

(e) Property and Equipment

Property and equipment is recorded at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives of the assets, which range from two to five years. Leasehold improvements are depreciated over the shorter of the remaining term of the lease or the useful life of the asset. The Company recorded depreciation expense of $0.1 million and $0.1 million for the years ended December 31, 2019 and 2018, respectively. No property or equipment was disposed of during the years ended December 31, 2019 and 2018. The Company assesses its long-lived assets, consisting primarily of property and equipment, for impairment when material events or changes in circumstances indicate that the carrying value may not be recoverable. There were no impairment losses for the years ended December 31, 2019 and 2018.

(f) Research and Development

Costs incurred in connection with research and development (R&D) activities are expensed as incurred. R&D expenses consist of (i) employee-related expenses, including salaries, benefits, travel and stock compensation expense; (ii) facilities and other expenses, which include direct and allocated expenses for rent and maintenance of facilities and laboratory and other supplies.

The Company expenses all costs as incurred in connection with patent applications (including direct application fees and the legal and consulting expenses related to making such applications) and such costs are included in general and administrative expenses.

(g) Concentration of Credit Risk

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist primarily of cash and cash equivalents. The Company maintains $15.1 million in a bank deposit account that is in excess of the $250,000 insurance provided by the Federal Deposit Insurance Corporation in one federally insured financial institution. The Company has not experienced any losses in such accounts.

(h) Income Taxes

The Company provides for federal and state income taxes on the asset and liability approach which requires deferred tax assets and liabilities to be recognized based on temporary differences between the consolidated financial statement and tax bases of assets and liabilities using enacted tax rates in effect for the year in which the temporary differences are expected to reverse.

Deferred tax assets are reduced by a valuation allowance when, in management’s opinion, it is more likely than not that some portion or all of the deferred tax assets will not be realized. The Company considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. The Company’s valuation allowance is based on available evidence, including its current year and prior year operating losses, evaluation of positive and negative evidence with respect to certain specific deferred tax assets including evaluation sources of future taxable income to support the realization of the deferred tax assets. The Company has established a full valuation allowance on the deferred tax assets as of December 31, 2019 and 2018.

Current and deferred tax assets and liabilities are recognized based on the tax positions taken or expected to be taken in the Company’s income tax returns. U.S. GAAP requires that the tax benefits of an uncertain tax position can only be recognized when it is more likely than not that the tax position will be sustained upon examination by the relevant taxing authority. Tax benefits related to tax positions that do not meet this criterion are not recognized in the consolidated financial statements.

The Company recognizes interest and penalties related to income tax matters in income tax expense.

(i) Revenue Recognition

The Company's revenue is generated from two revenue streams, contract revenue and assay revenue. The Company has changed its method of accounting for revenue as of January 1, 2019 due to the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended, and accounts for revenue in accordance with Accounting Standards Codification Topic 606 (ASC 606). The core principle of ASC 606 is that the Company recognizes revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the Company expects to be entitled in exchange for those goods or services. The ASC 606 revenue recognition model consists of the following five steps: (1) identify the contracts with a customer, (2) identify the performance obligations in the contract, (3) determine the transaction price, (4) allocate the transaction price to the performance obligations in the contract and (5) recognize revenue when (or as) the entity satisfies a performance obligation.

The Company recognizes revenue from its contract and assay goods and service in accordance with the core principles and key aspects considered by the Company. These considerations are described in detail below, first for Contract Revenue and then for Assay Revenue.

(1) Contract Revenue

Contract revenue is generated from the sale of laboratory services and adhesive sample collection kits to third party companies through contract research agreements. Laboratory revenues result from providing gene expression tests to facilitate the development of drugs designed to treat dermatologic conditions. The provision of gene expression services may include sample collection using the Company's patented adhesive patch biopsy devices, assay development for research partners, ribonucleic acid (RNA) isolation, expression, amplification and detection, including data analysis and reporting.

Contracts

As part of the Company's contract revenue, the Company has established agreements and work orders with the Company's pharmaceutical partners that fall under the scope of ASC 606.

Performance Obligations

ASC 606 requires an entity to assess the goods or services promised in a contract and identify as a performance obligation each promise to transfer to the customer either a good or service (or a bundle of goods or services) that is distinct, or a series of distinct goods or services that are substantially the same and that have the same pattern of transfer to the customer. Based upon review of existing contracts, a majority of the Company's contract revenue agreements contain three performance obligations:

(1) Adhesive patch kits

(2) RNA extractions and analysis

(3) Certain project management fees

Many of the Company's contract revenue agreements contain promises such as start-up activities and quality system setup fees, which are activities that the Company performs to fulfill the agreement and they do not transfer any good or service to the customer. These promises encompass the administrative tasks associated with beginning and initiating a new project or study with a pharmaceutical company. In accordance with ASC 606, an entity does not account for these activities as a promised good or service within the agreement nor evaluate whether they are a performance obligation.

Transaction Price

The transaction price is the amount of consideration to which an entity expects to be entitled in exchange for transferring promised goods or services to a customer. The consideration promised in an agreement with a customer may include fixed amounts, variable amounts, or both.

The transaction prices of the Company's performance obligations are listed in its agreements on a per unit basis and are fixed for adhesive patch kits and RNA extractions and analysis. The project management fees are assessed based on a monthly service fee which range within the agreements depending on certain factors which include length of the project and the amount of kits or RNA extractions and analysis promised within the agreement. The fixed and variable rates are materially consistent within the Company's agreements. Therefore, the Company utilizes the prices listed in our agreements as the transaction price for each performance obligation.

In determining the transaction price, ASC 606 requires an entity to adjust the promised amount of consideration for the effects of the time value of money if the agreement contains a significant financing component. The Company's agreements state fixed transaction prices for each deliverable associated with the agreement and do not qualify for the significant financing component of ASC 606.

Allocate the Transaction Price

The Company's contracts have a directly observable transaction price pertaining to each promised good or service. Those prices are consistent across agreements for adhesive patch kits and RNA extractions and analysis, with the exception of the Company's project management fees, which the Company's believes encompass a sufficiently narrow range of prices that are dictated upon factors of each agreement previously discussed above. Therefore, the Company's relies on those transaction prices as the basis to allocate the stand-alone selling prices to the performance obligations of the agreement.

Most of the Company's agreements contain a discount that is allocated to items within the agreement, whether they are performance obligations or not. Those items that are not performance obligations (e.g. quality system setup and start up fees) have the associated discount allocated to the transaction prices of the performance obligations evenly.

Recognize Revenue

An entity should recognize revenue when (or as) it satisfies a performance obligation by transferring a promised good or service to a customer. A good or service is transferred when (or as) the customer obtains control of that good or service. The adhesive patch kits are recognized at a point in time when shipped to the customer. The RNA extraction and analysis are recognized at a point in time when the extraction and analysis process is complete and the results are sent to the customer. The Company provides its project management service over the life of the agreement, providing equal benefit to the customer throughout the life of the project or study. Therefore, the revenue related to the Company's project management fees is recognized straight-line over the life of the agreement.

Deferred Revenue and Remaining Performance Obligations

The Company records a deferred revenue liability if a customer pays consideration before the Company transfers a good or service to the customer. Deferred revenue primarily represents upfront milestone payments, for which consideration is received prior to goods/services are completed or delivered. Deferred revenue at December 31, 2019 and 2018 was $1.4 million and $1.6 million, respectively.

Remaining performance obligations include deferred revenue and amounts the Company expects to receive for goods and services that have not yet been delivered or provided under existing agreements. For agreements that have an original duration of one year or less, the Company has elected the practical expedient applicable to such agreements and does not disclose the remaining performance obligations at the end of each reporting period and when the Company expects to recognize this revenue. As of December 31, 2019, the estimated revenue expected to be recognized in future periods related to performance obligations that are unsatisfied for executed agreements with an original duration of one year or more was approximately $0.7 million. The Company expects to recognize revenue on the majority of these remaining performance obligations over the next two to three years.

(2) Assay Revenue

The Company generates revenues from its Pigmented Lesion Assay (PLA) and Nevome services it provides to healthcare clinicians in various states throughout the United States to assist in a clinician's diagnosis of melanoma. The Company provides prescribing clinicians with its adhesive sample collection kits to perform non-invasive skin biopsies of clinically ambiguous pigmented skin lesions on patients. Once the sample is collected by the healthcare clinician, it is returned to the Company's CLIA laboratory for analysis. The patient RNA and deoxyribonucleic acid (DNA) is extracted from the adhesive patch collection kit and analyzed using gene expression technology to determine if the pigmented skin lesion contains certain genomic features indicative

of melanoma. Upon completion of the gene expression analysis, a final report is drafted and provided to the dermatologists detailing the test results for the pigmented skin lesion indicating whether the sample collected is indicative of melanoma or not.

Contracts

The Company's customer is the patient. However, the Company does not enter into a formal reimbursement agreement with a patient, as formal reimbursement agreements are more commonly established with insurance payors. Accordingly, the Company establishes an agreement with a patient in accordance with other customary business practices.

- Approval of an agreement is established by the use of the Company's adhesive patch kit on a patient by an ordering physician, which is then sent to the Company's central lab for testing.
- The Company is obligated to perform the Company's laboratory services upon receipt of a sample from a physician, and the patient and/or applicable payor are obligated to reimburse us for services rendered based on the patient's insurance benefits.
- Payment terms are a function of a patient's existing insurance benefits.
- Once the Company delivers a patient's test result to the ordering physician, the Company is legally able to collect payment and bill an insurer and/or patient, depending on payor agreement status or patient insurance benefit status.
- The Company's consideration is deemed to be variable, and the Company considers collection of such consideration to be probable to the extent that it is unconstrained.

Performance Obligations

A performance obligation is a promise in an agreement to transfer a distinct good or service (or a bundle of goods or services) to the customer. The customer is able to order a PLA test. However, a Nevome test cannot be ordered separately from the PLA test and it is contingent on being run only when a PLA test comes back positive on a sample. The Nevome test would not qualify as a distinct service. Therefore, the PLA test is recognized as a single performance obligation and the Nevome test, if rendered, is bundled with the single PLA performance obligation.

Transaction Price

The transaction price is the amount of consideration that the Company expects to collect in exchange for transferring promised goods or services to a customer, excluding amounts collected on behalf of third parties (for example, some sales taxes). The consideration expected from an agreement with a customer may include fixed amounts, variable amounts, or both.

The consideration derived from the Company's agreements is deemed to be variable, though the variability is not explicitly stated in any agreement. Rather, the implied variability is due to several factors, such as the amount of contractual adjustments, any patient co-payments, deductibles or patient compliance incentives, the existence of secondary payors and claim denials.

The Company estimates the amount of variable consideration using the expected value method, which represents the sum of probability-weighted amounts in a range of possible consideration amounts. When estimating the amount of variable consideration, the Company considers several factors, such as historical collections experience, patient insurance eligibility and payor reimbursement agreements.

The Company limits the amount of variable consideration included in the transaction price to the unconstrained portion of such consideration. In other words, the Company recognizes revenue up to the amount of variable consideration that is not subject to a significant reversal until additional information is obtained or the uncertainty associated with the additional payments or refunds is subsequently resolved. Differences between original estimates and subsequent revisions, including final settlements, represent changes in the estimate of variable consideration and are included in the period in which such revisions are made. Revenue recognized from changes in transaction prices was not material for the years ended December 31, 2019 and 2018, respectively.

The Company monitors its estimates of transaction price to depict conditions that exist at each reporting date. If the Company subsequently determines that it will collect more consideration than it originally estimated for an agreement with a patient, it will account for the change as an increase in the estimate of the transaction price (i.e., an upward revenue adjustment) in the period identified. Similarly, if the Company subsequently determines that the amount it expects to collect from a patient is less than it originally estimated, it will generally account for the change as a decrease in the estimate of the transaction price (i.e., a downward revenue adjustment), provided that such downward adjustment does not result in a significant reversal of cumulative revenue recognized.

When the Company does not have significant historical experience or that experience has limited predictive value, the constraint over estimates of variable consideration may result in no revenue being recognized upon delivery of a patient's test result to the ordering physician, with recognition, generally occurring at the date of cash receipt.

Allocate the Transaction Price

The entire transaction price is allocated entirely to the single performance obligation contained within the agreement with a patient.

Recognize Revenue

The Company's single performance obligation is satisfied at a point in time, and that point in time is defined as the date a patient's successful test result is delivered to the patient's ordering physician. The Company considers this date to be the time at which the patient obtains control of the final results of the promised test service.

If a Nevome test service is ordered and completed in conjunction with the Company's PLA service, then the Company will recognize revenue upon the delivery of both final reports to the physician. The delivery of the Company's Nevome test results is typically after the Company's PLA results are delivered due to the circumstances of how the Company processes the Nevome test. However, this length in time is determined to not materially impact the final overall revenue recognition timing.

(3) Disaggregation of Revenue

The following tables present the Company's revenues disaggregated by revenue source during the years ended December 31, 2019 and 2018, respectively (in thousands):

	Year Ended December 31,	
	2019	2018
Assay Revenue		
PLA Test	$ 1,403	$ 1,281
Contract Revenue		
Adhesive Patch kits	476	441
RNA Extractions	626	396
Project Management Fees	336	223
Other	523	101
Total Revenue	$ 3,364	$ 2,442

(4) Contract Balances

The timing of revenue recognition, billings and cash collections results in billed accounts receivable and deferred revenue on the consolidated balance sheets.

Generally, contract revenue has a majority of agreements in which the Company receives a substantial up-front payment upon various milestones over the life of the agreement. This results in deferred revenue and is relieved upon delivery of the applicable adhesive patch kits or RNA extraction results. Changes in accounts receivable and deferred revenue were not materially impacted by any other factors.

Deferred revenue balances are presented on the Company's consolidated balance sheets and were $1.4 million and $1.6 million as of December 31, 2019 and 2018, respectively.

(j) Accounts Receivable

Contract Accounts Receivable

Contract accounts receivable are recorded at the net invoice value and are not interest bearing. The Company reserves specific receivables if collectability is no longer reasonably assured, and as of December 31, 2019, the Company did not maintain any reserve over contract receivables as they deal with large established credit worthy customers. The Company re-evaluates such reserves on a regular basis and adjusts its reserves as needed. Once a receivable is deemed to be uncollectible, such balance is charged against the reserve. The Company recorded $0.3 million and $0.3 million of contract accounts receivable as of December 31, 2019 and 2018, respectively.

Assay Accounts Receivable

Due to the nature of the Company's assay revenue, it can take a significant amount of time to collect upon billed PLA services. The Company prepares an analysis on reimbursement collections and data obtained for each financial reporting period to determine the amount of receivables to be recorded relating to PLA services performed in the applicable period. The Company accrues an allowance for doubtful accounts against its accounts receivable when it is probable that an account is not collectible, based on write off history, credit risk of specific accounts, aging analysis and other information available on specific accounts. The Company generally does not perform evaluations of customers' financial condition and generally does not require collateral. Accounts receivable are written off when all efforts to collect the balance have been exhausted. Historically, the Company's bad debt expense has not been significant. Adjustments for implicit price concessions attributable to variable consideration are incorporated into the measurement of the accounts receivable balances and are not part of the allowance for doubtful accounts. The Company recorded $0.5 million and $0.3 million of gross assay accounts receivable as of December 31, 2019 and 2018, respectively. In addition, the Company established an allowance for doubtful accounts of $0.1 million and $0.1 million as of December 31, 2019 and 2018, respectively.

(k) Freight and Shipping Costs

The Company records outbound freight and shipping costs for its contract and assay revenues in cost of revenues.

(l) Comprehensive Income (Loss)

Comprehensive income/(loss) is defined as a change in equity during a period from transactions and other events and circumstances from non-owner sources. The Company's comprehensive loss was the same as its reported net loss for all periods presented.

(m) Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision maker, or decision-making group, in making decisions on how to allocate resources and assess performance. The Company views its operations and manages its business as one operating segment.

(n) Net Loss Per Share

Basic and diluted net loss per common share is determined by dividing net loss applicable to common shareholders by the weighted average common shares outstanding during the period. Because there is a net loss attributable to common shareholders during the years ended December 31, 2019 and 2018, the outstanding common stock warrants, stock options, restricted stock units and preferred stock have been excluded from the calculation of diluted loss per common share because their effect would be anti-dilutive. Therefore, the weighted average shares used to calculate both basic and diluted loss per share are the same. Diluted net loss per common share for the year ended December 31, 2019 excludes the effect of anti-dilutive equity instruments including 615,385 shares of common stock issuable upon conversion of the Company's preferred stock, 4,200,497 shares of common stock issuable upon the exercise of outstanding common stock warrants and 443,547 shares of common stock issuable upon the exercise stock options. Diluted net loss per common share for the year ended December 31, 2018 excludes the effect of anti-dilutive equity instruments including 1,524,122 shares of common stock issuable upon conversion of the Company's preferred stock, 1,177,486 shares of common stock issuable upon the exercise of outstanding warrants and 1,000,618 shares of common stock issuable upon the exercise stock options and release of restricted stock units. The Company did not consider a two-class method of earnings (loss) per share given that the Company's convertible participating securities do not participate in losses.

(o) Stock-Based Compensation

Compensation costs associated with stock option awards and other forms of equity compensation are measured at the grant-date fair value of the awards and recognized over the requisite service period of the awards on a straight-line basis.

The Company grants stock options to purchase common stock to employees with exercise prices equal to the fair market value of the underlying stock, as determined by the board of directors, management and outside valuation experts prior to the Business Combination. The board of directors and outside valuation experts determined the fair value of the underlying stock by considering a number of factors, including historical and projected financial results, the risks the Company faced at the time, the preferences of the Company's debt holders and preferred stockholders, and the lack of liquidity of the Company's common stock. Subsequent to the close of the Business Combination, the fair market value of stock options is based on the closing stock price on the grant date.

The fair value of each stock option award is estimated using the Black-Scholes-Merton valuation model. Such value is recognized as expense over the requisite service period, net of estimated forfeitures, using the straight-line method. The expected term of options is based on the simplified method which defines the expected term as the average of the contractual term of the options and the weighted average vesting period for all option tranches. The expected volatility of stock options is based upon the historical volatility of a number of related publicly traded companies in similar stages of development. The risk-free interest rate is based on the average yield of U.S. Treasury securities with remaining terms similar to the expected term of the share-based awards. The assumed dividend yield was based on the Company's expectation of not paying dividends in the foreseeable future.

The Company accounts for stock options to non-employees using the fair value approach. The fair value of these options is measured using the Black-Scholes-Merton option pricing model, reflecting the same assumptions applied to employee options, other than expected life, which is assumed to be the remaining contractual life of the award. Options that are granted to employees have a requisite service period of four years. Equity instruments awarded to non-employees are periodically re-measured as the underlying awards vest unless the instruments are fully vested, immediately exercisable, and non-forfeitable on the date of grant.

Restricted stock units (RSUs), are considered restricted stock. The fair value of restricted stock is equal to the fair market value of the underlying stock, as determined by the board of directors, management and input from outside valuation experts prior to the Business Combination. Subsequent to the close of the Business Combination, the fair market value of RSUs is based on the closing stock price on the grant date. The Company recognizes stock-based compensation expense based on the fair value on a straight-line basis over the requisite service periods of the awards, taking into consideration estimated forfeitures. RSUs that are granted to employees have a requisite service period between two and four years.

The fair value of each option for employees was estimated on the date of grant using the following assumptions:

	Year Ended December 31,	
	2019	2018
Assumed risk-free interest rate	1.68% - 2.50%	2.46% - 3.00%
Assumed volatility	72.30% - 73.50%	72.30% - 78.25%
Expected option term	6.02 - 6.08 years	5.76 - 6.04 years
Expected dividend yield	—	—

The Company recorded stock-based compensation expense for employee options, RSUs, common stock warrants, and consultant options of $1.3 million and $0.9 million for the years ended December 31, 2019 and 2018. The total compensation cost related to non-vested awards not yet recognized at December 31, 2019 was $0.4 million, which is expected to be recognized on a straight-line basis over a weighted average term of 2.07 years.

(p) Derivative Liability

From time-to-time, the Company may issue convertible notes that contain embedded features that require derivative accounting including the determination of the fair value of the financial instruments at the execution of the contract and the change in such fair values through each reporting period until such time the liability is extinguished. The Company's convertible notes, as further discussed in Note 3, had embedded derivatives that required bifurcation from the host instrument.

(q) Fair Value Measurements

The Company uses a three-tier fair value hierarchy to prioritize the inputs used in the Company's fair value measurements. These tiers include: Level 1, defined as observable inputs such as quoted prices in active markets for identical assets; Level 2, defined as inputs other than quoted prices in active markets that are either directly or indirectly observable; and Level 3, defined as unobservable inputs in which little or no market data exists, therefore requiring an entity to develop its own assumptions. There were no other assets or liabilities that were measured at fair value on a recurring basis as of December 31, 2019. The following table provides a summary of the assets and liabilities that are measured at fair value on a recurring basis as of December 31, 2018 (in thousands):

Fair Value Measurements at Reporting Date Using

	December 31, 2018			
	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Liabilities:				
Derivative liability	$ —	$ —	$ 2,880	$ 2,880
Total liabilities	$ —	$ —	$ 2,880	$ 2,880

The fair value of the derivative liability was determined based on a probability weighted valuation model of the various embedded features of the Company's outstanding convertible debt. The fair value is subjective and is affected by changes in inputs to the valuation model including management's assumptions regarding estimates of timing and the probability of each embedded conversion feature occurring. An initial fair value valuation was performed at each date of issuance of the outstanding convertible debt and subsequently remeasured as of August 29, 2019, which was the date the convertible debt converted to common stock and eliminated the derivative liability. The accumulated change in fair value between measurement dates was determined to be a $0.4 million loss for the year ended December 31, 2019, which was recognized as Other expense within the consolidated Statement of Operations and Comprehensive Loss. Changes in these assumptions can materially affect the fair value.

There were no other assets or liabilities that were measured at fair value on a recurring basis as of December 31, 2019 and 2018. The Company believes the carrying amount of cash and cash equivalents, accounts payable and accrued expenses approximate their estimated fair values due to the short-term nature of these accounts.

(r) Accounting Pronouncement Recently Adopted

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as amended, which will supersede virtually all existing revenue guidance. Under this standard, an entity is required to recognize revenue upon transfer of promised goods or services to customers in an amount that reflects the expected consideration received in exchange for those goods or services. As such, an entity will need to use more judgment and make more estimates than under the current guidance. This standard should be applied retrospectively either to each prior reporting period presented in the consolidated financial statements, or only to the most current reporting period presented in the consolidated financial statements with a cumulative effect adjustment recorded in retained earnings. This new standard is effective for interim and annual periods beginning after December 15, 2018 and early adoption is permitted.

The Company adopted ASC 606 on January 1, 2019, using the modified retrospective method and elected to utilize Practical Expedient 1 to apply the modified retrospective method to only contracts which were open as of January 1, 2019. Application of the modified retrospective method for the Company's contract revenue did require a cumulative effect adjustment upon adoption, which resulted in an adjustment of $45,000 to increase accumulated deficit and deferred revenue. Application of the modified retrospective method for the Company's assay revenue does not materially impact amounts previously reported by the Company, nor does it require a cumulative effect adjustment upon adoption, as the Company's method of recognizing revenue under ASC 606 was analogous to the method utilized immediately prior to adoption. Accordingly, there is no need for the Company to disclose the amount by which each financial statement line item was affected as a result of applying the new standard and an explanation of significant changes.

(s) Accounting Pronouncements Issued But Not Yet Effective

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842)*, which requires lessees to generally recognize on the balance sheet operating and financing lease liabilities and corresponding right-of-use assets, and to recognize on the income statement the expenses in a manner similar to current practice. In July 2018, the FASB issued ASU 2018-10, *Codification Improvements to Topic 842, Leases* and ASU 2018-11, *Leases (Topic 842): Targeted Improvements*, which improves the clarity of the new lease standard and corrects unintended application of the guidance. In December 2018, the FASB issued ASU 2018-20, *Narrow-Scope Improvements for Lessors*, which increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing transactions. In March 2019, the FASB issued ASU 2019-01, *Lease (Topic 842): Codification Improvements*, which increases transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing essential information about leasing transactions. Per ASU 2019-10, this new standard is effective for interim and annual periods of smaller reporting companies beginning January 1, 2021 and early adoption is permitted. The Company is currently evaluating the impact of this standard on its consolidated financial statements.

In June 2019, the FASB issued ASU 2018-07, *Compensation-Stock Compensation (Topic 718) – Improvements to Nonemployee Share-Based Payment Accounting*, which simplifies accounting for nonemployee share-based payment transactions to now include share-based payment transactions for acquiring goods and services from nonemployees. This new standard is effective for interim and annual periods beginning December 15, 2019 and early adoption is permitted. We will adopt this guidance on January 1, 2020, and we do not anticipate it will have a material impact on our consolidated financial statements.

In August 2018, the FASB issued ASU 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*, which modified the disclosure requirements on fair value measurements in Topic 820, Fair Value Measurement, based on the concepts in the Concepts Statement, including the consideration of costs and benefits. This new standard is effective for interim and annual periods beginning December 15, 2019 and early adoption is permitted. We will adopt this guidance on January 1, 2020, and we do not anticipate it will have a material impact on our consolidated financial statements.

2. Balance Sheet Details

Consolidated balance sheet details are as follows (in thousands):

	December 31, 2019	December 31, 2018
Prepaid expenses and other current assets:		
Prepaid insurance	$ 951	$ 2
Prepaid trade shows	85	19
Other current assets	25	5
Total prepaid expenses and other current assets	$ 1,061	$ 26
Property and equipment, gross:		
Laboratory equipment	$ 1,135	$ 314
Computer equipment	15	3
Furniture and fixtures	34	34
Leasehold improvements	32	14
Total property and equipment, gross	1,216	365
Less accumulated depreciation	(239)	(150)
Total property and equipment, net	$ 977	$ 215

	December 31, 2019	December 31, 2018
Accrued liabilities:		
Accrued consulting services	$ 37	$ 23
Accrued interest	—	164
Accrued printing fees	55	—
Deferred rent	88	85
Other accrued expenses	38	14
Total accrued liabilities	$ 218	$ 286
Accrued compensation:		
Accrued paid time off	$ 309	$ 234
Accrued bonus and deferred compensation	465	246
Accrued severance	368	—
Total accrued compensation	$ 1,142	$ 480

3. Debt

Wilson, Sonsini, Goodrich & Rosati Note

On January 7, 2016, DermTech Operations converted $0.6 million of its accounts payable due to Wilson, Sonsini, Goodrich & Rosati (DermTech Operations' general legal counsel) into a three-year promissory note bearing 3% interest and maturing on January 7, 2019, or earlier under certain circumstances. There were no principal payments due until the note reached maturity. On October 25, 2017, DermTech Operations amended and restated its promissory note with Wilson, Sonsini, Goodrich & Rosati by paying down $0.1 million on the principal balance of the note while extending its maturity date to January 7, 2020, or earlier under certain circumstances, at a continued interest rate of 3%. The Company recorded $11,000 and $15,000 of interest expense relating to this note payable during the years ended December 31, 2019 and 2018, respectively. On September 16, 2019, the Company paid all outstanding principal and accrued interest in the amount of $0.6 million on this note payable.

2018 Convertible Bridge Notes

From August to November 2018, DermTech Operations issued $6.8 million aggregate principal amount of convertible bridge notes (2018 Bridge Notes), resulting in $6.6 million in net proceeds. The 2018 Bridge Notes carried a 10% interest rate and matured on March 31, 2019. Since the 2018 Bridge Notes were not paid or converted by March 31, 2019, the interest rate increased to 15%.

The 2018 Bridge Notes were subject to automatic conversion into equity securities of DermTech Operations at the closing of a single capital raising transaction or series of related capital raising transactions in which DermTech Operations issued equity securities with aggregate gross proceeds to DermTech Operations of at least $20 million (Qualified Financing) that occurred on or prior to the maturity date. Upon automatic conversion of these 2018 Bridge Notes, the note holders were entitled to receive shares of DermTech Operations' equity securities equal to the quotient obtained by dividing the unpaid principal amount of these 2018 Bridge Notes plus interest accrued but unpaid by the lesser of:

1) the lowest price per share of the new stock paid in the Qualified Financing by investors multiplied by 70%.

2) the price per share obtained by dividing $45 million by DermTech Operations' fully-diluted capitalization immediately prior to such Qualified Financing assuming exercise or conversion of all outstanding options and issuance of all outstanding restricted stock unit awards, including all shares of common stock reserved and available for future grant under any equity incentive plan of the Company, and/or any equity incentive or similar plan to be created or increased in connection with the Qualified Financing, but excluding any shares issuable upon exercise of the DermTech Operations' outstanding common stock warrants or conversion of the 2018 Bridge Notes.

In the event DermTech Operations consummated, on or before the maturity date, an equity financing pursuant to which it sold shares of equity in a transaction that did not constitute a Qualified Financing, then the note holders had the option, but not the obligation, to elect to treat such equity financing as a Qualified Financing on the same terms set forth in these 2018 Bridge Notes.

In addition, the note holders could have elected to convert at any time all of the outstanding principal balance under these 2018 Bridge Notes, together with any accrued but unpaid interest, into shares of the DermTech Operations' Series C Preferred Stock (Optional Conversion). Upon Optional Conversion of these notes, the note holders were entitled to receive a number of shares of DermTech Operations' Series C Preferred Stock equal to the quotient obtained by dividing the unpaid principal amount of these notes plus interest accrued but unpaid by $9.54, subject to adjustment upon certain events. The note holders would have also received common stock warrants, in substantially the same form as the common stock warrants issued to any purchasers of DermTech Operations' Convertible Series C Preferred Stock.

In the event of a Change of Control (as defined in the 2018 Bridge Note agreements) transaction prior to the payment in full or conversion of these 2018 Bridge Notes, then the note holders could have elected to either:

1) effect the Optional Conversion feature, as discussed above, or

2) demand payment of the outstanding principal amount and the current accrued but unpaid interest of these 2018 Bridge Notes (Base Amount) plus an amount equal to the Base Amount multiplied by a specified percentage.

Several of the embedded features of the 2018 Bridge Notes were identified as meeting the criteria of a derivative and ultimately bifurcated from the host contract. DermTech Operations accounted for this by separating the derivative component of the 2018 Bridge Notes as a derivative liability on the consolidated balance sheet. DermTech Operations assigned a value to the debt component of the 2018 Bridge Notes equal to the difference between the estimated fair value of the 2018 Bridge Notes with and without the conversion features, which resulted in DermTech Operations recording the 2018 Bridge Notes at a discount. The total debt discount amount as of the respective date of issuance of the 2018 Bridge Notes was determined to be $2.5 million. DermTech Operations amortized the debt discount over the contractual life (i.e., March 31, 2019) of the 2018 Bridge Notes as

additional non-cash interest expense utilizing the effective interest method. At each financial reporting period, DermTech Operations remeasured the fair value of the embedded features bifurcated from the 2018 Bridge Notes (i.e., the derivative liability) and changes in the fair value are recognized in earnings. Losses relating to the change in fair value of the derivative liability recognized as other expense on the Statement of Operations were $0.4 million for both the years ended December 31, 2019 and 2018.

On May 23, 2019, DermTech Operations and the various convertible 2018 Bridge Note holders agreed to amend the outstanding convertible notes that were issued in the last half of 2018. As part of the amendment, the maturity dates of the notes were extended to the earliest of (i) September 24, 2019; (ii) the occurrence of an Event of Default (as defined in the 2018 Bridge Notes); (iii) the consummation of a liquidation or dissolution of DermTech Operations (iv) a Liquidation Transaction (as defined in the 2018 Bridge Notes); or (v) the consummation of a merger with or into the Company or any of its subsidiaries.

In addition, immediately prior to the consummation of a DermTech Operations merger with or into the Company or any of its subsidiaries substantially on the terms contemplated as of the date of the amendment to the outstanding convertible notes on or before September 24, 2019 (a Qualifying Merger), the outstanding principal amount of and all accrued but unpaid interest on each of the convertible notes would automatically be converted into shares of the DermTech Operations' common stock at a price per share equal to 70% of the Merger Consideration. For purposes of the preceding sentence, the "Merger Consideration" means (i) the lesser of $6.46 and (ii) the offering price per share of the private investment in public equity (PIPE) transaction to be consummated concurrently with the consummation of the Qualifying Merger multiplied by the Conversion Ratio. For the purposes of the preceding sentence, the "Conversion Ratio" means the quotient resulting from dividing 8,000,000 by the number of fully diluted shares of the Company as of immediately after the conversion of the notes.

This new embedded Qualifying Merger feature of the 2018 Bridge Notes was identified as meeting the criteria of a derivative and ultimately bifurcated from the host contract with the previously identified embedded features that met the criteria of being a derivative. In addition, this amendment was accounted for as a debt modification of the existing 2018 Bridge Notes.

2019 Convertible Bridge Notes

Between June 5th and June 10th, 2019, DermTech Operations issued additional convertible bridge notes (the 2019 Bridge Notes) to existing investors for aggregate gross proceeds of $2.6 million. These convertible bridge notes carried an interest rate of 10% and matured after the earliest to occur of: (i) September 25, 2019; (ii) the occurrence of an Event of Default; (iii) the consummation of a liquidation or dissolution of DermTech Operations; (iv) a Liquidation Transaction; or (v) the consummation of a merger of DermTech Operations with Merger Sub, a subsidiary of the Company, in accordance with the Merger Agreement.

The unpaid principal amount of these convertible bridge notes together with any interest accrued but unpaid thereon, would automatically be converted into shares of DermTech Operations' common stock immediately prior to the consummation of a Qualifying Merger. Upon the conversion of these notes, the note holders were entitled to receive a number of shares of DermTech Operations' common stock equal to the quotient obtained by dividing (i) the unpaid principal amount of these notes plus interest accrued but unpaid thereon, by (1) if the Qualifying Merger consummates prior to the maturity date, the lesser of (x) $5.80 and (y) 90% of the Merger Consideration (as defined below), or (2) if the Qualifying Merger consummates on or after the maturity date, the lesser of (x) $4.51 and (y) 70% of the Merger Consideration. For purposes of the preceding sentence, the "Merger Consideration" means the offering price per share of the PIPE transaction between Constellation and the investors thereto, consummated substantially concurrently with the consummation of the Qualifying Merger, multiplied by the Conversion Ratio (as defined below). For purposes of the preceding sentence, the "Conversion Ratio" means the quotient resulting from dividing 8,000,000 by the number of the Company's fully diluted shares immediately prior to the consummation of the Qualifying Merger, assuming exercise of all outstanding options, issuance of all common stock underlying outstanding restricted stock unit awards, exercise of all outstanding warrants, and conversion of all outstanding convertible promissory notes, including these notes and any other note of substantially the same form, but excluding all shares of DermTech Operations' common stock reserved and available for future grant under any equity incentive or similar plan of DermTech Operations, and in each case as adjusted for stock splits, combinations and similar transactions, all calculated in accordance with the final allocation schedule delivered in connection with the Qualifying Merger.

In addition to the Qualifying Merger feature, the 2019 Bridge Notes were issued with the same embedded features as the 2018 Bridge Notes, as discussed above, prior to the May 23, 2019 amendment. Several of the embedded features of the 2019 Bridge Notes were identified as meeting the criteria of a derivative and ultimately bifurcated from the host contract. DermTech Operations accounted for this by separating the derivative component of the 2019 Bridge Notes as a derivative liability on the consolidated balance sheet. The Company assigned a value to the debt component of the 2019 Bridge Notes equal to the difference between the estimated fair value of the 2019 Bridge Notes with and without the conversion features, which resulted in DermTech Operations recording the 2019 Bridge Notes at a discount. The total debt discount amount as of the respective date of issuance of the 2019 Bridge Notes was determined to be $0.3 million. DermTech Operations amortized the debt discount over the contractual life (i.e.,

September 25, 2019) of the 2019 Bridge Notes as additional non-cash interest expense utilizing the effective interest method. At each financial reporting period, DermTech Operations remeasured the fair value of the embedded features bifurcated from the 2019 Bridge Notes (i.e., the derivative liability) and changes in the fair value were recognized in earnings. For the years ended December 31, 2019 and 2018, the Company recognized losses of $14,000 and $0, respectively, on the change in fair value of the derivative liability recognized as other expense on the consolidated Statement of Operations and Comprehensive Loss.

Exchange of Convertible Debt for Common Shares

On August 29, 2019, immediately prior to the completion of the Business Combination, all unpaid principal and interest on the 2019 Bridge Notes and the 2018 Bridge Notes (collectively, the Bridge Notes) was converted into 2,267,042 common shares of DermTech Operations.

The conversion of the Bridge Notes debt for common shares of DermTech Operations was accounted for as an extinguishment of the Bridge Notes. The conversion resulted in DermTech Operations having legally settled the debt obligations. DermTech Operations' equity was increased by the settlement-date fair value of the common shares issued. Certain bifurcated embedded derivative instruments also were settled as part of the transaction.

The net carrying amounts of the Bridge Notes, including remaining unamortized debt discount and issuance costs, and the bifurcated embedded derivative liability were extinguished on the date of the Business Combination. A gain on debt extinguishment of $0.9 million was recognized, which represented the unamortized debt discounts and issuance costs remaining at the time of the debt extinguishment.

The following table summarizes information about the liability components the Company's 2018 Bridge Notes (in thousands):

2018 Bridge Notes	December 31, 2019	December 31, 2018
Principal amount outstanding	$ —	$ 6,800
Unamortized discount and issuance costs	—	(1,781)
Total current convertible notes payable, net	$ —	$ 5,019

There was no liability balance for the Company's 2019 Bridge Notes as of December 31, 2019 and 2018.

4. Stockholders' Equity

(a) Classes of Stock

The Company's amended and restated certificate of incorporation authorizes it to issue 50,000,000 shares of common stock and 5,000,000 shares of preferred stock. Both classes of stock have a par value of $0.0001 per share.

Pursuant to the Business Combination, the Company issued shares of its common stock to DermTech Operations common stockholders, at an exchange ratio of approximately 1.16 shares of the Company's common stock for each share of DermTech Operations common stock. In connection with and immediately following the Business Combination, the Company filed a certificate of amendment to its amended and restated certificate of incorporation to affect a one-for-two reverse stock split of its common stock. All stock information presented throughout this document have been adjusted to reflect these capital structure changes.

(b) Series C Convertible Preferred Stock Financing

In an effort to raise additional capital, DermTech Operations conducted a Series C Convertible Preferred Stock private offering in August of 2016 for a total offering amount of $15 million at a price per share of $9.54. During 2017, 559,849 shares of Series C Convertible Preferred Stock were issued for gross cash proceeds of $5.3 million, reduced by issuance costs of $0.4 million. In addition, 102,740 common stock warrants were issued with this offering, exclusive of compensatory warrants issued to the placement agent. During 2018, 506,539 shares of Series C Convertible Preferred Stock were issued for gross cash proceeds of $4.8 million, reduced by issuance costs of $0.3 million.

On May 23, 2019, DermTech Operations agreed to an amendment with the Series C Convertible Preferred Stockholders that immediately prior the consummation of a merger with or into the Company or any of its subsidiaries on or before September 24, 2019, the outstanding Series C Convertible Preferred Stock would convert into common stock at a one to one ratio in accordance with DermTech Operations' amended and restated certificate of incorporation. Immediately prior to the completion of the Business

Combination, each share of Series C Convertible Preferred Stock of DermTech Operations outstanding as of such time was automatically converted into one share of common stock of DermTech Operations.

(c) Series A Convertible Preferred Stock Issued in Connection with PIPE Financing

In connection with the PIPE transaction and on August 29, 2019, immediately following the completion of the Business Combination, the Company filed a Certificate of Designation of Preferences, Rights and Limitations for the Company's Series A Convertible Preferred Stock. An aggregate of 1,231 shares of Series A Convertible Preferred Stock for an aggregate purchase price of $4.0 million was issued to certain accredited investors in lieu of common stock where the investor elected to receive shares that would not be convertible to common stock if the conversion would result in the holder beneficially owning more than 9.99% of the Company's then-outstanding shares of common stock.

Preferred Dividends

Holders of Series A Convertible Preferred Stock are entitled to receive dividends on an as-converted basis equal to and in the same form as dividends paid on shares of the Company's common stock when, as and if these dividends are paid on the Company's common stock.

Preferred Liquidation Preference

Holders of Series A Convertible Preferred Stock will participate pari passu with the holders of the Company's common stock on an as-converted basis in the event of dissolution, liquidation or winding up of the Company.

Redemption

Series A Convertible Preferred Stock does not contain any mandatory redemption features. The Company's convertible preferred stock has been classified as temporary equity in the accompanying consolidated balance sheets in accordance with authoritative guidance for the classification and measurement of potentially redeemable securities whose redemption is based upon certain change in beneficial ownership events outside of the Company's control. The Company has determined not to adjust the carrying values of the convertible preferred stock to the liquidation preferences of such shares because of the uncertainty of whether or when such events would occur.

Conversion

Each share of the Company's Series A Convertible Preferred Stock is convertible into shares of the Company's common stock at a conversion price per share equal to $3.25, provided that in no event may any shares of the Company's Series A Convertible Preferred Stock be convertible if the conversion would result in the holder beneficially owning more than 9.99% of the Company's then-outstanding shares of common stock.

Voting Rights

The shares of the Company's Series A Convertible Preferred Stock have no voting rights, except with respect to certain protective provisions set forth in the Series A Certificate of Designation relating to the powers, preferences and rights of such shares.

(d) Accelerated Vesting in Association with Business Combination

On January 4, 2019, in contemplation of the Business Combination (refer to Note 8), DermTech Operations modified certain provisions of its stock-based compensation awards to all employees and certain non-employees to accelerate the vesting period for various outstanding stock awards.

In connection with the modifications, the incremental fair value of certain unvested stock option grants were measured at the date of the modification. For any options in which the fair value immediately after the modification was lower than the fair value immediately prior to the modification, no additional compensation expense was recognized. For options in which the fair value increased as a result of the modification and the award was not fully vested, the incremental fair value is being recognized as an expense over the remaining service period. For options that were modified and became fully vested as a result of the accelerated vesting, the Company recognized an expense for the remaining unrecognized grant date fair value. As a result of the accelerated vesting, the Company recognized stock-based compensation expense of $0.4 million related to this modification.

(e) Warrants

Public Warrants

The Company previously issued 14,936,250 warrants to purchase common stock in a public offering and a private placement which were each consummated on June 23, 2017 (the Public Warrants). The Public Warrants have a five year life from the date the Business Combination was consummated and every four Public Warrants entitle the holder to purchase one share at an exercise price of $23.00 per whole share (as adjusted for the Reverse Stock Split). Outstanding Public Warrants totaled 14,936,250 at both December 31, 2019 and 2018.

Series C Warrants

In connection with DermTech Operations' Series C Preferred Stock financing, investors that purchased at least $1 million of Series C Convertible Preferred Stock in a single closing received a three-year warrant to purchase common shares at an exercise price of $9.54 in the amount equal to 20% of shares of Series C Preferred Stock purchased. Outstanding Series C warrants totaled 202,897 and 292,119 at December 31, 2019 and 2018, respectively.

Placement Agent Warrants

In connection with several of DermTech Operations' financings that took place between 2015 and 2018, DermTech Operations engaged a registered placement agent to assist in marketing and selling of common and preferred units. From 2015 to 2016, 168,522 seven-year warrants were issued to purchase one common share at an exercise price of $8.68. From 2016 to 2018, 72,695 seven-year warrants were issued to purchase one common share at an exercise price of $9.54. Outstanding placement agent warrants totaled 241,217 at both December 31, 2019 and 2018.

(f) Stock-Based Compensation

In connection with the Business Combination, the Company adopted DermTech Operations' Amended and Restated 2010 Stock Option Plan (the Plan), which provides for the granting of incentive and non-statutory stock options and restricted stock purchase rights and bonus awards. Under the Plan, incentive and non-statutory stock options may be granted at not less than 100% of the fair market value of the Company's common stock on the date of grant. For incentive stock options granted to a ten percent shareholder under the Plan, the exercise price shall not be less than 110% of the fair market value of a share of stock on the effective date of grant. DermTech Operations initially reserved 1.0 million shares of common stock for issuance to its employees, non-employee directors and consultants. The Plan includes a provision which annually increases the amount of common stock reserved for issuance under the Plan. The reserved shares for issuance increased by 203,263 and 255,415 shares for the years ended December 31, 2019 and 2018, respectively. The contractual term of options granted under the Plan is ten years. Vesting provisions vary based on the specific terms of the individual option awards. 0.1 million and 0.5 million options remain available for future grant under the Plan as of December 31, 2019 and 2018, respectively.

The following table summarizes stock option transactions for the year ended December 31, 2019:

	Total options	Weighted average exercise price	Weighted average remaining contractual term (in years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2017	481,760	$ 3.20	7.44	$ 757
Granted	109,215	3.98		
Exercised	(726)	6.94		
Forfeited	(55,198)	4.10		
Outstanding at December 31, 2018	535,051	$ 3.25	6.86	$ 8
Granted	662,470	1.45		
Exercised	(725,719)	1.28		
Forfeited	(28,255)	2.63		
Outstanding at December 31, 2019	443,547	$ 3.84	7.80	$ 3,796
Options vested and expected to vest as of December 31, 2019	431,220	3.89	7.76	3,669
Options exercisable as of December 31, 2019	354,028	3.86	7.38	3,023

The following table summarizes RSU transactions for the year ended December 31, 2019:

	Total RSUs	Weighted average grant date fair value per share
Outstanding at December 31, 2017	242,574	$ 4.32
Granted	228,015	3.98
Forfeited	(5,022)	4.32
Outstanding at December 31, 2018	465,567	$ 4.15
Released	(339,025)	4.16
Forfeited	(126,542)	4.11
Outstanding at December 31, 2019	—	$ —
RSUs vested and expected to vest as of December 31, 2019	—	—
RSUs vested, but not yet issued as of December 31, 2019	—	—

Management Warrants

Warrants to purchase DermTech Operations common stock were issued to executive officers of DermTech Operations in lieu of issuing certain stock options (the Management Warrants). The Management Warrants were assumed by the Company in connection with the Business Combination. The Management Warrants have a ten year life and are exercisable for Company common stock at $1.08 per common share. The Management Warrants vest monthly over a four-year period. Outstanding Management Warrants totaled 22,320 at December 31, 2019 and 2018.

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance consists of the following at December 31, 2019 and December 31, 2018 (in thousands):

	December 31, 2019	December 31, 2018
Warrants to purchase common stock	466	1,177
Public Warrants to purchase common stock*	3,734	3,734
Stock options issued and outstanding	444	535
Restricted stock units issued and outstanding	—	466
Authorized for future option grants	143	689
Total common stock reserved for future issuance	4,787	6,601

* Public Warrants are presented as four Public Warrants are needed to purchase one share of common stock.

5. Income Taxes

The Company has reported net losses since inception and therefore, the minimum provision for state income taxes has been recorded. The following table provides a reconciliation between income taxes computed at the federal statutory rate of 21% at both December 31, 2019 and 2018, respectively, and the Company's provision for income taxes.

	Year ended December 31	
	2019	2018
Income tax at statutory rate	21.0%	21.0%
Permanent items	(0.8)	(1.2)
Tax credits	0.2	0.7
Valuation allowance (decrease) increase	(20.4)	(20.5)
Income tax expense	—%	—%

Significant components of the Company's deferred tax assets and liabilities from federal and state income taxes as of December 31 are shown below (in thousands):

	2019	2018
Deferred tax assets:		
Net operating loss	$ 20,336	$ 15,431
Research and development credits	1,400	1,473
Depreciation and amortization	33	112
Stock based compensation	119	114
Derivative liability	—	735
Accruals and other	194	86
	22,082	17,951
Less valuation allowance	(22,082)	(17,523)
Total deferred tax assets	—	428
Deferred tax liabilities:		
Debt discount	—	(428)
Net deferred tax assets	$ —	$ —

The Company has established a valuation allowance to offset the deferred tax assets as realization of such assets is not likely.

At December 31, 2019 and 2018, the Company had federal tax net operating loss (NOL) carryforwards of approximately $79.4 million and $59.4 million, respectively, as well as state tax net operating loss carryforwards at December 31, 2019 and 2018 of approximately $53.4 million and $45.6 million, respectively. The Company also had federal income tax research and development and other tax credit carryforwards at December 31, 2019 and 2018 of approximately $0.8 million and $0.7 million, respectively, and state income tax research and development and other tax credits totaling $0.8 million and $0.9 million at December 31, 2019 and 2018, respectively. The federal tax loss carryforwards will begin to expire in 2019, while the state tax loss carryforwards will begin to expire in 2028. The federal credit carryforwards will begin to expire in 2021 and the state credit carryforwards do not expire.

The utilization of NOL and tax credit carryforwards to offset future taxable income may be subject to an annual limitation as a result of ownership changes that have occurred previously or may occur in the future. Under Sections 382 and 383 of the Internal Revenue Code of 1986, as amended, (IRC), a corporation that undergoes an ownership change may be subject to limitations on its ability to utilize its pre-change NOLs and other tax attributes otherwise available to offset future taxable income and/or tax liability. An ownership change is defined as a cumulative change of 50% or more in the ownership positions of certain stockholders during a rolling three-year period. The Company has not completed a formal study to determine if any ownership changes within the meaning of IRC Section 382 and 383 have occurred. If an ownership change has occurred, the Company's ability to use its NOL or tax credit carryforwards may be restricted, which could require the Company to pay federal or state income taxes earlier than would be required if such limitations were not in effect.

The Company conducts intensive research and experimentation activities, generating research tax credits for federal and state purposes under IRC Section 41. The Company has not performed a formal study validating these credits claimed in the tax returns. Once a study is prepared, the amount of R&D, tax credits available could vary from what was originally claimed on the tax returns.

During 2018 and 2019, DermTech Operations issued convertible bridge notes that required bifurcation of embedded derivatives for financial statement purposes. As such deferred taxes were established for both the host instrument and the bifurcated embedded derivatives. Although the deferred tax balances offset at issuance, they will differ as the bifurcated embedded derivatives will be marked to fair value on an ongoing basis while the debt discount will be accounted for under the effective interest method. During 2019, all outstanding convertible bridge notes converted into equity that eliminated the debt discounts associated with the convertible bridge notes.

Due to the net operating loss carryforwards, the U.S. federal and state returns are open to examination for all years since inception.

Business Combination Tax Implications

In connection with the Business Combination, the Company changed its jurisdiction of incorporation from the British Virgin Islands to the State of Delaware. This reincorporation constituted a tax-free reorganization within the meaning of Section 368(a)(1)(F) of the IRC. The IRC provides that corporations and shareholders do not recognize gain with respect to certain qualifying reorganizations. To satisfy the requirements for this nonrecognition benefit, a transaction must meet one of the statutory definitions of a "reorganization" set forth in IRC Section 368(a)(1). IRC Section 368(a)(1)(F) provides that a reorganization includes a mere change in identity, form, or place of organization. As a result of the reincorporation, the Company will be treated as a U.S. corporation for federal income tax purposes.

For federal income tax purposes, the Business Combination qualified as a reverse triangular merger within the meaning IRC Sections 368(a) and 368(a)(2)(E). Additionally, the Company, Merger Sub, and DermTech Operations are all parties to the reorganization under IRC Section 368(b). As the transaction qualifies as reorganization under IRC Section 368(a), there are no tax consequences to either DermTech Operations or the Company and all tax attributes retain carryover basis.

6. Commitments and Contingencies

Operating Leases

In January 2013, DermTech Operations entered into a non-cancelable lease agreement for its operating facilities. In January 2014, DermTech Operations signed an amendment to the lease to extend the term through January 2017. In November 2016, DermTech Operations signed a second amendment to the lease to extend the term through March 2022. In August 2019, DermTech Operations signed a third amendment to the lease to add additional space, and in September 2019, the Company signed a fourth amendment to the lease to add additional space. In connection with the Business Combination, the Company assumed all obligations under the lease, as amended, from DermTech Operations. The Company records rent expense on a straight line basis over the life of the lease and the difference between the average rent expense and cash payments for rent is recorded as deferred rent and is included in accrued liabilities on the consolidated balance sheet. Rent and associated common area maintenance expense totaled $0.7 million and $0.6 million for the years ended December 31, 2019 and 2018, respectively.

Future minimum operating lease payments for the operating facilities as of December 31, 2019 were (in thousands):

2020	$	683
2021		703
2022		180
Total future minimum lease payments	$	1,566

Deferred Underwriting Fees

In connection with the execution of the Merger Agreement, the Company, DermTech Operations and Cowen and Company, LLC (Cowen) entered into a letter agreement, dated May 29, 2019, (the Deferred Underwriting Fee Assignment Agreement), pursuant to which the Company agreed to assign to DermTech Operations, and DermTech Operations agreed to assume, the Company's obligations under the Underwriting Agreement, dated as of June 19, 2017 (the Underwriting Agreement), by and among the Company and Cowen. On September 4, 2019, the Company, DermTech Operations and Cowen amended the Deferred Underwriting Fee Assignment Agreement, pursuant to which the Company paid Cowen $0.8 million for the reduction of the balance owed by the Company to Cowen under the Underwriting Agreement to $1.4 million.

Pursuant to the terms of the Deferred Underwriting Fee Assignment Agreement, as amended, if the Company raises at least $15.0 million in proceeds received from equity financings consummated prior to the one-year anniversary of the Business Combination, excluding the proceeds received from any financing consummated prior to or simultaneous with the Business Combination, then the Company will pay to the underwriters $1.4 million within one week of the one-year anniversary of the Business Combination. If the Company fails to raise such funds by the one-year anniversary of the Business Combination, then then Company will pay to the Underwriters $0.7 million within one week of the one-year anniversary of the Business Combination, and Cowen will have the option to extend the Company's payment deadline for the remaining balance of $0.7 million or receive $0.7 million in value of the Company's common stock (the Equity Payment) based on the then fair market value of the Company's common stock. The Company's payment to the Underwriters of $1.4 million, or its payment of $0.7 million plus the Equity Payment, in either case, shall satisfy the Company's obligation to pay Cowen the deferred underwriting fees in full, and no further payment of any kind shall be required of the Company in connection with the deferred underwriting fees.

Legal Proceedings

The Company is not currently party to any material legal proceedings.

7. Retirement Plan

The Company has an IRC Section 401(k) retirement plan, covering all employees. The Company does not offer a contribution percentage match.

8. Business Combination with DermTech Operations

On August 29, 2019, the Company completed the Business Combination with DermTech Operations. Upon the closing of the Business Combination, DermTech Operations became a wholly-owned subsidiary of the Company.

The Business Combination was accounted for as a reverse acquisition in accordance with ASC 805-40, Business Combinations, Reverse Acquisitions, as the stockholders of DermTech Operations obtained effective control of the Company through (1) a majority of the voting common stock of the post-merger company, (2) appointment of a majority of the board of directors, (3) continued business operations of DermTech Operations, including certain directors and management, and (4) the ability to appoint the executive officers of the combined company. Accordingly, the assets, liabilities and results of operations prior periods presented before the Business Combination reflect those of DermTech Operations. Since the Business Combination, the assets, liabilities, and results of operations have been presented on a consolidated basis. Historical stockholders' (deficit) equity of the Company prior to the Business Combination has been retroactively adjusted for the equivalent number of shares received by the stockholders of DermTech Operations after giving effect to any difference in par value of the Company and the DermTech Operations' stock, with any such difference recognized as additional paid-in capital. Retained earnings and other equity balances of the Company/DermTech Operations have been carried forward after the Business Combination. Certain direct costs incurred in connection with the Business Combination were expensed in the period that such costs were incurred and services were received. Approximately $0.2 million in printer fees related to the Business Combination were treated as a reduction of the total amount of equity raised as an offset to additional paid in capital.

9. Related Party Transactions

During 2019, the Company engaged EVERSANA Life Science Services, LLC, or EVERSANA, to provide certain marketing services to the Company. Leana Wood, the spouse of Todd Wood, the Company's Chief Commercial Offer, is an employee of EVERSANA. The Company incurred $0.4 million and $0 in costs for the year ended December 31, 2019 and 2018, respectively.

On October 1, 2019, we entered into a consulting agreement with Michael Dobak pursuant to which we will compensate Michael Dobak, in an amount not to exceed $100,000, for certain public relations and marketing services. Michael Dobak is the brother of Dr. John Dobak, the Company's Chief Executive Officer. The Company incurred $20,000 and $0 in costs for the year ended December 31, 2019 and 2018, respectively.

There were no other related party transactions identified in 2019 or 2018.

10. Subsequent Events

Headquarters Lease Amendment

On February 5, 2020 the Company entered into a fifth amendment with HCP Torrey Pines, LLC to expand the size of their existing premises by approximately 13,300 square feet from approximately 15,355 square feet to approximately 28,655 square feet. The amendment provides that base rent for the new premises will be $0.1 million per month that will increase slightly each year after the delivery of the new premises. Additionally, the amendment increased the security deposit under the existing lease agreement by $0.1 million from $0.1 million to $0.2 million. The amendment also provides the right to perform improvements in the Company's existing premises and the new premises, subject to certain conditions and procedures. The Company is entitled to a tenant improvement allowance for certain costs incurred while performing these improvements in the amount of $0.3 million, which amount may be increased by up to $0.1 million at our election and subject to a corresponding increase in rent. This lease amendment is not reflected in the operating lease section of Note 6 above as it occurred after December 31, 2019.

2020 Private Placement

On February 28, 2020, the Company entered into a securities purchase agreement, or the Purchase Agreement, with certain institutional investors for a private placement of the Company's equity securities, or the Private Placement. Cowen and Company,

LLC served as lead placement agent for the Private Placement, with William Blair & Company, L.L.C. acting as joint placement agent. Lake Street Capital Markets, LLC acted as co-placement agent.

The Private Placement consisted of 2,467,724 shares of common stock at a price of $10.50 per share, 3,198.9419 shares of Series B-1 Convertible Preferred Stock at a price of $10,500 per share, and 523.8094 shares of Series B-2 Convertible Preferred Stock at a price of $10,500 per share, for aggregate gross proceeds of approximately $65.0 million, and net proceeds to the Company of approximately $60.0 million, after deducting estimated offering expenses payable by the Company.

The Company considered subsequent events through March 10, 2020, the date the consolidated financial statements were available to be issued.