Filed pursuant to Rule 424(b)(3)
Under the Securities Act of 1933, as amended
Registration 333-239506

PROSPECTUS

Up to 4,500,000

Common Stock

This prospectus relates to the offer and sale of up to 4,500,000 shares of common stock, par value $0.01 per share of Precipio Inc., a Delaware corporation, or the Company, by Lincoln Park Capital Fund, LLC, or Lincoln Park or the Selling Stockholder.

The shares of common stock being offered by the Selling Stockholder have been or may be issued pursuant to the purchase agreement dated March 26, 2020 that we entered into with Lincoln Park. See "The Purchase Agreement" on page 6 for a description of that agreement and "Selling Stockholder" on page 23 for additional information regarding Lincoln Park. The prices at which Lincoln Park may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sale of shares by the Selling Stockholder.

The Selling Stockholder may sell the shares of common stock described in this prospectus in a number of different ways and at varying prices. See "Plan of Distribution" on page 39 for more information about how the Selling Stockholder may sell the shares of common stock being registered pursuant to this prospectus. The Selling Stockholder is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended.

We will pay the expenses incurred in registering the shares, including legal and accounting fees. See "Plan of Distribution".

Our common stock is listed on The NASDAQ Capital Market under the symbol "PRPO." The last reported sale price of our common stock on July 6, 2020 was $1.31 per share.

Investing in our common stock involves a high degree of risk. See "Risk Factors" in this prospectus to read about the factors you should consider before buying shares of our common stock.

We may amend or supplement this prospectus from time to time by filing amendments or supplements as required. You should read the entire prospectus and any amendments or supplements carefully before you make your investment decision.

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 July 7, 2020

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You should rely only on the information contained in this prospectus or in any free writing prospectus we file with the Securities and Exchange Commission. We have not authorized anyone to provide you with information different from that contained in this prospectus or any free writing prospectus. We take no responsibility for, and can provide no assurance, as to the reliability of any other information that others may give you. We are offering to sell and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date on the front cover of this prospectus, or other earlier date stated in this prospectus, regardless of the time of delivery of this prospectus or of any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since such date.

For investors outside of the United States: we have not done anything that would permit this offering outside the United States or to permit the possession or distribution of this prospectus outside the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside of the United States.

PROSPECTUS SUMMARY

This summary does not contain all of the information you should consider in making your investment decision. You should read the entire prospectus carefully, especially the "Risk Factors" ,our financial statements and the related notes from our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 27, 2020, as amended by Annual Report on Form 10-K/A for the fiscal year ended December 31, 2019, filed with the SEC on April 7, 2020, and our Quarterly Report on Form 10-Q for the first quarter ended March 31, 2020, filed with the SEC on May 14, 2020, before deciding to invest in shares of our common stock.

Overview

Precipio, Inc., and its subsidiaries, (collectively, "we", "us", "our", the "Company" or "Precipio") is a cancer diagnostics company providing diagnostic products and services to the oncology market. We have built and continue to develop a platform designed to eradicate the problem of misdiagnosis by harnessing the intellect, expertise and technologies developed within academic institutions, and delivering quality diagnostic information to physicians and their patients worldwide. We operate a cancer diagnostic laboratory located in New Haven, Connecticut and have partnered with various academic institutions to capture the expertise, experience and technologies developed within academia to provide a better standard of cancer diagnostics and aim to solve the growing problem of cancer misdiagnosis. We also operate a research and development facility in Omaha, Nebraska which focuses on development of various technologies, among them IV-Cell, HemeScreen and ICE-COLD-PCR, or ICP, the patented technology described further below, which we exclusively license from Dana-Farber Cancer Institute, Inc., or Dana-Farber, at Harvard University. The research and development center focuses on the development of these technologies, which we believe will enable us to commercialize these and other technologies developed with our current and future academic partners. The facility in Omaha was also recently certified as a CLIA and CAP facility, and we have begun conducting several molecular tests internally that we had previously outsourced to other laboratories. Our platform also connects patients, physicians and diagnostic experts residing within academic institutions.

Industry

We believe that there is currently a significant problem with unaddressed rates of misdiagnosis across numerous disease states (particularly in blood-related cancers) due to an inefficient and commoditized industry. We believe that the diagnostic industry focuses primarily on competitive pricing and test turnaround times, at the expense of quality and accuracy. Increasingly complex disease states are met with eroding specialization rather than increased expertise. According to a study conducted by the National Coalition of Health, this results in an industry with cancer misdiagnosis rates up to 28%, which is failing to meet the needs of physicians, patients and the healthcare system as a whole. New technologies offer improved accuracy; however, many are either inaccessible or are not economically practical for clinical use. Despite much publicity of the industry transitioning from fee-per-service to value-based payments, this transition has not yet occurred in diagnostics. When a patient is misdiagnosed, physicians end up administering incorrect treatments, often creating adverse effects rather than improving outcomes. We believe that Insurance Providers, Medicare and Medicaid waste valuable dollars on the application of incorrect treatments and can incur substantial downstream costs. Most importantly however, patients pay the ultimate price of misdiagnosis with increased morbidity and mortality. According to a report by Pinnacle Health, the estimated cost of misdiagnosis within the healthcare system is $750 billion annually. We are of the view that the academic path of specialization produces the critical expertise necessary to correctly diagnose disease and that academic institutions have an unlocked potential to address this problem. Our solution is to create an exclusive platform that harnesses academic expertise and proprietary technologies to deliver the highest standard of diagnostic accuracy and patient care. Physicians, hospitals, payors and, most importantly, patients all benefit from more accurate diagnostics.

Market

As a services and technology commercialization company, we currently participate in two components within the U.S. domestic oncology diagnostics market. The first is the anatomic pathology services market, which is

estimated to reach a $26.1 billion annual market by 2024 with a compound annual growth rate of 6.16%. The second component is the reagents market.

Our Platform

Our platform is designed to provide physicians and their patients access to necessary academic expertise and technology in order to better provide diagnoses. To our knowledge, we are the only company focused on addressing the issue of diagnostic accuracy with an innovative, robust and scalable business model by:

- Providing physicians and their patients access to world-class academic experts and technologies;
- Leveraging the largest network of academic experts by adding numerous leading academic institutions to our platform;
- Allowing payors to benefit from quality-based outcomes to their patients and increase the likelihood of cost savings; and
- Enabling cross-collaboration between physicians and academic institutions to advance research and discovery.

Our agreements with various academic institutions are part of a unique platform that, to our knowledge, is not offered by other commercial laboratories. Our customers are oncologists who biopsy their patients in order to confirm or rule out the presence of cancer. After our customers send the samples to us, we conduct all the technical tests at our New Haven facility. We then transmit the test results to the pathologists within our academic network who have access to our laboratory information system from their respective offices, enabling them to review and render their diagnostic interpretation of the test results for reporting. In partnership with an academic institution, we have developed a proprietary algorithm that is applied to each sample submitted to us for testing, resulting in our ability to render a more precise and accurate diagnosis. The final results are prepared by academic pathologists and integrated into the final report by us, and are then delivered electronically through our portal to the referring clinician. The patient's insurance is billed for the services; we are paid for the technical work done at our laboratory; and academic institutions either bill the patient insurance or are paid by us for their diagnostic interpretation.

Our Technology

1. *IV-Cell*

We have developed IV-Cell, a proprietary culture media that addresses the problem of selective culturing – by creating a universal media that enables simultaneous culturing of all 4 hematopoietic cell lineages. This ensures that no cell lineage is missed in the diagnostic process, and the technician is able to select any of the 4 lineages during the culturing process.

The diagnostic process of hematopoietic diseases involves chromosomal analysis by conducting cell-culture based tests by a cytogenetics laboratory to imitate in-vivo conditions. The four groups of cell lineages cultured are:

- Myeloid cells – indicating myeloid neoplasms (MDS, AML, CML);
- B-cells – indicating B-cell neoplasms (B-cell lymphoma, mantle cell lymphoma);
- T-cells – indicating T-cell neoplasms (T-cell lymphoma); and
- Plasma cells – indicating plasma cell neoplasms (multiple myeloma).

The cytogeneticist must decide up front which cell lineage to select to be cultured. In most cases, due to specimen limitation, low cellularity, or cell viability, the cytogeneticist can select only one of the above cell lines to culture. Often, the initial clinical suspicion is not in line with the final diagnosis determined by the pathologist based on the rest of the work up. Our internal data has shown that this occurs in approximately 50% of bone marrow biopsies. If the wrong cell lineage is selected, the diagnosis may be compromised (or return a false negative diagnosis) because the lab will be culturing and investigating the wrong cells.

IV-Cell was validated in our laboratory in parallel with existing commercially available reagents and has successfully demonstrated superior results. Subsequently, IV-Cell has been used at our laboratory for the past 2 years on >1,000 clinical specimens, producing superior diagnostic results. IV-Cell also produces chromosomes with an average band resolution of 500, approximately 25% higher than achieved with standard culture media.

We intend to commercialize this technology by providing major laboratories with access to the media. This can be achieved via a direct supply contract, whereby we will contract with a manufacturer (under license) to produce the media, and supply it to laboratories.

2. *HemeScreen*

Each year, an estimated 140,000 patients are diagnosed with diseases in the MPN or MDS blood cancer categories. The National Comprehensive Cancer Network (the "NCCN") guidelines require that these patients be tested for genetic mutations in four key genes:

- JAK2 (V617F);
- JAK2 (exon 12);
- CALR; and
- MPL

Precipio has developed and patented a proprietary screening panel for all 4 genes in one rapid scanning panel, HemeScreen. The test screens for the presence of these mutations in a very economic manner. Due to the improved economics, laboratories can reduce the batch requirements for the test while still enjoying a positive economic model and reducing the turnaround time for results, providing improved clinical service to physicians.

The clinical significance of these mutations is substantial to patient treatment. A positive result in either of the JAK2 mutations indicates the patient may be eligible for a targeted therapy. A positive result in the CALR or MPL gene indicates a good prognosis, meaning the disease is less aggressive, and the physician may therefore choose to treat the patient in a less aggressive manner. The results of these genetic tests are critical to determining a treatment plan, and therefore the importance, and the speed of which the results are delivered, may significantly impact patient care.

At the current reimbursement levels (approximately $600 for full panel at Medicare rates) and given the costs to run the tests, laboratories running the test in house must either batch samples to gain efficiency, or send the test out to another reference laboratory. Most hospital laboratories don’t have the volume and patient frequency to economically justify running the test, and therefore they send the test out. This has created an industry average turnaround time for results of between 2-4 weeks (depending on the lab providing the test).

Precipio offers two HemeScreen commercial options:

1. Reference the send-out to Precipio. We offer an average of a 2-day turnaround time for the test, markedly better than the industry average of approximately 2 weeks.

2. Precipio to provide the reagents on an RUO (Research Use Only) basis, and a laboratory can set up the test In-house test as an LDT (Laboratory Developed Test).

At an average reimbursement rate of approximately $600 per test, the US Market Revenue Potential is approximately $84 million per year, in addition to international demand.

3. ICE-COLD-PCR

ICP technology was developed at Harvard and is licensed exclusively to us by Dana-Farber. ICP is a unique, proprietary, patented specimen enrichment technology that increases the sensitivity of molecular based tests from approximately 90-95% to 99.99%. Traditional molecular testing is done on tumor biopsies. These tests are typically conducted at disease onset, when the patient undergoes a biopsy. In the typical course of treatment, a patient is rarely re-biopsied, and therefore, genetic information is based solely on the initial biopsy. Tumors are known to shed cells into the patient's bloodstream where they circulate alongside normal cells; however, existing testing methodologies are not sufficiently sensitive to differentiate between tumor and normal cells. The increased sensitivity provided by ICP allows for testing of genetic mutations that occur within tumors to be conducted on peripheral blood samples, termed liquid biopsies. This technical capability enables physicians to test for genetic mutations through a simple blood test rather than an invasive biopsy extracted from the actual tumor. The results of such tests can be used for diagnosis, prognosis and therapeutic decisions. The technology is encapsulated within a chemical (reagent) used during the specimen preparation process, which enriches (amplifies) the tumor DNA detected within the blood sample while suppressing the normal DNA. In addition to offering this technology as a clinical service, we are developing panels that will be sold as reagent kits to other laboratories to enable this testing in their facilities, thereby improving their test sensitivity and more accurate diagnoses via liquid biopsies. The business model of selling reagents to other laboratories expands the reach and impact of our technology while eliminating the reimbursement risks from running the tests in-house.

Gene sequencing is performed on tissue biopsies taken surgically from the tumor site in order to identify potential therapies that will be more effective in treating the patient. There are several limitations to this process. First, surgical procedures have several limitations, including:

- Cost: surgical procedures are usually performed in a costly hospital environment;
- Surgical access: various tumor sites are not always accessible (e.g. brain tumors), in which cases no biopsy is available for diagnosis;
- Risk: patient health may not permit undergoing an invasive surgery; therefore, a biopsy cannot be obtained at all; and
- Time: the process of scheduling and coordinating a surgical procedure often takes time, delaying the start of patient treatment.

Second, there are several tumor-related limitations that provide a challenge to obtaining such genetic information from a tumor:

- Tumors are heterogeneous by nature: a tissue sample from one area of the tumor may not properly represent the tumor's entire genetic composition; thus, the diagnostic results from a tumor may be incomplete and non-representative.
- Metastases: in order to accurately test a patient with metastatic disease, ideally an individual biopsy sample should be taken from each site (if those sites are even known). These biopsies are very difficult to obtain; therefore, physicians often rely on biopsies taken only from the primary tumor site.

We license the ICP technology from Dana-Farber through a license agreement referred to herein as the License Agreement. The License Agreement grants us an exclusive license to the ICP technology, subject to a non-exclusive license granted to the U.S. government, in the areas of mutation detection using Sanger (di-deoxy) sequencing and mitochondrial DNA analysis for all research, diagnostic, prognostic and therapeutic uses in humans, animals, viruses, bacteria, fungi, plants or fossilized material. The License Agreement also grants us a non-exclusive license in the areas of mutation detection using DHPLC, surveyor-endonuclease-based mutation detection and next generation sequencing techniques. We paid Dana-Farber an initial license fee and are required to make milestone payments with respect to the first five licensed products or services we develop using the licensed technology, as well as royalties ranging from high single to low double digits on net sales of licensed products and services for sales made by us and sales made to any distributors. The License Agreement remains in effect until we cease to sell licensed products or services under said agreement. Dana-Farber has the right to immediately terminate the License Agreement if (i) we cease to carry on our business with respect to licensed products and services, (ii) we fail to make any payments under the License Agreement (subject to a cure period), (iii) we fail to comply with due diligence obligations under the License Agreement (subject to a cure period), (iv) we default in our obligations to procure and maintain insurance as required by the License Agreement, (v) any of our officers is convicted of a felony relating to the manufacture, use, sale or importation of licensed products under the License Agreement, (vi) we materially breach any provision of the License Agreement (subject to a cure period), or (vii) we or Dana-Farber become insolvent. We may terminate the License Agreement for convenience upon 180 days' prior written notice.

Our Products & Services

Our initial product offering consists of clinical diagnostic services harnessing the expertise of pathologists from premier academic institutions and the commercialization and application of our various technologies. Our clinical diagnostic services focus on the diagnosis of different hematopoietic or blood-related cancers and the delivery of an accurate diagnosis to oncologists, with demonstrated superior results through the harnessing of subspecialized academic pathologists. We intend to enter into additional partnerships with premiere academic institutions during 2020 that will further broaden and strengthen our academic expert network. Our cutting-edge liquid biopsy technology, ICP, enables detection of abnormalities in blood samples down to as low as .01%. Our proprietary cytogenetics media IV-Cell enables laboratories to arrive at more accurate results while reducing inventory and other operating costs. Our proprietary HemeScreen panel enables hospitals and laboratories to run an important genetic mutation test at a lower cost, resulting in faster results delivered to physicians and their patients. Our customers are oncologists, hospitals, reference laboratories, and pharma and biotech companies. These technologies enable our customers to achieve more accurate results for their patients, with improved economics as well as clinical outcomes.

We built and obtained CLIA and CAP certifications to operate our New Haven laboratory. The laboratory is approximately 3,000 square feet and has several sub-departments such as flow cytometry, immuno-histochemistry, cytogenetics, and molecular testing. The laboratory is currently operated by fourteen lab technicians/technologists and is supervised by a laboratory manager, technical director and a medical director. Our laboratory is inspected every two years by a Connecticut state-appointed inspector and/or CAP. Furthermore, the laboratory supervisors and medical director must conduct a self-inspection every two years (rotating with the state inspection) and must submit those results to the state department of health.

Corporate Information

Precipio, Inc. was incorporated in Delaware on March 6, 1997. Our principal office is located at 4 Science Park, New Haven, Connecticut 06511.

Our website address is www.precipiodx.com. Information found on our website is not incorporated by reference into this report. We do not incorporate the information on or accessible through our website into this prospectus, and you should not consider any information on, or that can be accessed through, our website as part of this prospectus. Our current and future annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and other filings with the SEC are available, free of charge, through our website as soon as reasonably practicable after we electronically file such materials with, or furnish them to, the SEC. Our SEC filings can be accessed through the investors section of our website. The information contained on, or accessible through, our website is not intended to be part of this prospectus or any report we file with, or furnish to, the SEC and incorporated by reference herein. Our common stock trades on the NASDAQ Capital Market, or NASDAQ, under the symbol “PRPO.”

THE OFFERING

Common stock to be offered by the Selling Stockholder	4,500,000 shares we may sell to Lincoln Park under the Purchase Agreement from time to time after the date of this prospectus
Common stock outstanding prior to this offering	14,616,916 shares
Common stock to be outstanding after giving effect to the issuance of 4,500,000 shares under the Purchase Agreement registered hereunder	19,116,916 shares
Use of Proceeds	This prospectus relates to shares of our common stock that may be offered and sold from time to time by Lincoln Park. We will receive no proceeds from the sale of shares of common stock by Lincoln Park in this offering. We may receive up to $10,000,000 aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement. We have previously received $1,187,855 in aggregate gross proceeds from prior sales of 1,520,000 shares under the Purchase Agreement. We may sell up to an additional $8,812,145 of our shares to Lincoln Park under the Purchase Agreement and any proceeds that we receive from such sales will be used for working capital and general corporate purposes. See "Use of Proceeds."
Risk factors	This investment involves a high degree of risk. See "Risk Factors" for a discussion of factors you should consider carefully before making an investment decision.
Symbol on The NASDAQ Capital Market	"PRPO"

Purchase Agreement with Lincoln Park

On March 26, 2020, we entered into a purchase agreement with Lincoln Park, which we refer to in this prospectus as the Purchase Agreement, pursuant to which Lincoln Park has agreed to purchase from us up to an aggregate of $10,000,000 of our common stock (subject to certain limitations) from time to time over the term of the Purchase Agreement. Also on March 26, 2020, we entered into a registration rights agreement with Lincoln Park, which we refer to in this prospectus as the Registration Rights Agreement, pursuant to which we are required to file with the SEC a registration statement that includes this prospectus to register for resale under the Securities Act of 1933, as amended, or the Securities Act, the shares of common stock that have been or may be issued to Lincoln Park under the Purchase Agreement. Pursuant to the terms of the Purchase Agreement, at the time we signed the Purchase Agreement and the Registration Rights Agreement, we issued 250,000 shares of our common stock to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement, which we refer to in this prospectus as the Commitment Shares.

We do not have the right to commence any sales of our common stock to Lincoln Park under the Purchase Agreement until certain conditions set forth in the Purchase Agreement, all of which are outside of Lincoln Park's control, have been satisfied, including that the SEC has declared effective the registration statement that includes this prospectus. Thereafter, we may, from time to time and at our sole discretion, direct Lincoln Park to purchase shares of our common stock in amounts up to 50,000 shares on any single business day, subject to a maximum of $1,000,000 per purchase, plus other "accelerated amounts" and/or "additional accelerated amounts" under certain circumstances. There are no trading volume requirements or restrictions under the Purchase Agreement, and we will

control the timing and amount of any sales of our common stock to Lincoln Park. The purchase price of the shares that may be sold to Lincoln Park under the Purchase Agreement will be based on the market price of our common stock preceding the time of sale as computed under the Purchase Agreement. The purchase price per share will be equitably adjusted for any reorganization, recapitalization, non-cash dividend, stock split, or other similar transaction occurring during the business days used to compute such price. We may at any time in our sole discretion terminate the Purchase Agreement without fee, penalty or cost upon one business day notice. There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement, other than a prohibition on entering into a "Variable Rate Transaction," as defined in the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

As of June 25, 2020, there were 14,616,916 shares of our common stock outstanding, of which 13,783,457 shares were held by non-affiliates. As of the date of this prospectus, we have already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park which were registered pursuant to the registration statement on Form S-1A (File No. 333-237441) filed on April 8, 2020.

Although the Purchase Agreement provides that we may sell up to $10,000,000 of our common stock to Lincoln Park, only 4,500,000 shares of our common stock are being offered under this prospectus. Depending on the market prices of our common stock at the time we elect to issue and sell our shares to Lincoln Park under the Purchase Agreement, we may need to register for resale under the Securities Act additional shares of our common stock in order to receive aggregate gross proceeds equal to the $10,000,000. We have previously received $1,187,855 in aggregate gross proceeds from prior sales of 1,520,000 shares, in the aggregate, under the Purchase Agreement. We may sell up to an additional $8,812,145 of our shares to Lincoln Park under the Purchase Agreement. If all of the 4,500,000 shares offered by Lincoln Park under this prospectus were issued and outstanding as of the date hereof, such shares would represent approximately 23.5 % of the total number of shares of our common stock outstanding and approximately 24.6 % of the total number of outstanding shares held by non-affiliates, in each case as of the date hereof. If we elect to issue and sell more than the 4,500,000 shares offered under this prospectus to Lincoln Park, which we have the right, but not the obligation, to do, we must first register for resale under the Securities Act any such additional shares, which could cause additional substantial dilution to our stockholders. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement.

Under applicable rules of The NASDAQ Capital Market, in no event may we issue or sell to Lincoln Park under the Purchase Agreement more than 19.99% of the shares of our common stock outstanding immediately prior to the execution of the Purchase Agreement (which is 1,774,024 shares based on 8,870,129 shares outstanding immediately prior to the execution of the Purchase Agreement), which limitation we refer to as the Exchange Cap, unless (i) we obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap or (ii) the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds $0.7306 (which represents the closing consolidated bid price of our common stock on March 25, 2020 , plus an incremental amount to account for our issuance of the Commitment Shares to Lincoln Park), such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable NASDAQ rules. In any event, the Purchase Agreement specifically provides that we may not issue or sell any shares of our common stock under the Purchase Agreement if such issuance or sale would breach any applicable rules or regulations of The NASDAQ Capital Market. On June 25, 2020, we received the requisite approval of our shareholders to issue shares of common stock in excess of the Exchange Cap.

The Purchase Agreement also prohibits us from directing Lincoln Park to purchase any shares of common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would result in Lincoln Park and its affiliates having beneficial ownership, at any single point in time, of more than 4.99% of the then total outstanding shares of our common stock, as calculated pursuant to Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, and Rule 13d-3 thereunder, which limitation we refer to as the Beneficial Ownership Cap.

Issuances of our common stock in this offering will not affect the rights or privileges of our existing stockholders, except that the economic and voting interests of each of our existing stockholders will be diluted as a result of any such issuance. Although the number of shares of common stock that our existing stockholders own will not decrease, the shares owned by our existing stockholders will represent a smaller percentage of our total outstanding shares after any such issuance to Lincoln Park.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below together with all of the other information contained in this prospectus, including our financial statements and the related notes in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 27, 2020, as amended by Annual Report on Form 10-K/A for the fiscal year ended December 31, 2019, filed with the SEC on April 7, 2020, and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2020, filed with the SEC on May 14, 2020, before deciding to invest in our common stock. If any of the following risks actually occur, our business, prospects, operating results and financial condition could suffer materially, the trading price of our common stock could decline and you could lose all or part of your investment. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business.

Risks Related to Our Business and Strategy

There is substantial doubt about our ability to continue as a going concern.

Our independent registered public accounting firm has issued an opinion on our consolidated financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 27, 2020, that states that the consolidated financial statements were prepared assuming there is substantial doubt about our ability to continue as a going concern. Our consolidated financial statements have been prepared using accounting principles generally accepted in the United States of America applicable for a going concern, which assume that we will realize our assets and discharge our liabilities in the ordinary course of business. We have incurred substantial operating losses and have used cash in our operating activities for the past few years. For the year ended December 31, 2019, we had a net loss of $13.2 million, negative working capital of $2.5 million and net cash used in operating activities of $9.1 million. For the three months ended March 31, 2020, we had a net loss of $3.2 million, negative working capital of $5.0 million and net cash used in operating activities of $1.6 million. We are not current in making payments to all lenders and vendors. Our consolidated financial statements do not include any adjustments to the amounts and classification of assets and liabilities that may be necessary should we be unable to continue as a going concern. We also cannot be certain that additional financing, if needed, will be available on acceptable terms, or at all, and our failure to raise capital when needed could limit our ability to continue our operations. There remains substantial doubt about the Company's ability to continue as a going concern for the next twelve months from the date of this registration statement.

To date, we have experienced negative cash flow from development of our diagnostic technology, as well as from the costs associated with establishing a laboratory and building a sales force to market our products and services. We expect to incur substantial net losses for the foreseeable future to further develop and commercialize our diagnostic technology. We also expect that our selling, general and administrative expenses will continue to increase due to the additional costs associated with market development activities and expanding our staff to sell and support our products. Our ability to achieve or, if achieved, sustain profitability is based on numerous factors, many of which are beyond our control, including the market acceptance of our products, competitive product development and our market penetration and margins. We may never be able to generate sufficient revenue to achieve or, if achieved, sustain profitability.

Because of the numerous risks and uncertainties associated with further development and commercialization of our diagnostic technology and any future tests, we are unable to predict the extent of any future losses or when we will become profitable, if ever. We may never become profitable and you may never receive a return on an investment in our securities. An investor in our securities must carefully consider the substantial challenges, risks and uncertainties inherent in the development and commercialization of tests in the medical diagnostic industry. We may never successfully commercialize our diagnostic technology or any future tests, and our business may fail.

We will require significant additional financing to sustain our operations and without it we will not be able to continue operations.

At March 31, 2020, we had a working capital deficit of $5.0 million. We had an operating cash flow deficit of $1.6 million for the three months ended March 31, 2020 and a net loss of $3.2 million for the three months ended March 31, 2020. We do not currently have sufficient financial resources to fund our operations or those of our subsidiary. Therefore, we need additional funds to continue these operations.

To facilitate ongoing operations and product development, on March 26, 2020, the Company entered into a purchase agreement with Lincoln Park (the "LP Purchase Agreement"), pursuant to which Lincoln Park has agreed to purchase up to an aggregate of $10,000,000 of common stock of the Company (subject to certain limitations) from time to time over the term of the LP Purchase Agreement.

Per the terms of the LP Purchase Agreement, we may direct Lincoln Park to purchase up to $10,000,000 worth of shares of our common stock under our agreement over a 24-month period generally in amounts up to 50,000 shares of our common stock, which may be increased to up to 100,000 shares of our common stock depending on the market price of our common stock at the time of sale and subject to a maximum commitment by Lincoln Park of $1,000,000 per regular purchase. The purchase price for Regular Purchases shall be equal to the lesser of: (i) the lowest sale price of the common shares during the Purchase Date, or (ii) the average of the three (3) lowest closing sale prices of the common shares during the ten (10) business days prior to the Purchase Date.

The extent we rely on Lincoln Park as a source of funding will depend on a number of factors including, the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. If obtaining sufficient funding from Lincoln Park were to prove unavailable or prohibitively dilutive, we will need to secure another source of funding in order to satisfy our working capital needs. Even if we sell all $10,000,000 under the Purchase Agreement to Lincoln Park, we may still need additional capital to fully implement our business, operating and development plans. Should the financing we require to sustain our working capital needs be unavailable or prohibitively expensive when we require it, the consequences could be a material adverse effect on our business, operating results, financial condition and prospects. As of June 25, 2020, we have already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park

We will need to raise substantial additional capital to commercialize our diagnostic technology, and our failure to obtain funding when needed may force us to delay, reduce or eliminate our product development programs or collaboration efforts or force us to restrict or cease operations.

As of March 31, 2020, we had cash of $0.4 million and our working capital was approximately negative $5.0 million. Due to our recurring losses from operations and the expectation that we will continue to incur losses in the future, we will be required to raise additional capital to complete the development and commercialization of our current product candidates and to pay off our obligations. To date, to fund our operations and develop and commercialize our products, we have relied primarily on equity and debt financings. When we seek additional capital, we may seek to sell additional equity and/or debt securities or to obtain a credit facility, which we may not be able to do on favorable terms, or at all. Our ability to obtain additional financing will be subject to a number of factors, including market conditions, our operating performance and investor sentiment. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of our product candidates, restrict or cease our operations or obtain funds by entering into agreements on unattractive terms.

We have incurred losses since our inception and expect to incur losses for the foreseeable future. We cannot be certain that we will achieve or sustain profitability.

We have incurred losses since our inception and expect to incur losses in the future. As of December 31, 2019, we had a net loss of $13.2 million, negative working capital of $2.5 million and net cash used in operating activities of $9.1 million. For the year ended December 31, 2019, we experienced negative cash flow from development of our diagnostic technology, as well as from the costs associated with establishing a laboratory and building a sales force to market our products and services. For the three months ended March 31, 2020, we had a net loss of $3.2 million, negative working capital of $5.0 million and net cash used in operating activities of $1.6 million. We expect to incur substantial net losses for the foreseeable future to further develop and commercialize our diagnostic technology. We also expect that our selling, general and administrative expenses will continue to increase due to the additional costs associated with market development activities and expanding our staff to sell and support our products. Our ability to achieve or, if achieved, sustain profitability is based on numerous factors, many of which are beyond our control, including the market acceptance of our products, competitive product development and our market penetration and margins. We may never be able to generate sufficient revenue to achieve or, if achieved, sustain profitability.

Because of the numerous risks and uncertainties associated with further development and commercialization of our diagnostic technology and any future tests, we are unable to predict the extent of any future losses or when we will become profitable, if ever. We may never become profitable and you may never receive a return on an investment in our securities. An investor in our securities must carefully consider the substantial challenges, risks and uncertainties inherent in the development and commercialization of tests in the medical diagnostic industry. We may never successfully commercialize our diagnostic technology or any future tests, and our business may fail.

We are subject to concentrations of revenue risk and concentrations of credit risk in accounts receivable.

We have had several customers who have individually represented 10% or more of our total revenue, or whose accounts receivable balances individually represented 10% or more of our total accounts receivable.

For the three months ended March 31, 2020, two customers represented approximately 37% of our total revenue and for the three months ended March 31, 2019 one customer accounted for 22% of our total revenue. We expect to maintain the relationship with these customers, however, the loss of, or significant decrease in demand from, any of our top customers could have a material adverse effect on our business, results of operations and financial condition.

At March 31, 2020, two customers accounted for approximately 61% of our total accounts receivable and at December 31, 2019 two customers accounted for 29% of our total accounts receivable. The business risks associated with this concentration, including increased credit risks for these and other customers and the possibility of related bad debt write-offs, could negatively affect our margins and profits. Additionally, the loss of any of our top customers, whether through competition or consolidation, or a disruption in sales to such a customer, could result in a decrease of the Company's future sales, earnings and cash flows. Generally, we do not require collateral or other securities to support our accounts receivable and while we are directly affected by the financial condition of our customers, management does not believe significant credit risks exist at March 31, 2020.

We have been, and may continue to be, subject to costly litigation.

We have been, and may continue to be, subject to legal proceedings. Due to the nature of our business and our lack of sufficient capital resources to pay our obligations on a timely basis, we may be subject to a variety of regulatory investigations, claims, lawsuits and other proceedings in the ordinary course of our business. The results of these legal proceedings cannot be predicted with certainty due to the uncertainty inherent in litigation, including the effects of discovery of new evidence or advancement of new legal theories, the difficulty of predicting decisions of judges and juries and the possibility that decisions may be reversed on appeal. Such litigation has been, and in the future, could be, costly, time-consuming and distracting to management, result in a diversion of resources and could materially adversely affect our business, financial condition and operating results.

In addition, we may settle some litigation through the issuance of equity securities which may result in significant dilution to our stockholders.

The commercial success of our product candidates will depend upon the degree of market acceptance of these products among physicians, patients, health care payors and the medical community and on our ability to successfully market our product candidates.

Our products may never gain significant acceptance in the marketplace and, therefore, may never generate substantial revenue or profits for us. Our ability to achieve commercial market acceptance for our existing and future products will depend on several factors, including:

- our ability to convince the medical community of the clinical utility of our products and their potential advantages over existing diagnostics technology;
- the willingness of physicians and patients to utilize our products; and
- the agreement by commercial third-party payors and government payors to reimburse our products, the scope and amount of which will affect patients' willingness or ability to pay for our products and will likely heavily influence physicians' decisions to recommend our products.

In addition, physicians may rely on guidelines issued by industry groups, such as the NCCN, medical societies, such as the College of American Pathologists, or CAP, or other key oncology-related organizations before utilizing any diagnostic test. Although we have a study underway to demonstrate the clinical utility of our existing products, none of our products are, and may never be, listed in any such guidelines.

We believe that publications of scientific and medical results in peer-reviewed journals and presentations at leading conferences are critical to the broad adoption of our products. Publication in leading medical journals is subject to a peer-review process, and peer reviewers may not consider the results of studies involving our products sufficiently novel or worthy of publication. The failure to be listed in physician guidelines or to be published in peer-reviewed journals could limit the adoption of our products. Failure to achieve widespread market acceptance of our products would materially harm our business, financial condition, and results of operations.

If we cannot compete successfully with our competitors, including new entrants in the market, we may be unable to increase or sustain our revenue or achieve and sustain profitability.

The medical diagnostic industry is intensely competitive and characterized by rapid technological progress. We face significant competition from competitors ranging in size from diversified global companies with significant research and development resources to small, specialized firms whose narrower product lines may allow them to be more effective in deploying related PCR technology in the genetic diagnostic industry. Our closest competitors fall largely into two groups, consisting of companies that specialize in oncology and offer directly competing services to our diagnostic services, offering their services to oncologists and pathology departments within hospitals, as well as large commercial companies that offer a wide variety of laboratory tests that range from simple chemistry tests to complex genetic testing. The technologies associated with the molecular diagnostics industry are evolving rapidly and there is intense competition within such industry. Certain molecular diagnostics companies have established technologies that may be competitive to our product candidates and any future tests that we develop. Some of these tests may use different approaches or means to obtain diagnostic results, which could be more effective or less expensive than our tests for similar indications. Moreover, these and other future competitors have or may have considerably greater resources than we do in terms of technology, sales, marketing, commercialization and capital resources. These competitors may have substantial advantages over us in terms of research and development expertise, experience in clinical studies, experience in regulatory issues, brand name exposure and expertise in sales and marketing as well as in operating central laboratory services. Many of these organizations have financial, marketing and human resources greater than ours; therefore, there can be no assurance that we can successfully compete with present or potential competitors or that such competition will not have a materially adverse effect on our business, financial position or results of operations.

We are currently engaged in a study, which commenced in July 2017, to demonstrate the impact of academic pathology expertise on diagnostic accuracy. There is no assurance that this study, or other studies or trials we may conduct, will demonstrate favorable results. If the results of this study, or other studies or trials we may conduct, demonstrate unfavorable or inconclusive results, customers may choose our competitors' products over our products and our commercial opportunities may be reduced or eliminated.

We believe that many of our competitors spend significantly more on research and development-related activities than we do. Our competitors may discover new diagnostic tools or develop existing technologies to compete with our diagnostic technology. Our commercial opportunities will be reduced or eliminated if these competing products are more effective, are more convenient or are less expensive than our product candidates.

We may not be able to develop new products or enhance the capabilities of our systems to keep pace with rapidly changing technology and customer requirements, which could have a material adverse effect on our business and operating results.

Our success depends on our ability to develop new products and applications for our diagnostic technology in existing and new markets, while improving the performance and cost-effectiveness of our systems. New technologies, techniques or products could emerge that might offer better combinations of price and performance than our current or future products and systems. Existing or future markets for our products, as well as potential markets for our diagnostic product candidates, are characterized by rapid technological change and innovation. It is critical to our success that we anticipate changes in technology and customer requirements and successfully introduce new, enhanced and competitive technologies to meet our customers' and prospective customers' needs on a timely and cost-effective basis. At the same time, however, we must carefully manage the introduction of new products. If customers believe that such products will offer enhanced features or be sold for a more attractive price, they may delay purchases until such products are available. We may also have excess or obsolete inventory of older products as we transition to new products and our experience in managing product transitions is very limited. If we do not successfully innovate and introduce new technology into our product lines or effectively manage the transitions to new product offerings, our revenues and results of operations will be adversely impacted.

Competitors may respond more quickly and effectively than we do 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 as new companies enter the market with new technologies.

We currently depend on the services of pathologists and the loss of the services of these pathologists would adversely impact our ability to develop, commercialize and deliver our products.

We currently depend on the services of pathologists to review and render their diagnostic interpretation of our test results and to prepare the final diagnostic results that we integrate into our final report for our customers. Although we are in the process of adding new academic partners, it would be difficult to replace the services provided by the pathologists at our current partner if their services became unavailable to us for any reason prior to adding other academic partners. If this academic partner does not successfully carry out its contractual duties or obligations and meet expected deadlines; if this partner needs to be replaced, or if the quality or accuracy of the services provided by the pathologists at this partner were compromised for any reason, we would likely not be able to provide our services in a manner expected by our customers, and our financial results and the commercial prospects for our products could be harmed. The loss of the services of these pathologists would severely harm our ability to develop, commercialize and deliver our products, and our business, financial condition and operating results would be materially adversely affected.

We face risks related to health pandemics and other widespread outbreaks of contagious disease, including the novel coronavirus, COVID-19, which could significantly disrupt our operations and impact our financial results.

Our business could be disrupted and materially adversely affected by the recent outbreak of COVID-19. In December 2019, an outbreak of respiratory illness caused by a strain of novel coronavirus, COVID-19, began in China. As of April 2020, that outbreak has led to numerous confirmed cases worldwide, including in the United States. The outbreak and government measures taken in response have also had a significant impact, both direct and indirect, on businesses and commerce. Global health concerns, such as coronavirus, could also result in social, economic, and labor instability in the countries in which we or the third parties with whom we engage operate.

The spread of COVID-19 has created a worldwide humanitarian and economic crisis. The events we are living through are in many ways unprecedented, with large-scale quarantines, border closings, school closings, and physical distancing. Governments and communities have been jolted into action to "flatten the curve." As an organization we have accelerated our actions to protect employees, customers and suppliers.

The future progression of the outbreak and its effects on our business and operations are uncertain. While we can only estimate the financial impacts to our business, based on current data, we have experienced business interruptions in certain urban markets ranging from 30% to 85%. With the understanding that it is extremely difficult to project the full and ongoing impact of state-by-state quarantine and shelter-in-place orders, we anticipate that such rules and restrictions on businesses will continue through the second quarter of 2020 and quite possibly beyond, in various degrees, as the country re-opens state by state, county by county and city by city. Returning to normalcy is conditioned on many factors surrounding the control and or eradication of COVID-19. As such, outside of what has been disclosed, we are unable to provide additional insight on the impact to our business at this time.

Going forward, we expect that challenges to our business will continue. We have been and will continue to be prudent in managing through this economic crisis. Digital connectivity is now fundamental to the continuity of our business operations. We continually engage our employees and customers in keeping safe. We monitor adherence to governmental guidelines. We have employed remote work where possible. In this unchartered time, we recognize the need for frequent and transparent communication to all parties. As necessary, we will provide additional information related to this economic condition, including the impact to our future operating results due to downturns in global economies and financial markets

We face risks related to the Paycheck Protection Program loan, which could negatively impact our financial position.

On April 23, 2020, the Company entered into a Promissory Note evidencing an unsecured $787,200 loan (the "PPP Loan") under the Paycheck Protection Program (the "PPP"). The PPP was established under the recently congressionally-approved Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") and is administered by the U.S. Small Business Administration. The PPP Loan to the Company is being made through Webster Bank, N.A.

The term of the PPP Loan is two years. The interest rate on the PPP Loan is 1.00% and payments shall be deferred for the first six months of the term of the loan. Under the terms of the CARES Act, PPP Loan recipients can apply for and be granted forgiveness for all or a portion of loans granted under the PPP. Such forgiveness will be determined, subject to limitations, based on the use of loan proceeds for payroll costs and mortgage interest, rent or utility costs and the maintenance of employee and compensation levels. The Company intends to use all or a significant majority of the PPP Loan amount for qualifying expenses but no assurance is provided that the Company will obtain forgiveness of the PPP Loan in whole or in part. If forgiveness is not granted, the PPP Loan, in whole or in part, will need to be repaid by the Company, which could have an adverse effect on our future cash flows and financial position.

We may experience temporary disruptions and delays in processing biological samples at our facilities.

We may experience delays in processing biological samples caused by software and other errors. Any delay in processing samples could have an adverse effect on our business, financial condition and results of operations.

We depend upon a limited number of key personnel, and if we are not able to retain them or recruit additional qualified personnel, the commercialization of our product candidates and any future tests that we develop could be delayed or negatively impacted.

Our success is largely dependent upon the continued contributions of our officers and employees. Our success also depends in part on our ability to attract and retain highly qualified scientific, commercial and administrative personnel. In order to pursue our test development and commercialization strategies, we will need to attract and hire additional personnel with specialized experience in a number of disciplines, including assay development, laboratory and clinical operations, sales and marketing, billing and reimbursement. There is intense competition for personnel in the fields in which we operate. If we are unable to attract new employees and retain existing employees, the development and commercialization of our product candidates and any future tests could be delayed or negatively impacted. If any of them becomes unable or unwilling to continue in their respective positions, and we are unable to find suitable replacements, our business and financial results could be materially negatively affected.

We will need to increase the size of our organization, and we may experience difficulties in managing growth.

We are a small company with 50 full-time employees as of June 25, 2020. Future growth will impose significant added responsibilities on members of management, including the need to identify, attract, retain, motivate and integrate highly skilled personnel. We may increase the number of employees in the future depending on the progress of our development of diagnostic technology. Our future financial performance and our ability to commercialize our product candidates and to compete effectively will depend, in part, on our ability to manage any future growth effectively. To that end, we must be able to:

- integrate additional management, administrative, manufacturing and regulatory personnel;
- maintain sufficient administrative, accounting and management information systems and controls; and
- hire and train additional qualified personnel.

We may not be able to accomplish these tasks, and our failure to accomplish any of them could harm our financial results.

We currently have limited experience in marketing products. If we are unable to establish marketing and sales capabilities and retain the proper talent to execute on our sales and marketing strategy, we may not be able to generate product revenue.

We have developed limited experience in marketing our products and services. We intend to continue to develop our in-house marketing organization and sales force, which will require significant capital expenditures,

management resources and time. We will have to compete with other diagnostic companies to recruit, hire, train and retain marketing and sales personnel.

If we are unable to further grow our internal sales, marketing and distribution capabilities, we may pursue collaborative arrangements regarding the sales and marketing of our product candidates or future products, however, we may not be able to establish or maintain such collaborative arrangements, or if we are able to do so, they may not have effective sales forces. Any revenue we receive will depend upon the efforts of such third parties, which may not be successful. We may have little or no control over the marketing and sales efforts of such third parties and our revenue from product sales may be lower than if we had commercialized our product candidates ourselves. We also face competition in our search for third parties to assist us with the sales and marketing efforts of our product candidates.

Cybersecurity risks could compromise our information and expose us to liability, which may harm our ability to operate effectively and may cause our business and reputation to suffer.

Cybersecurity refers to the combination of technologies, processes and procedures established to protect information technology systems and data from unauthorized access, attack, or damage. We rely on our information systems to provide security for processing, transmission and storage of confidential information about our patients, customers and personnel, such as names, addresses and other individually identifiable information protected by the Health Insurance Portability and Accountability Act, ("HIPAA"), other privacy laws. Cyber-attacks are increasingly more common, including in the health care industry. The regulatory environment surrounding information security and privacy is increasingly demanding, with the frequent imposition of new and changing requirements. Compliance with changes in privacy and information security laws and with rapidly evolving industry standards may result in our incurring significant expense due to increased investment in technology and the development of new operational processes.

We have not experienced any known attacks on our information technology systems that compromised any confidential information. We maintain our information technology systems with safeguard protection against cyber-attacks including passive intrusion protection, firewalls and virus detection software. However, these safeguards do not ensure that a significant cyber-attack could not occur. Although we have taken steps to protect the security of our information systems and the data maintained in those systems, it is possible that our safety and security measures will not prevent the systems' improper functioning or damage or the improper access or disclosure of personally identifiable information such as in the event of cyber-attacks.

Security breaches, including physical or electronic break-ins, computer viruses, attacks by hackers and similar breaches can create system disruptions or shutdowns or the unauthorized disclosure of confidential information. If personal information or protected health information is improperly accessed, tampered with or disclosed as a result of a security breach, we may incur significant costs to notify and mitigate potential harm to the affected individuals, and we may be subject to sanctions and civil or criminal penalties if we are found to be in violation of the privacy or security rules under HIPAA or other similar federal or state laws protecting confidential personal information. In addition, a security breach of our information systems could damage our reputation, subject us to liability claims or regulatory penalties for compromised personal information and could have a material adverse effect on our business, financial condition and results of operations.

Our ability to use net operating loss carryforwards to offset future taxable income for U.S. federal tax purposes is subject to limitation and risk that could further limit our ability to utilize our net operating losses.

Under U.S. federal income tax law, a corporation's ability to utilize its net operating losses, or NOLs, to offset future taxable income may be significantly limited if it experiences an "ownership change" as defined in Section 382 of the Internal Revenue Code, as amended. In general, an ownership change will occur if there is a cumulative change in a corporation's ownership by "5-percent shareholders" that exceeds 50 percentage points over a rolling three-year period. A corporation that experiences an ownership change will generally be subject to an annual limitation on the use of its pre-ownership change NOLs equal to the value of the corporation immediately before the ownership change, multiplied by the long-term tax-exempt rate (subject to certain adjustments). The annual limitation for a taxable year generally is increased by the amount of any "recognized built-in gains" for such year and the amount of any unused annual limitation in a prior year. On December 22, 2017, a law commonly known as the Tax Cuts and Jobs Act, or the TCJ Act, was enacted in the United States. Certain provisions of the TCJ Act impact the ability to utilize NOLs generated in 2018 and forward; any limitation to our annual use of NOLs could require us to pay a greater amount of U.S. federal (and in some cases, state) income taxes, which could reduce our after-tax income from operations for future taxable years and adversely impact our financial condition. Beginning in 2018, under the Act, federal loss carryforwards have an unlimited carryforward period, however such losses can only offset 80% of taxable income in any one year.

Reimbursement and Regulatory Risks Relating to Our Business

Governmental payors and health care plans have taken steps to control costs.

Medicare, Medicaid and private insurers have increased their efforts to control the costs of health care services, including clinical testing services. They may reduce fee schedules or limit/exclude coverage for certain types of tests that we perform. Medicaid reimbursement varies by state and is subject to administrative and billing requirements and budget pressures. We expect efforts to reduce reimbursements, impose more stringent cost controls and reduce utilization of testing services will continue. These efforts, including changes in laws or regulations, may have a material adverse impact on our business.

Changes in payer mix could have a material adverse impact on our net sales and profitability.

Testing services are billed to physicians, patients, government payors such as Medicare, and insurance companies. Tests may be billed to different payors depending on a particular patient's medical insurance coverage. Government payors have increased their efforts to control the cost, utilization and delivery of health care services as

well as reimbursement for laboratory testing services. Further reductions of reimbursement for Medicare and Medicaid services or changes in policy regarding coverage of tests or other requirements for payment, such as prior authorization or a physician or qualified practitioner's signature on test requisitions, may be implemented from time to time. Reimbursement for the laboratory services component of our business is also subject to statutory and regulatory reduction. Reductions in the reimbursement rates and changes in payment policies of other third party payors may occur as well. Such changes in the past have resulted in reduced payments as well as added costs and have decreased test utilization for the clinical laboratory industry by adding more complex new regulatory and administrative requirements. As a result, increases in the percentage of services billed to government payors could have an adverse impact on our net sales.

Our laboratories require ongoing CLIA certification.

The Clinical Laboratory Improvement Amendments of 1988, or CLIA, extended federal oversight to virtually all clinical laboratories by requiring that they be certified by the federal government or by a federally-approved accreditation agency. The CLIA requires that all clinical laboratories meet quality assurance, quality control and personnel standards. Laboratories must also undergo proficiency testing and are subject to inspections.

The sanctions for failure to comply with the CLIA requirements include suspension, revocation or limitation of a laboratory's CLIA certificate, which is necessary to conduct business, cancellation or suspension of the laboratory's approval to receive Medicare and/or Medicaid reimbursement, as well as significant fines and/or criminal penalties. The loss or suspension of a CLIA certification, imposition of a fine or other penalties, or future changes in the CLIA law or regulations (or interpretation of the law or regulations) could have a material adverse effect on us.

We believe that we are in compliance with all applicable laboratory requirements, but no assurances can be given that our laboratories will pass all future certification inspections.

Failure to comply with HIPAA could be costly.

HIPAA and associated regulations protect the privacy and security of certain patient health information and establish standards for electronic health care transactions in the United States. These privacy regulations establish federal standards regarding the uses and disclosures of protected health information. Our laboratories are subject to HIPAA and its associated regulations. If we fail to comply with these laws and regulations we could suffer civil and criminal penalties, fines, exclusion from participation in governmental health care programs and the loss of various licenses, certificates and authorizations necessary to operate our patient testing business. We could also incur liabilities from third party claims.

Our failure to comply with any applicable government laws and regulations or otherwise respond to claims relating to improper handling, storage or disposal of hazardous chemicals that we use may adversely affect our results of operations.

Our research and development and commercial activities involve the controlled use of hazardous materials and chemicals. We are subject to federal, state, local and international laws and regulations governing the use, storage, handling and disposal of hazardous materials and waste products. If we fail to comply with applicable laws or regulations, we could be required to pay penalties or be held liable for any damages that result and this liability could exceed our financial resources. We cannot be certain that accidental contamination or injury will not occur. Any such accident could damage our research and manufacturing facilities and operations, resulting in delays and increased costs.

We may become subject to the Anti-Kickback Statute, Stark Law, False Claims Act, Civil Monetary Penalties Law and may be subject to analogous provisions of applicable state laws and could face substantial penalties if we fail to comply with such laws.

There are several federal laws addressing fraud and abuse that apply to businesses that receive reimbursement from a federal health care program. There are also a number of similar state laws covering fraud and abuse with respect to, for example, private payors, self-pay and insurance. Currently, we receive a substantial percentage of our revenue from private payors and from Medicare. Accordingly, our business is subject to federal fraud and abuse laws, such as the Anti-Kickback Statute, the Stark Law, the False Claims Act, the Civil Monetary Penalties Law and other similar laws. Moreover, we are already subject to similar state laws. We believe we have operated, and intend to continue to operate, our business in compliance with these laws. However, these laws are subject to modification and changes in interpretation, and are enforced by authorities vested with broad discretion. Federal and state enforcement entities have significantly increased their scrutiny of healthcare companies and providers which has led to investigations, prosecutions, convictions and large settlements. We continually monitor developments in this area. If these laws are interpreted in a manner contrary to our interpretation or are reinterpreted or amended, or if new legislation is enacted with respect to healthcare fraud and abuse, illegal remuneration, or similar issues, we may be required to restructure our affected operations to maintain compliance with applicable law. There can be no assurances that any such restructuring will be possible or, if possible, would not have a material adverse effect on our results of operations, financial position, or cash flows.

Anti-Kickback Statute

A federal law commonly referred to as the "Anti-Kickback Statute" prohibits the knowing and willful offer, payment, solicitation or receipt of remuneration, directly or indirectly, in return for the referral of patients or arranging for the referral of patients, or in return for the recommendation, arrangement, purchase, lease or order of items or services that are covered, in whole or in part, by a federal healthcare program such as Medicare or Medicaid. The term "remuneration" has been broadly interpreted to include anything of value such as gifts, discounts, rebates, waiver of payments or providing anything at less than its fair market value. The Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the PPACA, amended the intent requirement of the Anti-Kickback Statute such that a person or entity can be found guilty of violating the statute without actual knowledge of the statute or specific intent to violate the statute. Further, the PPACA now provides that claims submitted in violation of the Anti-Kickback Statute constitute false or fraudulent claims for purposes of the federal False Claims Act, or FCA, including the failure to timely return an overpayment. Many states have adopted similar prohibitions against kickbacks and other practices that are intended to influence the purchase, lease or ordering of healthcare items and services reimbursed by a governmental health program or state Medicaid program. Some of these state prohibitions apply to remuneration for referrals of healthcare items or services reimbursed by any third-party payor, including commercial payors and self-pay patients.

Stark Law

Section 1877 of the Social Security Act, or the Stark Law, prohibits a physician from referring a patient to an entity for certain "designated health services" reimbursable by Medicare if the physician (or close family members) has a financial relationship with that entity, including an ownership or investment interest, a loan or debt relationship or a compensation relationship, unless an exception to the Stark Law is fully satisfied. The designated health services covered by the law include, among others, laboratory and imaging services. Some states have self-referral laws similar to the Stark Law for Medicaid claims and commercial claims.

Violation of the Stark Law may result in prohibition of payment for services rendered, a refund of any Medicare payments for services that resulted from an unlawful referral, $15,000 civil monetary penalties for specified infractions, criminal penalties, and potential exclusion from participation in government healthcare programs, and potential false claims liability. The repayment provisions in the Stark Law are not dependent on the parties having an improper intent; rather, the Stark Law is a strict liability statute and any violation is subject to repayment of all amounts arising out of tainted referrals. If physician self-referral laws are interpreted differently or if other legislative restrictions are issued, we could incur significant sanctions and loss of revenues, or we could have to change our arrangements and operations in a way that could have a material adverse effect on our business, prospects, damage to our reputation, results of operations and financial condition.

False Claims Act

The FCA prohibits providers from, among other things, (1) knowingly presenting or causing to be presented, claims for payments from the Medicare, Medicaid or other federal healthcare programs that are false or fraudulent; (2) knowingly making, using or causing to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the federal government; or (3) knowingly making, using or causing to be made or used, a false record or statement to avoid, decrease or conceal an obligation to pay money to the federal government. The "qui tam" or "whistleblower" provisions of the FCA allow private individuals to bring actions under the FCA on behalf of the government. These private parties are entitled to share in any amounts recovered by the government, and, as a result, the number of "whistleblower" lawsuits that have been filed against providers has increased significantly in recent years. Defendants found to be liable under the FCA may be required to pay three times the actual damages sustained by the government, plus civil penalties ranging between $5,500 and $11,000 for each separate false claim.

There are many potential bases for liability under the FCA. The government has used the FCA to prosecute Medicare and other government healthcare program fraud such as coding errors, billing for services not provided, and providing care that is not medically necessary or that is substandard in quality. The PPACA also provides that claims submitted in connection with patient referrals that result from violations of the Anti-Kickback Statute constitute false claims for the purpose of the FCA, and some courts have held that a violation of the Stark law can result in FCA liability, as well. In addition, a number of states have adopted their own false claims and whistleblower provisions whereby a private party may file a civil lawsuit in state court. We are required to provide information to our employees and certain contractors about state and federal false claims laws and whistleblower provisions and protections.

Civil Monetary Penalties Law

The Civil Monetary Penalties Law prohibits, among other things, the offering or giving of remuneration to a Medicare or Medicaid beneficiary that the person or entity knows or should know is likely to influence the beneficiary's selection of a particular provider or supplier of items or services reimbursable by a federal or state healthcare program. This broad provision applies to many kinds of inducements or benefits provided to patients, including complimentary items, services or transportation that are of more than a nominal value. This law could affect how we have to structure our operations and activities.

Products and services offered RUO may be subject to regulatory scrutiny.

Certain of our products are currently labeled and sold for RUO and not for the diagnosis or treatment of disease. Because such products are not intended for diagnostic use, and the products do not include clinical or diagnostic claims or provide directions for use as diagnostic products, they are not subject to the same level of regulation by the FDA as medical devices. In particular, while the FDA regulations require that RUO products be appropriately labeled, "For Research Use Only," the regulations do not subject such products to the FDA's pre- and post-market controls for medical devices. Pursuant to FDA guidance on RUO products, a company may not make clinical or diagnostic claims about an RUO product or provide clinical directions or clinical support services to customers of RUO products. A product labeled RUO but deemed by the FDA to be intended for clinical diagnostic use may be viewed by the FDA as adulterated and misbranded under the FDCA and subject to FDA enforcement action. The FDA considers the totality of the circumstances surrounding distribution and use of a product labeled as RUO, including how the product is marketed and to whom, when determining its intended use. If the FDA were to disagree with our RUO classification or modify its approach to regulating products labeled for RUO, we could experience reduced revenue or increased compliance and other costs, which could adversely affect our business, prospects, results of operations and financial condition. In the event that the FDA requires marketing authorization of our RUO products in the future, the FDA may not ultimately grant any clearance, authorization or approval requested by us in a timely manner, or at all.

Intellectual Property Risks Related to Our Business

We cannot be certain that measures taken to protect our intellectual property will be effective.

We rely upon trade secrets, copyright and trademark laws, non-disclosure agreements and other contractual confidentiality provisions to protect our confidential and proprietary information that we are not seeking patent protection for various reasons. Such measures, however, may not provide adequate protection for our trade secrets or other proprietary information. If such measures do not protect our rights, third parties could use our technology and our ability to compete in the market would be reduced.

We depend on certain technologies that are licensed to us. We do not control these technologies and any loss of our rights to them could prevent us from selling some of our products.

We have entered into license agreements with third parties for certain licensed technologies that are, or may become, relevant to the products we market, or plan to market, including our license agreement with Dana-Farber pursuant to which we license our ICP technology. In addition, we may in the future elect to license third party intellectual property to further our business objectives and/or as needed for freedom to operate for our products. We do not and will not own the patents, patent applications or other intellectual property rights that are the subject of these licenses. Our rights to use these technologies and employ the inventions claimed in the licensed patents, patent applications and other intellectual property rights are or will be subject to the continuation of and compliance with the terms of those licenses.

We might not be able to obtain licenses to technology or other intellectual property rights that we require. Even if such licenses are obtainable, they may not be available at a reasonable cost or multiple licenses may be needed for the same product (e.g., stacked royalties). We could therefore incur substantial costs related to royalty payments for licenses obtained from third parties, which could negatively affect our gross margins. Further, we could encounter delays in product introductions, or interruptions in product sales, as we develop alternative methods or products.

In some cases, we do not or may not control the prosecution, maintenance, or filing of the patents or patent applications to which we hold licenses, or the enforcement of these patents against third parties. As a result, we cannot be certain that drafting or prosecution of the licensed patents and patent applications by the licensors have been or will be conducted in compliance with applicable laws and regulations or will result in valid and enforceable patents and other intellectual property rights.

Third parties may assert ownership or commercial rights to inventions we develop.

Third parties may in the future make claims challenging the inventorship or ownership of our intellectual property. For example, third parties that have been introduced to or have benefited from our inventions may attempt to replicate or reverse engineer our products and circumvent ownership of our inventions. In addition, we may face claims that our agreements with employees, contractors, or consultants obligating them to assign intellectual property to us are ineffective, or in conflict with prior or competing contractual obligations of assignment, which could result in ownership disputes regarding intellectual property we have developed or will develop and interfere with our ability to capture the commercial value of such inventions. Litigation may be necessary to resolve an ownership dispute, and if we are not successful, we may be precluded from using certain intellectual property, or may lose our exclusive rights in that intellectual property. Either outcome could have an adverse impact on our business.

Third parties may assert that our employees or consultants have wrongfully used or disclosed confidential information or misappropriated trade secrets.

Although we try to ensure that our employees and consultants do not use the proprietary information or know-how of others in their work for us, we may be subject to claims that we or our employees, consultants or independent contractors have inadvertently or otherwise used or disclosed intellectual property, including trade secrets or other proprietary information, of a former employer or other third parties. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

The testing, manufacturing and marketing of medical diagnostic devices entails an inherent risk of product liability and personal injury claims.

To date, we have experienced no product liability or personal injury claims, but any such claims arising in the future could have a material adverse effect on our business, financial condition and results of operations. Potential product liability or personal injury claims may exceed the amount of our insurance coverage or may be excluded from coverage under the terms of our policy or limited by other claims under our umbrella insurance policy. Additionally, our existing insurance may not be renewed by us at a cost and level of coverage comparable to that presently in effect, if at all. In the event that we are held liable for a claim against which we are not insured or for damages exceeding the limits of our insurance coverage, such claim could have a material adverse effect on our cash flow and thus potentially a materially adverse effect on our business, financial condition and results of operations.

All of our diagnostic technology development and our clinical services are performed at two laboratories, and in the event either or both of these facilities were to be affected by a termination of the lease or a man-made or natural disaster, our operations could be severely impaired.

We are performing all of our diagnostic services in our CLIA laboratory located in New Haven, Connecticut and our research and development operations are based in our facility in Omaha, Nebraska. Despite precautions taken by us, any future natural or man-made disaster at these laboratories, such as a fire, earthquake or terrorist activity, could cause substantial delays in our operations, damage or destroy our equipment and testing samples or cause us to incur additional expenses.

In addition, we are leasing the facilities where our laboratories operate. We are currently in compliance with all and any lease obligations, but should the leases terminate for any reason, or if at any time either of the laboratories is moved due to conditions outside our control, it could cause substantial delay in our diagnostics operations, damage or destroy our equipment and biological samples or cause us to incur additional expenses. In the event of an extended shutdown of either laboratory, we may be unable to perform our services in a timely manner or at all and therefore would be unable to operate in a commercially competitive manner. This could harm our operating results and financial condition.

Further, if we have to use a substitute laboratory while our facilities were shut down, we could only use another facility with established state licensure and accreditation under CLIA. We may not be able to find another CLIA-certified facility and comply with applicable procedures, or find any such laboratory that would be willing to perform the tests for us on commercially reasonable terms. Additionally, any new laboratory opened by us would be subject to certification under CLIA and licensure by various states, which would take a significant amount of time and result in delays in our ability to continue our operations.

An impairment in the carrying value of our intangible assets could negatively affect our results of operations.

A significant portion of our assets are intangible assets which are reviewed at least annually for impairment. If we do not realize our business plan, our intangible assets may become impaired resulting in an impairment loss in our results of operations.

Risks Related to Our Common Stock

The price of our common stock may fluctuate significantly, which could negatively affect us and holders of our common stock.

There has been, and continues to be, a limited public market for our common stock, and an active trading market for our common stock has not and may never develop or, if developed, be sustained. The trading price of our common stock may be highly volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. These factors include:

These factors include:

- actual or anticipated fluctuations in our financial condition and operating results:
- actual or anticipated changes in our growth rate relative to our competitors;
- competition from existing products or new products that may emerge;
- announcements by us, our academic institution partners, or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations, or capital commitments;
- failure to meet or exceed financial estimates and projections of the investment community or that we provide to the public and the revision of any financial estimates and projections that we provide to the public;
- issuance of new or updated research or reports by securities analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- additions, transitions or departures of key management or scientific personnel;
- disputes or other developments related to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;
- changes to reimbursement levels by commercial third-party payors and government payors, including Medicare, and any announcements relating to reimbursement levels;
- Government shut-down or partial shut-downs impacting the financial markets, the United States Securities and Exchange Commission and other related agencies;
- announcement or expectation of additional debt or equity financing efforts;
- sales of our common stock by us, our insiders, or our other stockholders; and
- general economic and market conditions

These and other market and industry factors may cause the market price and demand for our common stock to fluctuate substantially, regardless of our actual operating performance, which may limit or prevent investors from readily selling their shares of our common stock and may otherwise negatively affect the liquidity of our common stock. In addition, the stock market in general has experienced price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of these companies. In the past, when the market price of

a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

The price of our stock may be vulnerable to manipulation.

We believe our common stock has been the subject of significant short selling by certain market participants. Short sales are transactions in which a market participant sells a security that it does not own. To complete the transaction, the market participant must borrow the security to make delivery to the buyer. The market participant is then obligated to replace the security borrowed by purchasing the security at the market price at the time of required replacement. If the price at the time of replacement is lower than the price at which the security was originally sold by the market participant, then the market participant will realize a gain on the transaction. Thus, it is in the market participant's interest for the market price of the underlying security to decline as much as possible during the period prior to the time of replacement.

Because our unrestricted public float has been small relative to other issuers, previous short selling efforts have impacted, and may in the future continue to impact, the value of our stock in an extreme and volatile manner to our detriment and the detriment of our shareholders. Efforts by certain market participants to manipulate the price of our common stock for their personal financial gain may cause our stockholders to lose a portion of their investment, may make it more difficult for us to raise equity capital when needed without significantly diluting existing stockholders, and may reduce demand from new investors to purchase shares of our stock.

If we cannot continue to satisfy NASDAQ listing maintenance requirements and other rules, our securities may be delisted, which could negatively impact the price of our securities.

Although our common stock is listed on the NASDAQ Capital Market, we may be unable to continue to satisfy the listing maintenance requirements and rules. If we are unable to satisfy The NASDAQ Stock Market, or NASDAQ, criteria for maintaining our listing, our securities could be subject to delisting.

On April 29, 2020, we received a letter from the Listing Qualifications Department of NASDAQ notifying the Company that from March 17, 2020 to April 28, 2020, the closing bid price per share of its common stock was below the $1.00 minimum bid price requirement for continued listing on NASDAQ pursuant to Nasdaq Listing Rule 5550(a)(2) (the "Minimum Bid Price Requirement"). As a result, the Company was notified by NASDAQ that it is not in compliance with the Minimum Bid Price Requirement.

NASDAQ has provided the Company with 180 calendar days from the date of notification in which to regain compliance with the Minimum Bid Price Requirement. Additionally, due to the ongoing volatility in the world financial markets due to the COVID-19 pandemic, NASDAQ has determined to toll the compliance period for the Minimum Bid Price Requirement through June 30, 2020, and as a result, the Company has until December 28, 2020 to regain compliance with the Minimum Bid Price Requirement. If at any time prior to December 28, 2020, the closing bid price of the Company's common stock is at least $1.00 for a minimum of ten consecutive business days, the Company will be considered by NASDAQ to have regained compliance with the Minimum Bid Price Requirement.

This notification has no immediate effect on the Company's listing on NASDAQ or on the trading of the Company's common stock.

If the Company's common stock does not regain compliance with the Minimum Bid Price Requirement during this grace period, it will be eligible for an additional grace period of 180 calendar days provided that the Company satisfies NASDAQ's continued listing requirement for market value of publicly held shares and all other initial listing standards for listing on NASDAQ, other than the minimum bid price requirement, and provides written notice to NASDAQ of its intention to cure the delinquency during the second grace period. If the Company meets these requirements, NASDAQ will inform the Company that it has been granted an additional 180 calendar days. However, if it appears to Staff that the Company will not be able to cure the deficiency, or if the Company is otherwise not eligible, NASDAQ will provide notice that its securities will be subject to delisting.

If NASDAQ delists our securities, we could face significant consequences, including:

- a limited availability for market quotations for our securities;
- reduced liquidity with respect to our securities;
- a determination that our common stock is a "penny stock," which will require brokers trading in our common stock to adhere to more stringent rules and possibly result in reduced trading;
- activity in the secondary trading market for our common stock;
- limited amount of news and analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

In addition, we would no longer be subject to NASDAQ rules, including rules requiring us to have a certain number of independent directors and to meet other corporate governance standards.

Increased costs associated with corporate governance compliance may significantly impact our results of operations.

As a public company, we incur significant legal, accounting, and other expenses due to our compliance with regulations and disclosure obligations applicable to us, including compliance with the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act, as well as rules implemented by the SEC, and NASDAQ. The SEC and other regulators have continued to adopt new rules and regulations and make additional changes to existing regulations that require our compliance. In July 2010, the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, was enacted. There are significant corporate governance and executive compensation related provisions in the Dodd-Frank Act that have required the SEC to adopt additional rules and regulations in these areas. Stockholder activism, the current political environment, and the current high level of government intervention and regulatory reform may lead to substantial new regulations and disclosure obligations, which may lead to additional compliance costs and impact, in ways we cannot currently anticipate, the manner in which we operate our business. Our management and other personnel devote a substantial amount of time to these compliance programs and monitoring of public company reporting obligations, and as a result of the new corporate governance and executive compensation related rules, regulations, and guidelines prompted by the Dodd-Frank Act, and further regulations and disclosure obligations expected in the future, we will likely need to devote additional time and costs to comply with such compliance programs and rules. These rules and regulations will cause us to incur significant legal and financial compliance costs and will make some activities more time-consuming and costly.

The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal control over financial reporting. We are continuing to develop and refine our disclosure controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file with the SEC is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and that information required to be disclosed in reports under the Exchange Act is accumulated and communicated to our principal executive and financial officers. Our current controls and any new controls that we develop may become inadequate, and weaknesses in our internal control over financial reporting may be discovered in the future. Any failure to develop or maintain effective controls could adversely affect the results of periodic management evaluations and annual independent registered public accounting firm attestation reports regarding the effectiveness of our internal control over financial reporting, which we may be required to include in our periodic reports that we file with the SEC under Section 404 of the Sarbanes-Oxley Act, and could harm our operating results, cause us to fail to meet our reporting obligations, or result in a restatement of our prior period financial statements. If we are not able to demonstrate compliance with the Sarbanes-Oxley Act, that our internal control over financial reporting is perceived as inadequate, or that we are unable to produce timely or accurate financial statements, investors may lose confidence in our operating results, and the price of our common stock could decline.

We are required to comply with certain of the SEC rules that implement Section 404 of the Sarbanes-Oxley Act, which requires management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of our internal control over financial reporting. This assessment needs to include the disclosure of any material weaknesses in our internal control over financial reporting identified by our management or our independent registered public accounting firm. During the evaluation and testing process, if we identify one or more material weaknesses in our internal control over financial reporting or if we are unable to complete our evaluation, testing, and any required remediation in a timely fashion, we will be unable to assert that our internal control over financial reporting is effective.

These developments could make it more difficult for us to retain qualified members of our Board of Directors, or qualified executive officers. We are presently evaluating and monitoring regulatory developments and cannot estimate the timing or magnitude of additional costs we may incur as a result. To the extent these costs are significant, our general and administrative expenses are likely to increase.

We have not paid dividends on our common stock in the past and do not expect to pay dividends on our common stock for the foreseeable future. Any return on investment may be limited to the value of our common stock.

No cash dividends have been paid on our common stock. We expect that any income received from operations will be devoted to our future operations and growth. We do not expect to pay cash dividends on our common stock in the near future. Payment of dividends would depend upon our profitability at the time, cash available for those dividends, and other factors as our board of directors may consider relevant. If we do not pay dividends, our common stock may be less valuable because a return on an investor's investment will only occur if our stock price appreciates. Investors in our common stock should not rely on an investment in our company if they require dividend income.

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

The trading market for our common stock relies in part on the research and reports that equity research analysts publish about us and our business. We do not control these analysts. The price of our common stock could decline if one or more equity research analysts downgrade our common stock or if they issue other unfavorable commentary or cease publishing reports about us or our business.

The sale or issuance of our common stock to Lincoln Park may cause significant dilution and the sale of the shares of common stock acquired by Lincoln Park, or the perception that such sales may occur, could cause the price of our common stock to fall.

On March 26, 2020, we entered into the LP Purchase Agreement pursuant to which Lincoln Park has agreed to purchase up to an aggregate of $10,000,000 of our common stock (subject to certain limitations) from time to time. Per the terms of the LP Purchase Agreement, we may direct Lincoln Park to purchase up to $10,000,000 worth of shares of our common stock over a 24-month period.

On June 25, 2020 we obtained shareholder approval to issue shares of our common stock in excess of the Exchange Cap.

The extent we rely on Lincoln Park as a source of funding will depend on a number of factors including, the prevailing market price of our common stock and the extent to which we are able to secure working capital from other sources. The purchase price for the shares that we may sell to Lincoln Park under the Purchase Agreement will fluctuate based on the market price of our common stock. Depending on market liquidity at the time, sales of such shares may cause the trading price of our common stock to fall. We generally have the right to control the timing and amount of any future sales of our shares to Lincoln Park. Additional sales of our common stock, if any, to Lincoln Park will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us could result in substantial dilution to the interests of other holders of our common stock. Additionally, the sale of a substantial number of shares of our common stock to Lincoln Park, or the anticipation of such sales, could make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect sales.

As of June 25, 2020, we have already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park.

The issuance of our common stock to creditors or litigants may cause significant dilution to our stockholders and cause the price of our common stock to fall

We may seek to settle outstanding obligations to vendors, debtholders or litigants in any litigation through the issuance of our common stock or other security to such persons. Such issuances may cause significant dilution to our stockholders and cause the price of our common stock to fall.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, including the sections entitled "Prospectus Summary," "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business," contains forward-looking statements that are based on our management's belief and assumptions and on information currently available to our management. Although we believe that the expectations reflected in these forward-looking statements are reasonable, these statements relate to our strategy, future operations, future financial position, future revenue, projected costs, prospects, plans, objectives of management and expected market growth, and involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from any future results, levels of activity, performance or achievements expressed or implied by these forward-looking statements. Forward-looking statements in this prospectus include, but are not limited to, statements about:

- our use of the net proceeds from this offering;
- the progress, timing and amount of expenses associated with our development and commercialization activities;
- our plans and ability to develop and commercialize new products and services, and make improvements to our existing products and services;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others;
- our ability or the amount of time it will take to achieve successful reimbursement of our existing and future products and services from third-party payors, such as commercial insurance companies and health maintenance organizations, and government insurance programs, such as Medicare and Medicaid;
- the accuracy of our estimates of the size and characteristics of the markets that may be addressed by our products;
- the success of our study to demonstrate the impact of academic pathology expertise on diagnostic accuracy, and any other studies or trials we may conduct;
- our intention to seek, and our ability to establish, strategic collaborations or partnerships for the development or sale of our products and the effectiveness of such collaborations or partnerships;
- our expectations as to future financial performance, expense levels and liquidity sources;
- our anticipated cash needs and our estimates regarding our capital requirements and our needs for additional financing, as well as our ability to obtain such additional financing on reasonable terms;
- our ability to compete with other companies that are or may be developing or selling products that are competitive with our products;
- our ability to build a sales force to market our products and services, and anticipated increases in our sales and marketing costs due to an expansion in our sales force and marketing activities;
- federal and state regulatory requirements, including potential United States Food and Drug Administration regulation of our products or future products;
- anticipated trends and challenges in our potential markets;
- our ability to attract and retain key personnel; and
- other factors discussed elsewhere in this prospectus.

In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expects," "intends," "plans," "anticipates," "believes," "estimates," "predicts," "potential," "continue" or the negative of these terms or other comparable terminology. These statements are only predictions. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties and other factors, which are, in some cases, beyond our control and which could materially affect results. Factors that may cause actual results to differ materially from current expectations include, among other things, those listed under "Risk Factors" and elsewhere in this prospectus. If one or more of these risks or uncertainties occur, or if our underlying assumptions prove to be incorrect, actual events or results may vary significantly from those implied or projected by the forward-looking statements. No forward-looking statement is a guarantee of future performance. You should read this prospectus and the documents that we reference in this prospectus and have filed with the SEC as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding

that our actual future results may be materially different from any future results expressed or implied by these forward-looking statements.

The forward-looking statements in this prospectus represent our views as of the date of this prospectus. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements at some point in the future, we have no current intention of doing so except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this prospectus.

USE OF PROCEEDS

This prospectus relates to shares of our common stock that may be offered and sold from time to time by Lincoln Park. We will receive no proceeds from the sale of shares of common stock by Lincoln Park in this offering. We may receive up to $10,000,000 aggregate gross proceeds under the Purchase Agreement from any sales we make to Lincoln Park pursuant to the Purchase Agreement after the date of this prospectus. We estimate that the net proceeds to us from the sale of our common stock to Lincoln Park pursuant to the Purchase Agreement will be up to $9,949,000 over approximately a 24-month period, assuming that we sell the full amount of our common stock that we have the right, but not the obligation, to sell to Lincoln Park under that agreement and other estimated fees and expenses. See "Plan of Distribution" on page 39 in this prospectus for more information. As of the date of this prospectus, we may sell up to an additional $8,812,145 of shares having already received approximately $1,187,855 from the sale 1,520,000 shares of common stock to Lincoln Park exclusive of the 4,500,000 shares of common stock registered hereunder.

We expect to use any proceeds that we receive under the Purchase Agreement for working capital and general corporate purposes.

SELLING STOCKHOLDER

This prospectus relates to the possible resale by the selling stockholder, Lincoln Park, of shares of common stock that have been or may be issued to Lincoln Park pursuant to the Purchase Agreement. We are filing the registration statement of which this prospectus forms a part pursuant to the provisions of the Registration Rights Agreement, which we entered into with Lincoln Park on March 26, 2020 concurrently with our execution of the Purchase Agreement, in which we agreed to provide certain registration rights with respect to sales by Lincoln Park of the shares of our common stock that have been or may be issued to Lincoln Park under the Purchase Agreement.

Lincoln Park, as the selling stockholder, may, from time to time, offer and sell pursuant to this prospectus any or all of the shares that we have issued or may sell to Lincoln Park under the Purchase Agreement. The selling stockholder may sell some, all or none of its shares. We do not know how long the selling stockholder will hold the shares before selling them, and we currently have no agreements, arrangements or understandings with the selling stockholder regarding the sale of any of the shares.

The following table presents information regarding the selling stockholder and the shares that it may offer and sell from time to time under this prospectus. The table is prepared based on information supplied to us by the selling stockholder, and reflects its holdings as of March 25, 2020. Neither Lincoln Park nor any of its affiliates has held a position or office, or had any other material relationship, with us or any of our predecessors or affiliates. Beneficial ownership is determined in accordance with Section 13(d) of the Exchange Act and Rule 13d-3 thereunder.

Selling Stockholder	Shares Beneficially Owned Before this Offering	Percentage of Outstanding Shares Beneficially Owned Before this Offering	Shares to be Sold in this Offering Assuming The Company issues the Maximum Number of Shares Under the Purchase Agreement	Percentage of Outstanding Shares Beneficially Owned After this Offering
Lincoln Park Capital Fund, LLC (1)	(2) 68,208	% 0.46(3)	(4) 4,500,000	•

- **less than 1%**

(1) Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, are deemed to be beneficial owners of all of the shares of common stock owned by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares being offered under the prospectus filed with the SEC in connection with the transactions contemplated under the Purchase Agreement. Lincoln Park Capital, LLC is not a licensed broker dealer or an affiliate of a licensed broker dealer.

(2) Represents an aggregate of 68,208 shares of our common stock, that may be issued to Lincoln Park upon exercise of warrants , at certain fixed prices (that may be subject to adjustment as provided in such warrants), that were acquired by Lincoln Park in connection with prior public offerings of our securities. Lincoln Park may not exercise these warrants if such shares to be purchased, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would result in Lincoln Park and its affiliates having beneficial ownership of more than 4.99% of the then total outstanding shares of our common stock, as calculated in accordance with the terms of such warrants. In accordance with rule 13d-3(d) under the Exchange Act, we have excluded from the number of shares beneficially owned prior to the offering all of the shares of common stock that Lincoln Park may be required to purchase pursuant to the Purchase Agreement because the issuance of such shares is solely at our discretion and is subject to certain conditions, the satisfaction of all of which are outside of Lincoln Park's control, including the registration statement of which this prospectus is a part becoming and remaining effective. Furthermore, under the terms of the Purchase

Agreement, issuances and sales of shares of our common stock to Lincoln Park are subject to certain limitations on the amounts we may sell to Lincoln Park at any time, including the Exchange Cap and the Beneficial Ownership Cap. See the description under the heading "The Purchase Agreement" for more information about the Purchase Agreement.

(3) Based on 14,616,916 outstanding shares of our common stock as of June 25 2020.

(4) Although the Purchase Agreement provides that we may sell up to $10,000,000 of our common stock to Lincoln Park, only 4,500,000 shares of our common stock are being offered under this prospectus, which may be sold by us to Lincoln Park at our discretion from time to time over a 24-month period commencing after the satisfaction of certain conditions set forth in the Purchase Agreement, including that the SEC has declared effective the registration statement that includes this prospectus. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the $10,000,000 total commitment available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares. The number of shares ultimately offered for resale by Lincoln Park is dependent upon the number of shares we sell to Lincoln Park under the Purchase Agreement. As of the date of this prospectus, we may sell up to an additional $8,812,145 of our shares to Lincoln Park under the LP Purchase Agreement, having already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park pursuant to a registration statement on Form S-1A (File No.: 333-237441) filed on April 8, 2020.

PRICE RANGE OF COMMON STOCK

Since June 30, 2017, the trading date following the consummation of the Merger, our common stock has traded on the NASDAQ Capital Market under the symbol "PRPO."

The following table sets forth, for the periods indicated, the closing prices of our common stock as reported on the market exchange noted above. The per share prices reflect a 1-for-15 reverse stock split effected on April 26, 2019:

	Fiscal Year 2020	
	High	Low
First Quarter	$ 2.29	$ 0.68
Second Quarter	$ 1.51	$ 0.58
Third Quarter (through July 6, 2020)	$ 1.31	$ 1.30

	Fiscal Year 2019	
	High	Low
First Quarter	$ 3.90	$ 1.83
Second Quarter	$ 9.15	$ 1.89
Third Quarter	$ 4.08	$ 2.18
Fourth Quarter	$ 2.60	$ 1.81

	Fiscal Year 2018	
	High	Low
First Quarter	$ 19.50	$ 7.15
Second Quarter	$ 8.19	$ 5.43
Third Quarter	$ 7.58	$ 4.92
Fourth Quarter	$ 6.03	$ 2.25

On June 25, 2020, the closing price of our common stock as reported on The NASDAQ Capital Market was $1.43 per share. As of June 25, 2020, there were approximately 56 holders of record and 14,616,916 shares of our common stock outstanding.

CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of March 31, 2020:

- on an actual basis
- on a pro forma basis to give effect to:
    - (i) the receipt of approximately $69,000 subsequent to March 31, 2020, as a result of the sale of 110,642 shares of common stock to Lincoln Park pursuant to a registration statement on Form S-1 (333-235911) declared effective on January 30, 2020 and (ii) the receipt of approximately $1,188,000 subsequent to March 31, 2020, as a result of the sale of 1,520,000 shares of common stock to Lincoln Park pursuant to a registration statement on Form S-1 (333-237441) declared effective on April 13, 2020;
    - the issuance of 3,480,148 shares of our common stock, subsequent to March 31, 2020, as a result of the conversion of convertible promissory notes, totaling approximately $1,613,000, and the write-off of approximately $679,000 in debt premiums related to the converted notes.
    - the receipt of $787,200 as a result of the PPP Loan entered into under the Paycheck Protection Program.
- on a pro forma as adjusted basis to give further effect to our sale of 4,500,000 shares of common stock in this offering and our receipt of the net proceeds therefrom at an assumed public offering price of $1.13 per share, representing the closing price of our common stock on June 19, 2020, after deducting estimated offering expenses payable by us.

The following information is illustrative only, and our cash and capitalization following the completion of the sale to Lincoln Park of the shares registered for resale pursuant to this prospectus will change based on the per share price of the common stock sold to Lincoln Park. You should read this table in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes in our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 27, 2020.

	As of March 31, 2020		
	Actual	Pro Forma	Pro Forma As Adjusted
	(in thousands)		
Cash	$ 417	$ 2,462	$ 7,521
Current maturities of long-term debt	180	442	442
Current maturities of convertible notes, less debt discounts and debt issuance costs	2,292	-	-
Long-term debt	194	719	719
Common stock warrant liability and derivative liability	402	402	402
Finance leases and operating leases (current & long term)	623	623	623
Stockholders' equity:			
Preferred stock, $0.01 par value per share; 15,000,000 shares authorized, actual, pro forma and pro forma as adjusted, 47 shares of Series B Preferred Stock issued and outstanding as of March 31, 2020, actual, pro forma and pro forma as adjusted	—	—	—
Common stock, $0.001 par value per share; 150,000,000 shares authorized, actual, pro forma and pro forma as adjusted; 9,506,126	95	146	191

shares issued and outstanding at March 31, 2020, actual; 14,616,916 shares issued and outstanding, pro forma; 19,116,916 shares issued and outstanding, pro forma as adjusted;			
Additional paid-in capital	75,334	78,832	83,847
Accumulated deficit	(64,144)	(64,144)	(64,144)
Total stockholders' equity	11,285	14,834	19,894
Total capitalization	$ 7,594	$ 12,648	$ 17,708

The preceding data is based on 9,506,126 shares outstanding as of March 31, 2020. This number excludes the following, all of which, if issued by the Company, would be dilutive to our stockholders:

- 802,113 common shares issuable upon the exercise of stock options outstanding as of March 31, 2020, at a weighted average exercise price of $5.85 per share;

- 907,601 shares of common stock issuable upon exercise of warrants that were outstanding as of March 31, 2020 at a weighted-average exercise price of $17.63 per share;

- 111,977 shares of common stock reserved for future issuance under our 2017 Stock Option and Incentive Plan, as well as any automatic increases in the number of common shares reserved for issuance under the 2017 Stock Option and Incentive Plan after the date of this prospectus;

- 117,500 shares of our common stock issuable upon conversion of 47 shares of our Series B Preferred Stock; and

- 3,480,148 shares of common stock issuable upon conversion of convertible promissory notes outstanding as of March 31, 2020.

Also, to the extent that we issue any common stock to vendors, lenders, litigants or potential litigants, the issuance of such securities could result in significant dilution to our stockholders.

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the pro forma as adjusted net tangible book value per share of our common stock after this offering. As of March 31, 2020, our historical net tangible book value was $(5.1) million, or $(0.54) per share of common stock, based on 9,506,126 shares of our common stock outstanding at March 31, 2020. Our historical net tangible book value per share represents the amount of our total tangible assets reduced by the amount of our total liabilities, divided by the total number of shares of our common stock outstanding as of March 31, 2020.

Our pro forma net tangible book value as of March 31, 2020 was $(1.6), million, or $(0.11), per share of common stock. Pro forma net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of common stock outstanding, taking into account the receipt of approximately $1,257,000 subsequent to March 31, 2020, as a result of the sale of 1,630,642 shares of common stock to Lincoln Park, the issuance of 3,480,148 shares of our common stock subsequent to March 31, 2020 as a result of the conversion of convertible promissory notes, totaling approximately $1,613,000 and the receipt of $787,200 as the result of the PPP Loan. After giving effect to the sale by us of 4,500,000 shares of our common stock in this offering at the assumed public offering price of $1.13 per share, the closing price of our common stock on June 19, 2020, after deducting estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of March 31, 2020 would have been $3.5 million, or $0.18 per share. This represents an immediate increase in pro forma net tangible book value of $0.29 per share to our existing stockholders and an immediate dilution of $0.95 per share to our new investors purchasing shares of common stock in this offering. The following table illustrates this dilution on a per share basis:

Assumed public offering price per share			$	1.13
Historical net tangible book value per share as of March 31, 2020	$	(0.54)		
Increase in net tangible book value per share attributable to the pro forma adjustments described above	$	0.43		
Pro forma net tangible book value per share as of March 31, 2020	$	(0.11)		
Increase in pro forma net tangible book value per share attributable to this offering	$	0.29		
Pro forma as adjusted net tangible book value per share after this offering				0.18
Dilution per share to new investors in this offering			$	0.95

The preceding data is based on 9,506,126 shares outstanding as of March 31, 2020. This number excludes the following, all of which, if issued by the Company, would be dilutive to our stockholders:

- 802,113 common shares issuable upon the exercise of stock options outstanding as of March 31, 2020, at a weighted average exercise price of $5.85 per share;
- 907,601 shares of common stock issuable upon exercise of warrants that were outstanding as of March 31, 2020 at a weighted-average exercise price of $17.63 per share;
- 111,977 shares of common stock reserved for future issuance under our 2017 Stock Option and Incentive Plan, as well as any automatic increases in the number of common shares reserved for issuance under the 2017 Stock Option and Incentive Plan after the date of this prospectus;
- 117,500 shares of our common stock issuable upon conversion of 47 shares of our Series B Preferred Stock; and
- 3,480,148 shares of common stock issuable upon conversion of convertible promissory notes outstanding as of March 31, 2020.

To the extent that stock options are exercised or new stock options are issued under our equity incentive plans, there will be further dilution to investors purchasing common stock in this offering. In addition, we need to raise additional capital because of market conditions and strategic considerations. If we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

Also, to the extent that we issue any common stock to vendors, lenders, litigants or potential litigants, the issuance of such securities could result in significant dilution to our stockholders.

DIVIDEND POLICY

We have never declared or paid dividends on our capital stock. We do not anticipate paying any dividends on our capital stock in the foreseeable future. We currently intend to retain all available funds and any future earnings to fund the development and growth of our business. Any future determination to declare dividends will be subject to the discretion of our board of directors and will depend on various factors, including applicable laws, our results of operations, financial condition, future prospects and any other factors deemed relevant by our board of directors. Investors should not purchase our common stock with the expectation of receiving cash dividends.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 150,000,000 shares of common stock, par value $0.01 per share, and 15,000,000 shares of preferred stock, par value $0.01 per share. As of June 25, 2020, there were 14,616,916 shares of our common stock outstanding and 47 shares of Series B preferred stock outstanding convertible into an aggregate of 117,500 shares of common stock. In addition, as of June 25, 2020, options to purchase 802,113 shares of our common stock were outstanding at a weighted average exercise price of $5.85 per share, 361,977 shares of our common stock were reserved for future grants under our stock option plans and warrants to purchase 906,769 shares of our common stock were outstanding at a weighted average exercise price of $15.99 per share.

The following description of our capital stock and provisions of our amended and restated certificate of incorporation, amended and restated by-laws and certificate of designation are summaries of material terms and provisions and are qualified by reference to our amended and restated certificate of incorporation, amended and restated by-laws and certificates of designation, copies of which have been previously filed with the SEC.

Common Stock

We may issue shares of our common stock from time to time. Holders of our common stock are entitled to one vote per share on all matters to be voted upon by the stockholders. Holders of our common stock do not have cumulative voting rights in the election of directors. Subject to the preferences that may be applicable to any then outstanding preferred stock, holders of common stock are entitled to receive ratably such dividends, if any, as may be declared by our Board of Directors out of funds legally available therefor. Upon the liquidation, dissolution, or winding up of our company, holders of common stock are entitled to share ratably in all of our assets which are legally available for distribution after payment of all debts and other liabilities and liquidation preference of any outstanding preferred stock. There are no sinking fund provisions applicable to our common stock. Holders of common stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we have designated and issued and may designate and issue in the future.

Preferred Stock

We may issue shares of our preferred stock from time to time, in one or more series. The 15,000,000 shares of preferred stock authorized are undesignated as to preferences, privileges and restrictions, other than as set forth herein. Our Board of Directors will determine the rights, preferences and privileges of the shares of each wholly unissued series, and any qualifications, limitations or restrictions thereon, including dividend rights, conversion rights, terms of redemption or repurchase, liquidation preferences, sinking fund terms and the number of shares constituting any series or the designation of any series.

The General Corporation Law of the State of Delaware, the state of our incorporation, provides that the holders of preferred stock will have the right to vote separately as a class (or, in some cases, as a series) on an amendment to our amended and restated certificate of incorporation if the amendment would change the par value, the number of authorized shares of the class or the powers, preferences or special rights of the class or series so as to adversely affect the class or series, as the case may be. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

Our Board of Directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions, financings and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in our control and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock.

Series B Preferred Stock

On August 25, 2017, we filed a Certificate of Designation of Preferences, Rights and Limitations of Series B Convertible Preferred Stock (the "Series B Certificate of Designation") with the State of Delaware, which designates 6,900 shares of our preferred stock as Series B Senior Convertible Preferred Stock (the "Series B Preferred Stock"). The Series B Preferred Stock has a stated value of $1,000 per share and a par value of $0.01 per share.

If, prior to the second anniversary of the original issue date of the Series B Preferred Stock, we sell or grant any option to purchase or sell or grant any right to reprice, or otherwise dispose of or issue, any of our common stock or securities convertible into or exercisable for shares of our common stock at an effective price per share that is lower than the then effective conversion price, then the conversion price will be reduced to equal the higher of (A) such lower price or (B) $0.75, subject to an exception for the following types of issuances (i) issuances to our employees, officers or directors pursuant to any stock or option plan adopted by a majority of the non-employee members of our Board of Directors or committee thereof, (ii) issuances upon the exercise or exchange of any securities issued in connection with the August 2017 Offering or convertible into shares of common stock issued and outstanding on the date of the underwriting agreement entered into in connection with the August 2017 Offering, provided that such securities have not been amended since the date of the underwriting agreement to increase the number of securities or decrease the exercise, exchange or conversion price, or (iii) issuances pursuant to acquisitions or strategic transactions approved by a majority of the disinterested members of our Board of Directors, provided that such securities are "restricted securities" under Rule 144 and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the 90-day period following the original issuance date of the Series B Preferred Stock, and provided that any such issuance is to a person or its equity holders that is an operating company or an owner of an asset in a business synergistic with the business of our company and will provide our company with additional benefits in addition to the investment of funds, but will not include a transaction in which we issue securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities (the issuances referred to in (i) through (iii) above, the "Exempt Issuances").

In the event of a liquidation, the holders of Series B Preferred Shares are entitled to an amount equal to the par value of the Series B Preferred Stock and thereafter to participate on an as-converted-to-common stock basis with holders of the common stock in any distribution of our assets to the holders of the common stock. The Series B Certificate of Designation provides, among other things, that we will not pay any dividends on shares of common stock (other than dividends in the form of common stock) unless and until such time as we pay dividends on each Series B Preferred Share on an as-converted basis. Other than as set forth in the previous sentence, the Series B Certificate of Designation provides that no other dividends will be paid on Series B Preferred Shares and that we will pay no dividends (other than dividends in the form of common stock) on shares of common stock unless we simultaneously comply with the previous sentence. The Series B Certificate of Designation does not provide for any restriction on the repurchase of Series B Preferred Shares by us while there is any arrearage in the payment of dividends on the Series B Preferred Shares. There are no sinking fund provisions applicable to the Series B Preferred Shares.

In addition, in the event we consummate a merger or consolidation with or into another person or other reorganization event in which our shares of common stock are converted or exchanged for securities, cash or other property, or we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets or we or another person acquire 50% or more of our outstanding shares of common stock, then following such event, the holders of the Series B Preferred Shares will be entitled to receive upon conversion of the Series B Preferred Shares the same kind and amount of securities, cash or property which the holders would have received had they converted the Series B Preferred Shares immediately prior to such fundamental transaction. Any successor to us or surviving entity is required to assume the obligations under the Series B Preferred Shares.

Notwithstanding the foregoing, in the event we are not the surviving entity of a fundamental transaction or in the event of a reverse merger or similar transaction where we are the surviving entity, then, automatically and contemporaneous with the consummation of such transaction, the surviving entity (or our company in the event of a reverse merger or similar transaction) will purchase the then outstanding shares of Series B Preferred Stock by paying and issuing, in the event that such consideration given to the holders of our common stock is non-cash consideration, as the case may be, to each holder an amount equal to the cash consideration plus the non-cash consideration in the form issuable to the holders of our common stock (in the case of a reverse merger or similar transaction, shares of common stock issuable to the holders of the acquired company) per share of our common stock in the fundamental transaction multiplied by the number of shares of common stock underlying the shares of Series B Preferred Stock held by the holder on the date immediately prior to the consummation of the fundamental transaction. Such amount will be paid in the same form and mix (whether securities, cash or property, or any combination of the foregoing) as the consideration received by holders of our common stock in the fundamental transaction.

With certain exceptions, as described in the Series B Certificate of Designation, shares of Series B Preferred Stock, or Series B Preferred Shares, have no voting rights. However, as long as any shares of Series B Preferred Shares remain outstanding, the Series B Certificate of Designation provides that we may not, without the affirmative vote of holders of a majority of the then-outstanding Series B Preferred Shares, (a) alter or change adversely the powers, preferences or rights given to the Series B Preferred Shares or alter or amend the Series B Certificate of Designation, (b) increase the number of authorized shares of Series B Preferred Shares or (c) amend our Certificate of Incorporation or other charter documents in any manner that adversely affects any rights of holders of Series B Preferred Shares.

Each Series B Preferred Share is convertible at any time at the holder's option into a number of shares of common stock equal to $1,000 divided by the Series B Conversion Price. The "Series B Conversion Price" was initially $37.50 and is subject to adjustment for stock splits, stock dividends, distributions, subdivisions and combinations and, as discussed above, certain dilutive issuances of our common stock or securities convertible into or exercisable for shares of our common stock. In November 2017, at the time of our issuance of our Series C Preferred Stock, the conversion price of the Series B Preferred Stock was reduced from $37.50 per share to $21.00 per share. In February 2018, we entered into an equity purchase agreement and, as a result, the conversion price of the Series B Convertible Preferred Stock was automatically adjusted from the reduced $21.00 per share price to

$15.60 per share. On March 21, 2018, the Series B Conversion Price was reduced from $15.60 to $11.25 as a result of our letter agreement with certain holders of shares of our Series B Preferred Stock and Series C Preferred Stock (the "Letter Agreement"). In April 2018, as a result of a securities purchase agreement pursuant to which we agreed to issue up to approximately $3,296,703 in Senior Secured Convertible Promissory Notes, the conversion price of the Series B Convertible Preferred Stock was automatically adjusted from $11.25 per share to $4.50 per share. On November 29, 2018, as a result of the Amendment Agreement, the conversion price of our Series B Convertible Preferred Stock was automatically adjusted from $4.50 per share to $2.25 per share. On March 26, 2020, as a result of the March 2020 Amendment (as defined in Item 15 below), the down round feature of the Series B Convertible Preferred Stock was triggered and, as a result, the conversion price of our Series B Convertible Preferred Stock was automatically adjusted from $2.25 per share to $0.40 per share and is subject to further adjustment as set forth in the Series B Certificate of Designation. Notwithstanding the foregoing, the Series B Certificate of Designation further provides that we may not effect any conversion of Series B Preferred Shares, with certain exceptions, to the extent that, after giving effect to an attempted conversion, the holder of Series B Preferred Shares (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of our common stock in excess of 4.99% (or, at the election of the holder, 9.99%) of the shares of our common stock then outstanding after giving effect to such exercise (the "Preferred Stock Beneficial Ownership Limitation"); provided, however, that upon notice to us, the holder may increase or decrease the Preferred Stock Beneficial Ownership Limitation, provided that in no event may the Preferred Stock Beneficial Ownership Limitation exceed 9.99% and any increase in the Preferred Stock Beneficial Ownership Limitation will not be effective until 61 days following notice of such increase from the holder to us.

As of June 25, 2020, 47 shares of Series B Preferred Stock are outstanding.

Antitakeover Effects of Delaware Law and Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws

Certain provisions of the Delaware General Corporation Law and of our amended and restated certificate of incorporation and amended and restated by-laws could have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are expected to discourage certain types of coercive takeover practices and inadequate takeover bids and, as a consequence, they might also inhibit temporary fluctuations in the market price of our common stock that often result from actual or rumored hostile takeover attempts. These provisions are also designed in part to encourage anyone seeking to acquire control of us to first negotiate with our board of directors. These provisions might also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders might otherwise deem to be in their best interests. However, we believe that the advantages gained by protecting our ability to negotiate with any unsolicited and potentially unfriendly acquirer outweigh the disadvantages of discouraging such proposals, including those priced above the then-current market value of our common stock, because, among other reasons, the negotiation of such proposals could improve their terms.

Delaware Takeover Statute

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

- before the stockholder became interested, our board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;

- upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances, but not the outstanding voting stock owned by the interested stockholder; or

- at or after the time the stockholder became interested, the business combination was approved by our board of directors and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

Section 203 defines a business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;

- any sale, transfer, lease, pledge or other disposition involving the interested stockholder of 10% or more of the assets of the corporation;

- subject to exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;

- subject to exceptions, any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or

- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

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

Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated By-laws

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

Board composition and filling vacancies. In accordance with our amended and restated certificate of incorporation, our board is divided into three classes serving staggered three-year terms, with one class being elected each year. Our amended and restated certificate of incorporation also provides that directors may be removed only for cause and then only by the affirmative vote of the holders the majority of the shares then entitled to vote at an election of directors. Furthermore, 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.

No written consent of stockholders. Our amended and restated certificate of incorporation provides that all stockholder actions are required to be taken by a vote of the stockholders at an annual or special meeting, and that stockholders may not take any action by written consent in lieu of a meeting. This limit may lengthen the amount of time required to take stockholder actions and would prevent the amendment of our by-laws or removal of directors by our stockholder without holding a meeting of stockholders.

Meetings of stockholders. Our amended and restated by-laws provide that only a majority of the members of our board of directors then in office may call special meetings of stockholders and only those matters set forth in the notice of the special meeting may be considered or acted upon at a special meeting of stockholders. Our amended and restated by-laws limit the business that may be conducted at an annual meeting of stockholders to those matters properly brought before the meeting.

Advance notice requirements. Our amended and restated by-laws establish advance notice procedures with regard to stockholder proposals relating to the nomination of candidates for election as directors or new business to be brought before meetings of our stockholders. These procedures provide that notice of stockholder proposals must be timely given in writing to our corporate secretary prior to the meeting at which the action is to be taken. Generally, to be timely, notice must be received at our principal executive offices not less than 90 days or more than 120 days prior to the first anniversary date of the annual meeting for the preceding year. The notice must contain certain information specified in our amended and restated by-laws.

Amendment to certificate of incorporation and by-laws. As required by the Delaware General Corporation Law, any amendment of our amended and restated certificate of incorporation must first be approved by a majority of our board of directors, and if required by law or our amended and restated certificate of incorporation, must thereafter be approved by a majority of the outstanding shares entitled to vote on the amendment, and a majority of the outstanding shares of each class entitled to vote thereon as a class. Our amended and restated by-laws may be amended by the affirmative vote of a majority vote of the directors then in office, subject to any limitations set forth in the amended and restated by-laws; and may also be amended by the affirmative vote of at least a majority of the outstanding shares entitled to vote on the amendment, or, if the board of directors recommends that the stockholders approve the amendment, by the affirmative vote of the majority of the outstanding shares entitled to vote on the amendment, in each case voting together as a single class.

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

Choice of forum. Our amended and restated by-laws provide that the Court of Chancery of the State of Delaware is the sole and exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our certificate of incorporation or our by-laws, or any action asserting a claim against us that is governed by the internal affairs doctrine. Although our amended and restated by-laws contain the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is EQ Shareowner Services.

Listing

Our common stock is listed on The NASDAQ Capital Market under the symbol "PRPO."

PURCHASE AGREEMENT

General

On March 26, 2020, we entered into the Purchase Agreement and the Registration Rights Agreement with Lincoln Park. Pursuant to the terms of the Purchase Agreement, Lincoln Park has agreed to purchase from us up to $10,000,000 of our common stock (subject to certain limitations) from time to time during the term of the Purchase Agreement. Pursuant to the terms of the Registration Rights Agreement, we have filed with the SEC the registration statement that includes this prospectus to register for resale under the Securities Act the shares that have been or may be issued to Lincoln Park under the Purchase Agreement.

Pursuant to the terms of the Purchase Agreement, at the time we signed the Purchase Agreement and the Registration Rights Agreement, we issued 250,000 Commitment Shares to Lincoln Park as consideration for its commitment to purchase shares of our common stock under the Purchase Agreement.

We do not have the right to commence any sales to Lincoln Park under the Purchase Agreement until certain conditions set forth in the Purchase Agreement, all of which are outside of Lincoln Park's control, have been satisfied, including the registration statement that includes this prospectus being declared effective by the SEC. Thereafter, we may, from time to time and at our sole discretion, direct Lincoln Park to purchase shares of our common stock in amounts up to 50,000 shares on any single business day, which amounts may be increased to up to 100,000 shares of our common stock depending on the market price of our common stock at the time of sale but in no event greater than $1,000,000 per such purchase. The purchase price per share is based on the market price of our common stock immediately preceding the time of sale as computed under the Purchase Agreement. Lincoln Park may not assign or transfer its rights and obligations under the Purchase Agreement.

As of the date of this prospectus, we have already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park which were sold to Lincoln Park pursuant to the registration statement on Form S-1/A (File No.: 333-237441) filed on April 8, 2020.

Under applicable rules of The NASDAQ Capital Market, in no event may we issue or sell to Lincoln Park under the Purchase Agreement share of our common stock in excess of the Exchange Cap unless (i) we obtain stockholder approval to issue shares of common stock in excess of the Exchange Cap or (ii) the average price of all applicable sales of our common stock to Lincoln Park under the Purchase Agreement equals or exceeds $0.7306 which represents the closing consolidated bid price of our common stock on March 25, 2020, plus an incremental amount to account for our issuance of the Commitment Shares to Lincoln Park), such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable NASDAQ rules. In any event, the Purchase Agreement specifically provides that we may not issue or sell any shares of our common stock under the Purchase Agreement if such issuance or sale would breach any applicable rules or regulations of The NASDAQ Capital Market. On June 25, 2020, we received the requisite approval of our shareholders to issue shares of common stock in excess of the Exchange Cap.

The Purchase Agreement also prohibits us from directing Lincoln Park to purchase any shares of common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would result in Lincoln Park and its affiliates exceeding the Beneficial Ownership Cap.

Purchase of Shares Under the Purchase Agreement

Under the Purchase Agreement, on any business day selected by us, we may direct Lincoln Park to purchase up to 50,000 shares of our common stock on any such business day, which we refer to as a Regular Purchase, provided, however, that (i) the Regular Purchase may be increased to up to 80,000 shares, provided that the closing sale price is not below $1.00 on the purchase date and (ii) the Regular Purchase may be increased to up to 100,000 shares, provided that the closing sale price is not below $1.50 on the purchase date. In each case, the maximum amount of

any single Regular Purchase may not exceed $1,000,000 per purchase. The purchase price per share for each such Regular Purchase will be equal to the lower of:

- the lowest sale price for our common stock on the purchase date of such shares; or
- the arithmetic average of the three lowest closing sale prices for our common stock during the 10 consecutive business days ending on the business day immediately preceding the purchase date of such shares.

In addition to Regular Purchases described above, we may also direct Lincoln Park, on any business day on which we have properly submitted a Regular Purchase notice to purchase an additional amount of our common stock, which we refer to as an Accelerated Purchase, not to exceed the lesser of:

- 30% of the aggregate shares of our common stock traded during normal trading hours on the purchase date; and
- 3 times the number of purchase shares purchased pursuant to the corresponding Regular Purchase.

The purchase price per share for each such Accelerated Purchase will be equal to the lower of:

- 96% of the volume weighted average price during (i) the entire trading day on the purchase date, if the volume of shares of our common stock traded on the purchase date has not exceeded a volume maximum calculated in accordance with the Purchase Agreement, or (ii) the portion of the trading day of the purchase date (calculated starting at the beginning of normal trading hours) until such time at which the volume of shares of our common stock traded has exceeded such volume maximum; or

- the closing sale price of our common stock on the accelerated purchase date.

We may also direct Lincoln Park, not later than 1:00 p.m., Eastern time, on any business day on which an Accelerated Purchase has been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement to purchase an additional amount of our common stock, which we refer to as an Additional Accelerated Purchase, of up to the lesser of:

- 30% of the aggregate shares of our common stock traded during a certain portion of the normal trading hours on the applicable Additional Accelerated Purchase date as determined in accordance with the Purchase Agreement, which period of time on the applicable Additional Accelerated Purchase date we refer to as the Additional Accelerated Purchase Measurement Period; and

- 3 times the number of purchase shares purchased pursuant to the corresponding Regular Purchase.

We may, in our sole discretion, submit multiple Additional Accelerated Purchase notices to Lincoln Park prior to 1:00 p.m., Eastern time, on a single Accelerated Purchase date, provided that all prior Accelerated Purchases and Additional Accelerated Purchases (including those that have occurred earlier on the same day) have been completed and all of the shares to be purchased thereunder have been properly delivered to Lincoln Park in accordance with the Purchase Agreement.

The purchase price per share for each such Additional Accelerated Purchase will be equal to the lower of:

- 96% of the volume weighted average price of our common stock during the applicable Additional Accelerated Purchase Measurement Period on the applicable Additional Accelerated Purchase date; and

- the closing sale price of our common stock on the applicable Additional Accelerated Purchase date.

Other than as described above, there are no trading volume requirements or restrictions under the Purchase Agreement, and we will control the timing and amount of any sales of our common stock to Lincoln Park.

Events of Default

Events of default under the Purchase Agreement include the following:

- the effectiveness of the registration statement of which this prospectus forms a part lapses for any reason (including, without limitation, the issuance of a stop order), or any required prospectus supplement and accompanying prospectus are unavailable for the resale by Lincoln Park of our common stock offered hereby, and such lapse or unavailability continues for a period of 10 consecutive business days or for more than an aggregate of 30 business days in any 365-day period;

- suspension by our principal market of our common stock from trading for a period of one business day;

- the de-listing of our common stock from The NASDAQ Capital Market, our principal market, provided our common stock is not immediately thereafter trading on the New York Stock Exchange, the NASDAQ

Global Market, the NASDAQ Global Select Market, the NYSE Market, the OTC Bulletin Board or OTC Markets (or nationally recognized successor thereto);

- the failure of our transfer agent to issue to Lincoln Park shares of our common stock within two business days after the applicable date on which Lincoln Park is entitled to receive such shares;

- any breach of the representations or warranties or covenants contained in the Purchase Agreement or Registration Rights Agreement that has or could have a material adverse effect on us and, in the case of a breach of a covenant that is reasonably curable, that is not cured within five business days;

- if at any time the Exchange Cap is reached, to the extent applicable;

- any voluntary or involuntary participation or threatened participation in insolvency or bankruptcy proceedings by or against us; or

- if at any time we are not eligible to transfer our common stock electronically.

Lincoln Park does not have the right to terminate the Purchase Agreement upon any of the events of default set forth above. During an event of default, all of which are outside of Lincoln Park's control, we may not direct Lincoln Park to purchase any shares of our common stock under the Purchase Agreement.

Our Termination Rights

We have the unconditional right, at any time, for any reason and without any payment or liability to us, to give notice to Lincoln Park to terminate the Purchase Agreement. In the event of bankruptcy proceedings by or against us, the Purchase Agreement will automatically terminate without action of any party.

No Short-Selling or Hedging by Lincoln Park

Lincoln Park has agreed that neither it nor any of its affiliates shall engage in any direct or indirect short-selling or hedging of our common stock during any time prior to the termination of the Purchase Agreement.

Prohibitions on Variable Rate Transactions

There are no restrictions on future financings, rights of first refusal, participation rights, penalties or liquidated damages in the Purchase Agreement or Registration Rights Agreement other than a prohibition on entering into a "Variable Rate Transaction," as defined in the Purchase Agreement.

Effect of Performance of the Purchase Agreement on Our Stockholders

All 4,500,000 shares registered in this offering which have been or may be issued or sold by us to Lincoln Park under the Purchase Agreement are expected to be freely tradable. It is anticipated that shares registered in this offering will be sold over a period of up to 24-months commencing on the date that the registration statement including this prospectus becomes effective. The sale by Lincoln Park of a significant amount of shares registered in this offering at any given time could cause the market price of our common stock to decline and to be highly volatile. Sales of our common stock to Lincoln Park, if any, will depend upon market conditions and other factors to be determined by us. We may ultimately decide to sell to Lincoln Park all, some or none of the additional shares of our common stock that may be available for us to sell pursuant to the Purchase Agreement. If and when we do sell shares to Lincoln Park, after Lincoln Park has acquired the shares, Lincoln Park may resell all, some or none of those shares at any time or from time to time in its discretion. Therefore, sales to Lincoln Park by us under the Purchase Agreement may result in substantial dilution to the interests of other holders of our common stock. In addition, if we sell a substantial number of shares to Lincoln Park under the Purchase Agreement, or if investors expect that we will do so, the actual sales of shares or the mere existence of our arrangement with Lincoln Park may make it more difficult for us to sell equity or equity-related securities in the future at a time and at a price that we might otherwise wish to effect such sales. However, we have the right to control the timing and amount of any additional sales of our shares to Lincoln Park and the Purchase Agreement may be terminated by us at any time at our discretion without any cost to us.

Pursuant to the terms of the Purchase Agreement, we have the right, but not the obligation, to direct Lincoln Park to purchase up to $10,000,000 of our common stock. Depending on the price per share at which we sell our common stock to Lincoln Park pursuant to the Purchase Agreement, we may need to sell to Lincoln Park under the Purchase Agreement more shares of our common stock than are offered under this prospectus in order to receive aggregate gross proceeds equal to the $10,000,000 total commitment available to us under the Purchase Agreement. If we choose to do so, we must first register for resale under the Securities Act such additional shares of our common stock, which could cause additional substantial dilution to our stockholders. The number of shares ultimately offered for resale by Lincoln Park under this prospectus is dependent upon the number of shares we direct Lincoln Park to purchase under the Purchase Agreement.

The Purchase Agreement prohibits us from issuing or selling to Lincoln Park under the Purchase Agreement (i) shares of our common stock in excess of the Exchange Cap, unless we (a) obtain stockholder approval to issue shares in excess of the Exchange Cap or (b) the average price of all applicable sales of our

common stock to Lincoln Park under the Purchase Agreement equal or exceed $0.7306 such that the transactions contemplated by the Purchase Agreement are exempt from the Exchange Cap limitation under applicable NASDAQ rules, and (ii) any shares of our common stock if those shares, when aggregated with all other shares of our common stock then beneficially owned by Lincoln Park and its affiliates, would exceed the Beneficial Ownership Cap. On June 25, 2020, we obtained the requisite shareholder approval to issue shares in excess of the Exchange Cap.

The following table sets forth the amount of gross proceeds we would receive from Lincoln Park from our sale of shares to Lincoln Park under the Purchase Agreement at varying purchase prices:

Assumed Average Purchase Price Per Share	Number of Registered Shares to be Issued if Full Purchase (1)	Percentage of Outstanding Shares After Giving Effect to the Issuance to Lincoln Park (2)	Proceeds from the Sale of Shares to Lincoln Park Under the $10M Purchase Agreement
$ 0.50	4,500,000	23.5%	$ 2,250,000
$ 1.13 (3)	4,500,000	23.5%	$ 5,085,000
$ 1.50	4,500,000	23.5%	$ 6,750,000
$ 3.00	2,937,000	16.7%	$ 8,811,000
$ 5.00	1,762,000	10.8%	$ 8,810,000

(1) Although the Purchase Agreement provides that we may sell up to $10,000,000 of our common stock to Lincoln Park, we are only registering 4,500,000 shares of our common stock that may be sold to Lincoln Park as purchase shares under the Purchase Agreement, which may or may not cover all the shares we ultimately sell to Lincoln Park under the Purchase Agreement, depending on the purchase price per share. As a result, we have included in this column only those shares that we are registering in this offering. As of the date of this prospectus, we have already received approximately $1,187,855 from the sale of 1,520,000 shares of common stock to Lincoln Park which were sold to Lincoln Park pursuant to the registration statement on Form S-1/A (File No.: 333-237441) filed on April 8, 2020.

(2) The denominator is based on 14,616,916 shares outstanding as of June 25, 2020, adjusted to include the number of shares set forth in the adjacent column which we would have sold to Lincoln Park, assuming the purchase price in the adjacent column. The numerator is based on the number of shares issuable under the Purchase Agreement at the corresponding assumed purchase price set forth in the adjacent column.

(3) The closing sale price of our shares on June 19, 2020.

PLAN OF DISTRIBUTION

The common stock offered by this prospectus is being offered by the selling stockholder, Lincoln Park. The common stock may be sold or distributed from time to time by the selling stockholder directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of the common stock offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokers' transactions;
- transactions involving cross or block trades;
- through brokers, dealers, or underwriters who may act solely as agents
- "at the market" into an existing market for the common stock;
- in other ways not involving market makers or established business markets, including direct sales to purchasers or sales effected through agents;
- in privately negotiated transactions; or
- any combination of the foregoing.

In order to comply with the securities laws of certain states, if applicable, the shares may be sold only through registered or licensed brokers or dealers. In addition, in certain states, the shares may not be sold unless they have been registered or qualified for sale in the state or an exemption from the state's registration or qualification requirement is available and complied with.

Lincoln Park is an "underwriter" within the meaning of Section 2(a)(11) of the Securities Act.

Lincoln Park has informed us that it intends to use an unaffiliated broker-dealer to effectuate all sales, if any, of the common stock that it may purchase from us pursuant to the Purchase Agreement. Such sales will be made at prices and at terms then prevailing or at prices related to the then current market price. Each such unaffiliated broker-dealer will be an underwriter within the meaning of Section 2(a)(11) of the Securities Act. Lincoln Park has informed us that each such broker-dealer will receive commissions from Lincoln Park that will not exceed customary brokerage commissions.

Brokers, dealers, underwriters or agents participating in the distribution of the shares as agents may receive compensation in the form of commissions, discounts, or concessions from the selling stockholder and/or purchasers of the common stock for whom the broker-dealers may act as agent. The compensation paid to a particular broker-dealer may be less than or in excess of customary commissions. Neither we nor Lincoln Park can presently estimate the amount of compensation that any agent will receive.

We know of no existing arrangements between Lincoln Park or any other stockholder, broker, dealer, underwriter or agent relating to the sale or distribution of the shares offered by this prospectus. At the time a particular offer of shares is made, a prospectus supplement, if required, will be distributed that will set forth the names of any agents, underwriters or dealers and any compensation from the selling stockholder, and any other required information.

We will pay the expenses incident to the registration, offering, and sale of the shares to Lincoln Park. We have agreed to indemnify Lincoln Park and certain other persons against certain liabilities in connection with the offering

of shares of common stock offered hereby, including liabilities arising under the Securities Act or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities. Lincoln Park has agreed to indemnify us against liabilities under the Securities Act that may arise from certain written information furnished to us by Lincoln Park specifically for use in this prospectus or, if such indemnity is unavailable, to contribute amounts required to be paid in respect of such liabilities.

Lincoln Park has represented to us that at no time prior to the Purchase Agreement has Lincoln Park or its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any short sale (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of our common stock or any hedging transaction, which establishes a net short position with respect to our common stock. Lincoln Park agreed that during the term of the Purchase Agreement, it, its agents, representatives or affiliates will not enter into or effect, directly or indirectly, any of the foregoing transactions.

We have advised Lincoln Park that it is required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the selling stockholder, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of the securities offered by this prospectus.

This offering will terminate on the date that all shares offered by this prospectus have been sold by Lincoln Park.

Our common stock is quoted on The NASDAQ Capital Market under the symbol “PRPO”.

LEGAL MATTERS

The validity of the common stock offered hereby will be passed upon for us by Sichenzia Ross Ference LLP, New York, New York.

EXPERTS

The consolidated financial statements of Precipio, Inc. as of and for the years ended December 31, 2019 and 2018 appearing in our Annual Report on Form 10-K filed for the year ended December 31, 2019, have been audited by Marcum LLP, independent registered public accounting firm, to the extent and for the periods as set forth in their report (which report includes an explanatory paragraph relating to our ability to continue as a going concern) thereon, and incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act that registers the shares of our common stock to be sold in this offering. This prospectus does not contain all of the information set forth in the registration statement and the exhibits and schedules filed as part of the registration statement. For further information with respect to us and our common stock, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document, are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, we refer you to the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The reports and other information we file with the SEC can be read and copied at the SEC’s Public Reference Room at 100 F Street, NE, Washington D.C. 20549. Copies of these materials can be obtained at prescribed rates from the Public Reference Section of the SEC at the principal offices of the SEC, 100 F Street, NE, Washington D.C. 20549. You may obtain information regarding the operation of the public reference room by calling 1(800) SEC-0330. The SEC also maintains a web site (http://www.sec.gov) that contains reports, proxy and information statements and other information regarding issuers like us that file electronically with the SEC.

We are required to file annual, quarterly and current reports and other information with the SEC under the Securities Exchange Act of 1934, as amended. These periodic reports, proxy statements and other information will be available for inspection and copying at the SEC’s public reference room and the web site of the SEC referred to above.

MARKET AND INDUSTRY DATA AND FORECASTS

Market data and certain industry data and forecasts included in this prospectus were obtained from internal company surveys, market research, publicly available information, reports of governmental agencies and industry publications and surveys. We have relied upon industry publications as our primary sources for third-party industry data and forecasts. Industry surveys, publications and forecasts generally state that the information contained therein has been obtained from sources believed to be reliable, but that the accuracy and completeness of such information is not guaranteed. We have not independently verified any of the data from third-party sources, nor have we ascertained the underlying economic assumptions relied upon therein. Similarly, internal surveys, industry forecasts and market research, which we believe to be reliable based upon our management’s knowledge of the industry, have not been independently verified. Forecasts are particularly likely to be inaccurate, especially over long periods of time. In addition, we do not know what assumptions regarding general economic growth were used in preparing the

forecasts we cite. Statements as to our market position are based on recently available data. While we are not aware of any misstatements regarding our industry data presented herein, our estimates involve risks and uncertainties and are subject to change based on various factors, including those discussed under "Risk Factors" in this prospectus. While we believe our internal business research is reliable and market definitions are appropriate, neither such research nor definitions have been verified by any independent source. This prospectus may only be used for the purpose for which it has been published.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

This prospectus omits some information contained in the registration statement in accordance with SEC rules and regulations. You should review the information and exhibits included in the registration statement of which this prospectus is a part for further information about us and the securities we are offering. Statements in this prospectus concerning any document we filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified by reference to these filings. You should review the complete document to evaluate these statements.

The SEC allows us to "incorporate by reference" information we file with it, which means that we can disclose important information to you by referring you to other documents. The information incorporated by reference is considered to be a part of this prospectus. Information contained in this prospectus supersedes information incorporated by reference that we have filed with the SEC prior to the date of this prospectus.

We incorporate by reference the following documents listed below (excluding any document or portion thereof to the extent such disclosure is furnished and not filed):

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2019, filed with the SEC on March 27, 2020 as amended by Form 10-K/A, filed with the SEC on April 7, 2020;
- Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on May 14, 2020;
- Our Current Reports on Form 8-K filed with the SEC January 14, 2020, February 18, 2020, March 16, 2020, March 27, 2020, April 7, 2020, April 24, 2020, May 1, 2020, May 13, 2020, June 3, 2020, June 26, 2020 and June 30, 2020;
- The portions of our definitive proxy statement on Schedule 14A relating to our 2019 Annual Meeting of Stockholders, as filed with the SEC on April 29, 2020 that are deemed "filed" with the SEC under the Exchange Act.
- Our Amendment No.1 and Amendment No.2 to Form S-1 on Form S-1/A filed with the SEC on July 6, 2020 and July 7, 2020.

In addition, we hereby incorporate by reference into this prospectus all documents that we file with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act after the effective date of this Registration Statement and before we terminate the offering under this prospectus. These documents include periodic reports, such as annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K (other than current reports or portions thereof furnished under Items 2.02 or 7.01 of Form 8-K, unless specifically incorporated herein), as well as proxy statements.

We will provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any or all of the foregoing documents which we incorporate by reference in this prospectus (not including exhibits to such documents unless such exhibits are specifically incorporated by reference to such documents). Requests should be directed to:

Precipio, Inc.
4 Science Park
New Haven, CT 06511
(203) 787-7888

A copy of any or all of the foregoing documents which we incorporate by reference in this prospectus may be accessed on our corporate web site at http://www.precipiodx.com (Click the "Investors" link and then the "SEC Filings" link).

4,500,000 Shares

Common Stock

PROSPECTUS

July 7, 2020