

PROSPECTUS SUPPLEMENT
(To Prospectus dated January 17, 2024)**35,294,118 Shares of Common Stock**

We are offering 35,294,118 shares of our common stock.

Our common stock is listed on the Nasdaq Global Select Market under the symbol “PGEN”. On August 7, 2024, the last reported sale price of our common stock on the Nasdaq Global Select Market was \$1.18 per share.

Investing in our common stock involves significant risks. Please read the information contained in or incorporated by reference under the heading “Risk Factors” beginning on page S-6 of this prospectus supplement, and under similar headings in other documents filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus.

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

	Per Share	Total
Public offering price	\$ 0.85	\$30,000,000.30
Underwriting discounts and commissions ⁽¹⁾	\$0.051	\$ 1,800,000.02
Proceeds, before expenses, to us	\$0.799	\$28,200,000.28

(1) We have agreed to reimburse the underwriters for certain expenses. We refer you to “Underwriting” beginning on page S-17 of this prospectus supplement for additional information regarding total underwriting compensation.

Randal J. Kirk, our Chairman of the Board of Directors, and certain funds affiliated with Mr. Kirk, as well as one of our executive officers have agreed to purchase 23,588,234 shares, in the aggregate, of our common stock in this offering at the public offering price.

We have granted the underwriters an option for a period of 30 days to purchase an additional 5,294,117 shares of our common stock. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be \$2,069,999.99 and the total net proceeds to us, before expenses, will be \$32,429,999.77.

The underwriters expect to deliver the shares to purchasers in the offering on or about August 9, 2024.

Sole Book-Running Manager

Stifel

Prospectus Supplement dated August 7, 2024.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus are part of a shelf registration statement on Form S-3 (File No. 333-276337) that we filed with the Securities and Exchange Commission, or SEC, on December 29, 2023 and was declared effective by the SEC on January 17, 2024, pursuant to which we may from time to time offer various securities in one or more offerings.

This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein or therein. The second part, the accompanying prospectus, including the documents incorporated by reference into the accompanying prospectus, provides more general information.

Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference herein or therein filed prior to the date of this prospectus supplement, you should refer to the information in this prospectus supplement; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date — for example, a document incorporated by reference in the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

Neither we nor the underwriters have authorized anyone to provide information different from that contained in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in this offering. Neither we nor the underwriters take any responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither the delivery of this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in this offering, nor the sale of our common stock means that information contained in this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in this offering, is correct after their respective dates. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement, the accompanying prospectus and any free writing prospectus that we have authorized for use in connection with this offering in making your investment decision.

This prospectus supplement does not contain all of the information that is important to you. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Incorporation by Reference” in this prospectus supplement. You should assume that the information in this prospectus supplement and the accompanying prospectus, as well as the information we have filed with the SEC and incorporated by reference in this document, is accurate only as of its date or the date which is specified in those documents.

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

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

When we refer to “Precigen,” “we,” “our,” “us,” and the “Company” in this prospectus supplement, we mean Precigen, Inc., unless otherwise specified.

SUMMARY

This summary highlights certain information about us, this offering and selected information contained elsewhere in or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary is not complete and does not contain all of the information that you should consider before deciding whether to invest in our common stock. For a more complete understanding of Precigen and this offering, we encourage you to read and consider carefully the more detailed information in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference in this prospectus supplement, and the information included in any free writing prospectus that we have authorized for use in connection with this offering, including the information referred to under the heading "Risk Factors" in this prospectus supplement beginning on page [S-6](#).

Our Company

We are a dedicated discovery and clinical-stage biopharmaceutical company advancing the next generation of gene and cell therapies with the overall goal of improving outcomes for patients with significant unmet medical needs. We are leveraging our proprietary technology platforms to develop product candidates designed to target urgent and intractable diseases in our core therapeutic areas of immunoncology, autoimmune disorders, and infectious diseases. We have developed an extensive pipeline of therapies across multiple indications.

PRGN-2012 Update

As previously disclosed, on June 3, 2024, we presented data from the PRGN-2012 Phase 1/2 clinical study in patients with recurrent respiratory papillomatosis (RRP) and related information. The Phase 1/2 clinical study evaluated safety and efficacy of PRGN-2012. The study design included an initial 3+3 dose escalation cohort to identify the recommended Phase 2 dose (RP2D). Adult RRP patients who had three or more surgeries in the prior 12 months were eligible for the study. The Phase 1/2 study enrolled a total of 38 patients. Of these, 3 patients received four administrations of PRGN-2012 at 1×10^{11} particle units (PU)/dose and 35 patients received four administrations of PRGN-2012 at RP2D (5×10^{11} PU/dose) over a 12 week treatment period via subcutaneous injection.

Primary endpoints included safety and Complete Response rate defined as the percentage of patients who require no RRP surgeries in the 12-month period after PRGN-2012 treatment completion. Key secondary endpoints included HPV-specific immune responses, extent of papilloma growth as measured by Derkey scoring, and quality of life measurement as measured by Vocal Handicap Index-10 (VHI-10).

Patient Characteristics

Baseline patient characteristics of the 35 adult patients included a median age of 49 years (range: 20 – 88); 20 of the patients were male and 15 were female. Patients had a median of 4 surgeries (range: 3 – 10) in the 12 months before PRGN-2012 treatment initiation. Average years since RRP diagnosis was 20 (range: 1 – 65) with 12 and 23 patients with juvenile and adult onset RRP, respectively.

Clinical Efficacy

Primary efficacy endpoint analysis demonstrated that 51% (18 out of 35) (95% CI: 34 – 69) patients achieved Complete Response, defined as no need for RRP surgeries in the 12-month period following completion of PRGN-2012 treatment. The Complete Response rate was 50% (6 out of 12) and 52% (12 out of 23) in the Phase 1 and Phase 2 portions of the study, respectively (TABLE 1). Complete Responses were durable. Median durability of response has not yet been reached with median follow up of 20 months as of the data cutoff date of May 20, 2024. PRGN-2012 treatment significantly ($p < 0.0001$) reduced the need for surgeries in RRP patients compared to pre-treatment history (FIGURE 1). PRGN-2012 treatment reduced the need for RRP surgeries in 86% (30 out of 35) of patients compared to their pre-treatment history. RRP surgeries were reduced from a median of 4 (range: 3 – 10) in the 12 months pre-treatment to 0 (range: 0 – 7) in the 12 months post PRGN-2012 treatment completion.

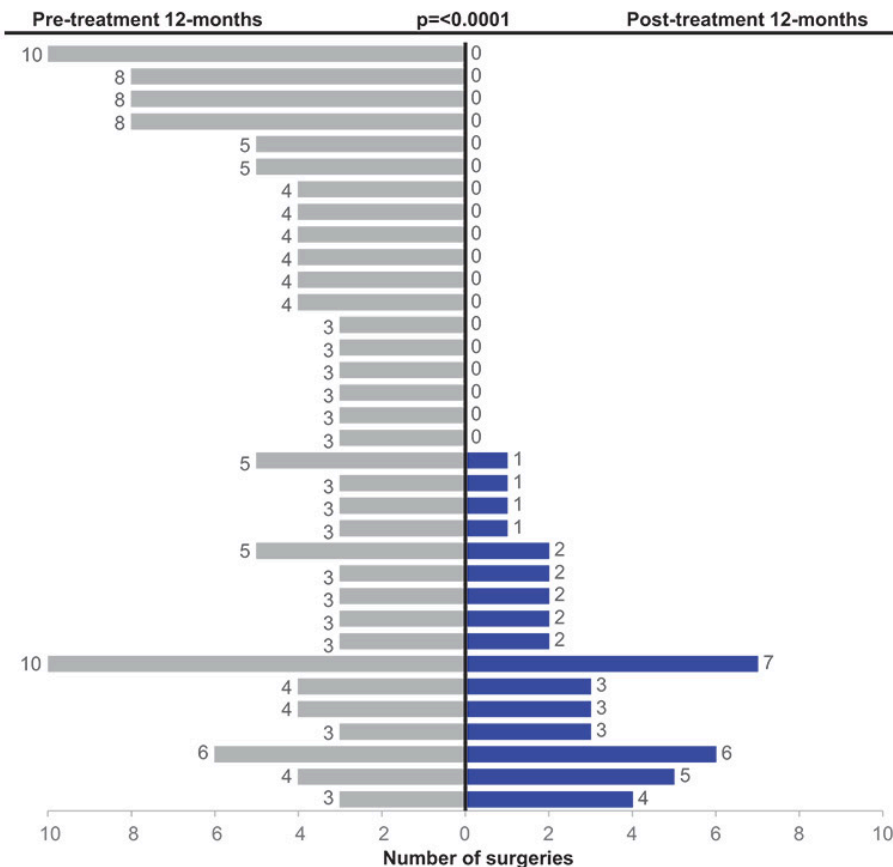
PRGN-2012 treatment showed significant ($p < 0.0001$) improvement in anatomical Derkey scores, a tool used for research purposes to quantify RRP severity based on involvement of laryngeal structures, with

mean Derkey scores reducing from 9 (range: 5 – 19) at baseline to 1 (range: 0 – 5) at 24 weeks post-treatment in patients with Complete Response. Quality of life, as evaluated using the validated VHI-10, significantly ($p < 0.0001$) improved from a mean of 25 (range: 12 – 38) at baseline to 7 (range: 0 – 30) at 24 weeks post PRGN-2012 treatment in patients with Complete Response. PRGN-2012 treatment induced HPV 6/11-specific T cell responses in RRP patients with a significantly greater expansion of peripheral HPV-specific T cells observed in responders compared with non-responders.

TABLE 1: Clinical Efficacy Summary
Total Patients (N=35)

	Phase 1 (N=12)	Phase 2 (N=23)	Phase 1/2 Total (N=35)
Complete Response			
No surgeries needed during 12 months post-treatment	50% (6/12)	52% (12/23)	51% (18/35)
Decrease in Rate of Surgery			
12 months post-treatment compared to 12 months pre-treatment	83% (10/12)	87% (20/23)	86% (30/35)

FIGURE 1: PRGN-2012 Demonstrated Significant Clinical Efficacy (51% Complete Response Rate; 86% Patients had a Reduction in Surgeries)



Safety

PRGN-2012 treatment was well-tolerated with no dose-limiting toxicities and no treatment-related adverse events (TRAEs) greater than Grade 2 (TABLE 2). All patients received four administrations of

PRGN-2012 at the intended dose levels. TRAEs were mostly mild with no treatment-related serious adverse events reported. The most common TRAE was injection site reaction. Other common TRAEs occurring in more than one subject were fatigue, chills, and fever. There was no meaningful anti-drug antibody response with repeat administrations of PRGN-2012.

TABLE 2: Treatment-related Adverse Events Occurring in More Than 1 Patient

Total Patients (N=38)

Event	1 x 10 ¹¹ PU (N = 3)		5 x 10 ¹¹ PU (N=35)	
	Grade 1	Grade 2	Grade 1	Grade 2
	(N, %)	(N, %)	(N, %)	(N, %)
Chills	—	—	25 (71%)	—
Fatigue	—	—	28 (80%)	2 (6%)
Fever	—	—	24 (69%)	—
Headache	—	—	2 (6%)	—
Hyperhidrosis	—	—	2 (6%)	—
Injection site reaction	3 (100%)	—	34 (97%)	—
Myalgia	—	—	9 (26%)	2 (6%)
Nausea	—	—	8 (23%)	—
Vomiting	—	—	2 (6%)	—

Recent Developments

As of June 30, 2024, we estimate that we had approximately \$19.5 million of cash, cash equivalents, and short-term investments. This preliminary financial information has been prepared by and is the responsibility of our management. Our independent registered public accounting firm has not audited, reviewed or performed any procedures with respect to this preliminary financial data or the accounting treatment thereof and does not express an opinion or any other form of assurance with respect thereto. We expect to complete our financial statements for the quarter ended June 30, 2024 subsequent to the completion of this offering. While we are currently unaware of any items that would require us to make adjustments to the financial information set forth above, it is possible that we or our independent registered public accounting firm may identify such items as we complete our annual financial statements and any resulting changes could be material. Accordingly, undue reliance should not be placed on this preliminary result. This preliminary result is not necessarily indicative of any future period and should be read together with “Risk Factors,” “Special Note Regarding Forward-Looking Statements,” and our consolidated financial statements and related notes incorporated by reference in the registration statement of which this prospectus supplement forms a part.

As previously announced on August 6, 2024, we are implementing a strategic reprioritization of our clinical portfolio and streamlining of resources, including a reduction of over 20% of our workforce, to focus on potential commercialization of PRGN-2012. These strategic changes substantially reduce required resources for non-priority programs and will enable us to focus on pre-commercialization efforts on PRGN-2012, including supporting submission of a rolling biologics license application (BLA) under an accelerated approval pathway anticipated in the second half of 2024, conducting the confirmatory clinical trial, and manufacturing of commercial product. Additionally, we will continue the acceleration of our commercial readiness efforts for a potential launch in 2025.

Our strategic prioritization will also include:

- **PRGN-2009 AdenoVerse Gene Therapy Clinical Trials:** We plan to continue PRGN-2009 Phase 2 trials under a cooperative research and development agreement (CRADA) with the National Cancer Institute (NCI) in recurrent/metastatic cervical cancer and in newly diagnosed HPV-associated oropharyngeal cancer. PRGN-2009 clinical trial enrollment at non-NCI clinical sites will be paused.

- **UltraCAR-T Clinical Programs:** We have completed enrollment of the Phase 1b trial for PRGN-3006 in acute myeloid leukemia (AML), which received Fast Track designation from the FDA, and we are preparing for an end of Phase 1b meeting with the FDA to discuss next steps. We will pause all other UltraCAR-T clinical programs, including PRGN-3005 and PRGN-3007. We will minimize UltraCAR-T spend and focus on strategic partnerships to further advance UltraCAR-T programs.
- **Preclinical Programs:** We will pause all preclinical programs.
- **ActoBio:** We have initiated a shutdown of our Belgium-based ActoBio subsidiary operations, including planned elimination of all ActoBio personnel. In conjunction with this shutdown, ActoBio's portfolio of intellectual property will be made available for prospective transactions.

In connection with our strategic reprioritization and streamlining of resources as described above, we estimate we will record noncash impairment charges to goodwill and other assets of approximately \$32.9 million, net of tax, in the second quarter of 2024 and also estimate we will record severance costs of approximately \$3.0 million in the aggregate between the second and third quarters of 2024. These plans, together with net proceeds from this offering and cash on hand, is expected to fund our operations into early 2025, which is beyond our currently anticipated completed submission of a rolling BLA under an accelerated approval pathway for PRGN-2012. In addition, we are currently exploring a number of potential non-dilutive financings for future liquidity.

Corporate Information

We are a Virginia corporation formed in 1998. Our principal executive offices are located at 20374 Seneca Meadows Parkway, Germantown, MD 20876, and our telephone number is (301) 556-9900. Our website address is www.precigen.com. The inclusion of our website address in this prospectus is, in each case, intended to be an inactive textual reference only and not an active hyperlink to our website. The information contained in, or that can be accessed through, our website is not incorporated by reference herein and is not part of this prospectus. We make available free of charge on our website Form 10-Ks, Form 10-Qs, Form 8-Ks and amendments to those reports as soon as reasonably practicable after filing with or furnishing to the SEC.

THE OFFERING

Common stock offered by us	35,294,118 shares.
Option to purchase additional shares	We have granted the underwriters an option for a period of up to 30 days from the date of this prospectus supplement to purchase up to an additional 5,294,117 shares of our common stock.
Common stock to be outstanding after this offering	285,542,926 shares (290,837,043 shares assuming the underwriters exercise in full their option to purchase additional shares).
Use of proceeds	We intend to use the net proceeds from the offering for advancing PRGN-2012 towards regulatory approval and commercial readiness, limited clinical development of other pipeline assets, and for working capital and general corporate purposes. See “Use of Proceeds.”
Risk factors	An investment in our common stock involves a high degree of risk. See “Risk Factors” beginning on page S-6 of this prospectus supplement, and under similar headings in other documents filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus.
Nasdaq Global Select Market symbol	“PGEN”.

Outstanding shares

The number of shares of our common stock to be outstanding after this offering is based on 250,248,808 shares of our common stock outstanding as of March 31, 2024, and excludes:

- 22,715,549 shares of our common stock issuable upon the exercise of stock options outstanding as of March 31, 2024 at a weighted-average exercise price of \$6.33 per share, an additional 5,500,500 shares of our common stock issuable upon the exercise of stock options granted under the 2023 Plan (as defined below) on May 31, 2024 at a weighted average exercise price \$1.40 per share and any exercise after such dates;
- 786,709 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of March 31, 2024, an additional 2,170,885 shares of our common stock issuable upon the vesting of additional restricted stock units that vested on April 5, 2024 and any settlement after such dates;
- 15,769,637 shares of our common stock available for future issuance under our 2023 Omnibus Incentive Plan, or the 2023 Plan, as of March 31, 2024 and an additional 2,000,000 shares of our common stock available for future issuance under the plan amendment approved by shareholders at the annual meeting of stockholders held on July 5, 2024 (less the 5,500,500 shares of our common stock related to the grant of stock options on May 31, 2024 and the 2,170,885 shares of our common stock related to the grant of additional restricted stock units issued and vested on April 5, 2024); and
- 2,432,945 shares of our common stock available for future issuance under our 2019 Incentive Plan for Non-Employee Service Providers, or the 2019 Plan, as of March 31, 2024.

Except as otherwise indicated herein, all information in this prospectus supplement does not assume or give effect to the exercise of the underwriters’ option to purchase additional shares in this offering.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider and evaluate all of the information contained in this prospectus and in the documents incorporated by reference in this prospectus before you decide to purchase our common stock. In particular, you should carefully consider and evaluate the risks and uncertainties described in “Part I— Item 1A. Risk Factors” in our [Annual Report on Form 10-K for the year ended December 31, 2023](#), or the 2023 Annual Report and any additional risks and uncertainties included or incorporated by reference herein. Additional risks and uncertainties that we are unaware of or that we believe are not material at this time could also materially adversely affect our business, financial condition or results of operations. Any of these risks and uncertainties could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price or value of our common stock. As a result, you could lose all or part of your investment.

This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this prospectus. See “Special Note Regarding Forward-Looking Statements” for information relating to these forward-looking statements.

Risks related to our business, financial position and capital needs

Our strategic reprioritization and streamlining of resources undertaken to extend our cash runway and focus more of our capital resources on PRGN-2012 might not achieve our intended outcome.

On August 6, 2024, we announced a strategic reprioritization of our clinical portfolio and streamlining of resources, including a reduction of over 20% of our work force, to focus on potential commercialization of PRGN-2012 for the treatment of RRP. In connection with the implementation of our strategic reprioritization and streamlining of resources, we estimate we will record non-cash impairment charges to goodwill and other assets of approximately \$32.9 million, net of tax, in the second quarter of 2024 and also estimate we will record severance costs of approximately \$3.0 million in the aggregate between the second and third quarters of 2024. We may incur additional expenses not currently contemplated due to events associated with strategic reprioritization and streamlining of resources; for example, the reduction in force may have a future impact on other areas of our liabilities and obligations, which could result in losses in future periods. The reduction in force may result in unintended consequences and costs, such as the loss of institutional knowledge and expertise, attrition beyond the intended number of employees, decreased morale among our remaining employees. In addition, while positions have been eliminated, certain functions necessary to our operations remain, and we might not successfully distribute the duties and obligations of our terminated employees among our remaining employees. The reduction in workforce could also make it difficult for us to pursue, or prevent us from pursuing, new opportunities and initiatives due to insufficient personnel, or require us to incur additional and unanticipated costs to hire new personnel to pursue such opportunities or initiatives. Moreover, we may not realize, in full or in part, the anticipated benefits and savings from this strategic reprioritization and streamlining of resources due to unforeseen difficulties, delays or unexpected costs. If we are unable to realize the anticipated benefits from the strategic reprioritization and streamlining of resources, or if we experience significant adverse consequences from such actions, our business, financial condition and results of operations may be materially adversely affected. In addition, we may need to undertake additional workforce reductions or restructuring activities in the future.

Despite this offering, we will still require significant additional capital funding and such capital may not be available to us.

The net proceeds of the offering, together with our recently announced strategic reprioritization and streamlining of resources and cash on hand, are expected to fund our operations into early 2025. This projection is based on our current expectations regarding cost structure, cost savings from the strategic reprioritization and streamlining of resources, cash burn rate and other operating assumptions. In the event that our operating expenses are higher than anticipated, or our cost savings from the strategic reprioritization and streamlining of resources are less than we anticipate, we may be required to implement contingency plans within our control to conserve and/or enhance our liquidity to meet operating needs, including potential financings. We have no additional committed external sources of funds and there can be no assurance that

new financings or other transactions, including licensing rights to PRGN-2012, royalty monetization transactions and the externalization of UltraCAR-T programs, will be available to us on commercially acceptable terms, or at all, and such financings may adversely affect the holdings or rights of our stockholders and may cause significant dilution to existing stockholders. If additional financing is not available when required or is not available on acceptable terms, we may need to delay, modify or abandon our plans for our product candidates, which could have a material adverse effect on our business, results of operations and financial condition. If we are unable to fund our operations without additional external financing and therefore cannot sustain future operations, we may be required to delay, reduce and/or cease our operations and/or seek bankruptcy protection.

Risks related to this offering

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase in this offering.

The public offering price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock based on the total value of our tangible assets less our total liabilities. Therefore, if you purchase shares of our common stock in this offering at the public offering price of \$0.85 per share, you will experience immediate dilution of \$0.64 per share, the difference between the price per share you pay for our common stock in this offering and our net tangible book value per share as of March 31, 2024, after giving effect to the issuance of 35,294,118 shares of our common stock in this offering. As a result of the dilution to investors purchasing shares in this offering, investors may receive significantly less than the purchase price paid in this offering, if anything, in the event of our liquidation. See “Dilution” on page [S-12](#) of this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase shares of our common stock in this offering.

In addition, we had outstanding options to acquire 22,715,549 shares of our common stock as of March 31, 2024, and options to acquire an additional 5,500,500 shares of our common stock as of May 31, 2024, and outstanding restricted stock units representing 786,709 shares of our common stock as of March 31, 2024 and outstanding restricted stock units to acquire an additional 2,170,885 shares as of April 5, 2024. Further, our shareholders have approved a proposal at the 2024 Annual Meeting on July 5, 2024 to amend our 2023 Plan to increase the number of shares of common stock available for issuance under the 2023 Plan by 2,000,000 shares. The issuance of shares of our common stock upon exercise of the stock options or vesting of the restricted stock units would result in dilution to the interests of other holders of our common stock and could adversely affect our stock price.

Substantial future sales or other issuances of our common stock could depress the market for our common stock.

Sales of a substantial number of shares of our common stock, or the perception by the market that those sales could occur, could cause the market price of our common stock to decline or could make it more difficult for us to raise funds through the sale of equity in the future.

In connection with this offering, for a period of 60 days following this offering, we, and, for a period of 90 days following this offering, our directors and executive officers, and certain of their affiliates, have entered into lock-up agreements. We and our directors and executive officers, and certain of their affiliates, may be released from such lock-up agreements prior to the expiration of the applicable lock-up period at the sole discretion of Stifel, Nicolaus & Company, Incorporated (See “Underwriting” beginning on page [S-17](#) of this prospectus supplement). Upon expiration or earlier release of the lock-up, we and our directors, executive officers and certain of their affiliates may sell shares into the market, which could adversely affect the market price of shares of our common stock. Future issuances of our common stock or our other equity securities could further depress the market for our common stock. We expect to continue to incur preclinical and clinical development and selling, general and administrative costs, and may need to sell additional equity securities to satisfy our funding requirements. The sale or the proposed sale of substantial amounts of our common stock or our other equity securities may adversely affect the market price of our common stock and our stock price may decline substantially. Our shareholders may experience substantial dilution and

a reduction in the price that they are able to obtain upon sale of their shares. New equity securities issued may have greater rights, preferences or privileges than our existing common stock.

We have broad discretion in the use of the net proceeds of this offering and our cash reserves and, despite our efforts, we may use the net proceeds and our cash reserves in a manner that does not increase the value of your investment.

We currently intend to use the net proceeds from the offering for advancing PRGN-2012 towards regulatory approval and commercial readiness, limited clinical development of other pipeline assets, and for working capital and general corporate purposes. However, we have not determined the specific allocation of the net proceeds among these potential uses. Our management will have broad discretion over the use and investment of the net proceeds of this offering and our cash resources generally, and, accordingly, investors in this offering will need to rely upon the judgment of our management with respect to the use of proceeds and our cash reserves, with only limited information concerning our specific intentions. These proceeds and our cash resources generally could be applied in ways that do not improve our operating results or increase the value of your investment. Please see the section entitled “Use of Proceeds” on page [S-11](#) of this prospectus supplement for further information.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and accompanying prospectus may contain forward-looking statements, including with respect to our plans, objectives and expectations for our business, operations and financial performance and condition. All statements, other than statements of historical facts, included in this prospectus supplement and accompanying prospectus, including statements regarding our strategy; future events, including their outcome or timing; future operations; future financial position; future revenue; projected costs; prospects; plans; objectives of management; and expected market growth, are forward-looking statements. The words “aim,” “anticipate,” “assume,” “believe,” “continue,” “could,” “due,” “estimate,” “expect,” “intend,” “may,” “objective,” “plan,” “positioned,” “potential,” “predict,” “project,” “seek,” “should,” “target,” “will,” “would,” and the negatives of these terms or similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These statements may relate to, among other things:

- the timeliness of regulatory approvals;
- our strategy and overall approach to our business model, including the anticipated benefits of our strategic reprioritization and streamlining of resources and our ability to exercise more control and ownership over the development process and commercialization path;
- our ability to successfully enter new markets or develop additional product candidates, including the expected timing and results of investigational studies and preclinical and clinical trials, whether with our collaborators or independently;
- our ability to consistently manufacture our product candidates on a timely basis or to establish agreements with third-party manufacturers;
- our ability to successfully enter into optimal strategic relationships with our subsidiaries and operating companies that we may form in the future;
- our ability to hold or generate significant operating capital, including through partnering, asset sales, and operating cost reductions;
- actual or anticipated variations in our operating results;
- actual or anticipated fluctuations in competitors’ or collaborators’ operating results or changes in their respective growth rates;
- our cash position;
- market conditions in our industry;
- the volatility of our stock price;
- the ability, and the ability of our collaborators, to protect our intellectual property and other proprietary rights and technologies;
- outcomes of pending and future litigation;
- the rate and degree of market acceptance of any products developed by us, our subsidiaries, collaborations, or joint ventures, or JVs, and competition from existing technologies and products or new technologies and products that may emerge;
- our ability to retain and recruit key personnel;
- expectations related to the use of proceeds from public offerings and other financing efforts;
- estimates regarding expenses, future revenue, capital requirements, and needs for additional financing;
- our substantial doubt about our ability to continue as a going concern;
- our timeline to BLA submission, approval and commercialization of PRGN-2012;
- our anticipated use of proceeds from this offering;
- our expected cash runway;

- our anticipated costs from the strategic reprioritization and streamlining of resources;
- our plans for future liquidity; and
- our ability to successfully partner or sell our paused programs and activities in a timely manner.

These statements are based on management's current expectations, estimates, forecasts and projections about our business and industry, are not guarantees of future performance and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control and that may cause our or our industry's actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. We discuss many of these risks in greater detail in the section of this prospectus supplement entitled "Risk Factors" and elsewhere in this prospectus supplement and in any other documents incorporated herein (including in our 2023 Annual Report and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act). You should read these factors and the other cautionary statements made in this prospectus supplement and accompanying prospectus as being applicable to all related forward- looking statements wherever they appear herein or therein. If one or more of these factors materialize, or if any underlying assumptions prove incorrect, our actual results, levels of activity, performance, or achievements may vary materially from any future results, activity, performance, or achievements expressed or implied by these forward-looking statements. We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they were made. We undertake no obligation to publicly update any forward-looking statements after the date of this prospectus, whether as a result of new information, future events or otherwise, except as required by law.

Before deciding to purchase our common stock, you should carefully consider the risk factors discussed and incorporated by reference in this prospectus supplement and the accompanying prospectus and in the registration statement of which this prospectus supplement and the accompanying prospectus form a part.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of 35,294,118 shares of our common stock in this offering will be approximately \$27.7 million, or approximately \$31.9 million if the underwriters exercise their option to purchase additional shares in full, based on the public offering price of \$0.85 per share of common stock, after deducting the underwriting discounts and commissions and the estimated offering expenses payable by us.

We currently intend to use the net proceeds from the offering for advancing PRGN-2012 towards regulatory approval and commercial readiness, limited clinical development of other pipeline assets, and for working capital and general corporate purposes. The net proceeds of the offering, together with our recently announced strategic reprioritization and streamlining of resources and cash on hand, are expected to fund our operations into early 2025.

The amounts and timing of our use of the net proceeds from this offering will depend on a number of factors, such as the timing and progress of our research and development efforts, the timing and progress of any partnering efforts, technological advances and the competitive environment for our products. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from the sale of the shares of our common stock offered by us hereunder. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we intend to temporarily invest the proceeds in short-term, interest-bearing instruments.

DILUTION

Purchasers of our common stock in this offering will experience immediate dilution to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after this offering.

Our historical net tangible book value as of March 31, 2024 was approximately \$31.7 million, or \$0.13 per share of our common stock. Net tangible book value per share of our common stock is determined by dividing total tangible assets less total liabilities, excluding items such as intangible assets and goodwill, by the aggregate number of shares of our common stock outstanding. Dilution per share to new investors represents the difference between the amount per share paid by purchasers for our common stock in this offering and the as adjusted net tangible book value per share of our common stock immediately following the completion of this offering.

After giving effect to the sale of 35,294,118 shares of our common stock in this offering at the public offering price of \$0.85 per share, and after deducting the underwriting discounts and commissions and the estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2024 would have been approximately \$59.4 million, or approximately \$0.21 per share of our common stock. This represents an immediate increase in net tangible book value of \$0.08 per share of our common stock to our existing shareholders and an immediate dilution in net tangible book value of \$0.64 per share of our common stock to purchasers in this offering.

The following table illustrates this calculation on a per share basis:

Public offering price per share	\$0.85
Net tangible book value (deficit) per share as of March 31, 2024	\$0.13
Increase in net tangible book value per share attributable to purchasers in this offering	0.08
As adjusted net tangible book value per share immediately after this offering	<u>0.21</u>
Dilution per share to purchasers in this offering	<u>\$0.64</u>

If the underwriters exercise their option in full to purchase additional shares of our common stock in this offering at the public offering price of \$0.85 per share, the as adjusted net tangible book value per share after the offering would be \$0.22 per share, the increase in the net tangible book value per share to existing shareholders would be \$0.09 per share and the dilution to purchasers in this offering would be \$0.63 per share.

The above table is based on 250,248,808 shares of our common stock outstanding as of March 31, 2024. Unless specifically stated otherwise, the information in this prospectus supplement is as of March 31, 2024 and excludes:

- 22,715,549 shares of our common stock issuable upon the exercise of stock options outstanding as of March 31, 2024 at a weighted-average exercise price of \$6.33 per share, an additional 5,500,500 shares of our common stock issuable upon the exercise of stock options granted under the 2023 Plan (as defined below) on May 31, 2024 at a weighted average exercise price \$1.40 per share and any exercise after such dates;
- 786,709 shares of our common stock issuable upon the vesting of restricted stock units outstanding as of March 31, 2024, an additional 2,170,885 shares of our common stock issuable upon the vesting of additional restricted stock units that vested on April 5, 2024 and any settlement after such dates;
- 15,769,637 shares of our common stock available for future issuance under the 2023 Plan as of March 31, 2024 and an additional 2,000,000 shares of our common stock available for future issuance under the plan amendment approved by shareholders at the annual meeting of stockholders held on July 5, 2024 (less the 5,500,500 shares of our common stock related to the grant of stock options on May 31, 2024 and the 2,170,885 shares of our common stock related to the grant of additional restricted stock units issued and vested on April 5, 2024); and
- 2,432,945 shares of our common stock available for future issuance under the 2019 Plan as of March 31, 2024.

Except as otherwise indicated herein, all information in this prospectus supplement does not assume or give effect to the exercise of the underwriters' option to purchase additional shares in this offering.

To the extent that options are exercised, other equity awards vest, new equity awards are issued under the 2023 Plan or the 2019 Plan or pursuant to inducement awards, convertible notes are converted into common stock, or we issue additional shares of common stock or other securities convertible into or exercisable for common stock in the future, there may be further dilution to investors participating in this offering. In addition, we may choose to raise additional capital because of market conditions or strategic considerations, even if we believe that we have sufficient funds for our current or future operating plans. 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 shareholders.

MATERIAL U.S. FEDERAL INCOME AND ESTATE TAX CONSEQUENCES FOR NON-U.S. HOLDERS OF OUR COMMON STOCK

The following are the material U.S. federal income and estate tax consequences of your ownership and disposition of our common stock acquired in this offering if you are a “Non-U.S. Holder” (as defined below) that holds our common stock as a “capital asset” within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the “Code”). Subject to the exceptions set forth below, you are a Non-U.S. Holder if for U.S. federal income tax purposes you are a beneficial owner of our common stock and you are:

- a nonresident alien individual;
- a foreign corporation; or
- a foreign estate or trust.

You are not a Non-U.S. Holder, however, if you are a nonresident alien individual who is present in the United States for 183 days or more in the taxable year in which you sell any of our common stock or if you are a former citizen or former resident of the United States for U.S. federal income tax purposes. If you are such a person, you should consult your tax adviser regarding the U.S. federal income tax consequences of the ownership and disposition of our common stock.

If you are a partnership for U.S. federal income tax purposes, the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and your activities.

This discussion is based on the Code, administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations as of the date hereof, changes to any of which subsequent to the date hereof may affect the tax consequences described herein, possibly with retroactive effect. This discussion does not address all U.S. federal income tax consequences relevant to you in light of your particular circumstances, including alternative minimum tax and Medicare contribution tax consequences, and does not address any aspect of state, local, or non-U.S. taxation, or any taxes other than income and estate taxes. You should consult your tax adviser regarding the application of the U.S. federal tax laws to your particular situation, as well as any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction.

Dividends

We do not currently expect to make distributions on our common stock. In the event that we do make distributions of cash or other property, those distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent those distributions exceed our current and accumulated earnings and profits, they will constitute returns of capital, which will first reduce your basis in our common stock, but not below zero, and then will be treated as gain from the sale of our common stock, as described below under “— Gain on Disposition of Our Common Stock.”

Dividends paid to you generally will be subject to U.S. federal withholding tax at a 30% rate or a reduced rate specified by an applicable income tax treaty. In order to obtain a reduced rate of withholding (subject to the discussion below under “— FATCA”), you will be required to provide a properly executed IRS Form W-8BEN or W-8BEN-E (or other applicable form) certifying your entitlement to benefits under a treaty.

If dividends paid to you are effectively connected with your conduct of trade or business in the United States (and, if required by an applicable income tax treaty, are attributable to a permanent establishment or fixed base maintained by you in the United States), you will generally be taxed on the dividends in the same manner as a U.S. person. In this case, you will be exempt from the withholding tax discussed in the preceding paragraph, although you will be required to provide a properly executed IRS Form W-8ECI in order to claim an exemption from withholding. If you are a corporation, effectively connected dividends may also be subject to an additional “branch profits tax” imposed at a rate of 30% (or a lower treaty rate).

Gain on Disposition of Our Common Stock

You generally will not be subject to U.S. federal income or withholding tax on gain realized on a sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with your conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment or fixed base maintained by you in the United States), or
- we are or have been a “United States real property holding corporation” (a “USRPHC”) as defined in the Code, at any time within the five-year period preceding the disposition or your holding period, whichever is shorter, and either (i) our common stock has ceased to be regularly traded on an established securities market as defined by applicable Treasury regulations or (ii) you owned, actually and constructively, more than 5% of our common stock throughout the shorter of (x) the five-year period ending on the date of the sale or other taxable disposition and (y) your holding period.

We will be a USRPHC at any time that the fair market value of our “United States real property interests,” as defined in the Code and applicable Treasury regulations, equals or exceeds 50% of the aggregate fair market value of our worldwide real property interests and our other assets used or held for use in a trade or business (all as determined for U.S. federal income tax purposes). We believe that we are not, and do not anticipate becoming, a USRPHC.

If you recognize gain on a sale or other disposition of our common stock that is effectively connected with your conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a permanent establishment or fixed base maintained by you in the United States), you will generally be taxed on that gain in the same manner as a U.S. person. You should consult your tax adviser regarding other U.S. tax consequences of the disposition of our common stock, including the possible imposition of a branch profits tax at a rate of 30% (or a lower treaty rate) if you are a corporation.

Information Reporting and Backup Withholding

Information returns are required to be filed with the IRS in connection with payments of dividends on our common stock. Unless you comply with certification procedures to establish that you are not a U.S. person, information returns may also be filed with the IRS in connection with the proceeds from a sale or other disposition of our common stock. You may be subject to backup withholding on payments on our common stock or on the proceeds from a sale or other disposition of our common stock unless you comply with certification procedures to establish that you are not a U.S. person or otherwise establish an exemption. Your provision of a properly executed applicable IRS Form W-8 certifying your non-U.S. status will permit you to avoid backup withholding. Amounts withheld under the backup withholding rules are not additional taxes and may be refunded or credited against your U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

FATCA

Provisions of the Code commonly referred to as “FATCA” require withholding of 30% on payments of dividends on our common stock to “foreign financial institutions” (which is broadly defined for this purpose and in general includes investment vehicles) and certain other non-U.S. entities unless various U.S. information reporting and due diligence requirements (generally relating to ownership by U.S. persons of interests in or accounts with those entities) have been satisfied, or an exemption applies. An intergovernmental agreement between the United States and an applicable foreign country may modify these requirements. In addition, regulations proposed by the U.S. Treasury Department (the preamble to which indicates that taxpayers may rely on the regulations pending their finalization) would eliminate the requirement under FATCA of withholding on gross proceeds. If FATCA withholding is imposed, and you are not a foreign financial institution, you generally may obtain a refund of any amounts withheld by filing a U.S. federal income tax return (which may entail significant administrative burden). You should consult your tax adviser regarding the effects of FATCA on your investment in our common stock.

Federal Estate Tax

Individual Non-U.S. Holders (as specifically defined for U.S. federal estate tax purposes) and entities the property of which is potentially includible in such an individual's gross estate for U.S. federal estate tax purposes (for example, a trust funded by such an individual and with respect to which the individual has retained certain interests or powers) should note that, absent an applicable treaty exemption, our common stock will be treated as U.S.-situs property subject to U.S. federal estate tax.

UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement, dated the date of this prospectus supplement, between us and Stifel, Nicolaus & Company, Incorporated, which is acting as the sole book-running manager for this offering, the underwriters named below, we have agreed to sell to the underwriters, and each of the underwriters has agreed, severally and not jointly, to purchase from us the respective number of shares of common stock shown opposite its name below:

Name	Number of Shares
Stifel, Nicolaus & Company, Incorporated	35,294,118
Total	35,294,118

The underwriting agreement provides that the obligations of the underwriters are subject to certain conditions precedent such as the receipt by the underwriters of officers' certificates and legal opinions and approval of certain legal matters by their counsel. The underwriting agreement provides that the underwriters will purchase all of the shares of common stock if they purchase any of the shares. We have agreed to indemnify the underwriters and certain of their controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriters may be required to make in respect of those liabilities.

The underwriters have advised us that, following the completion of this offering, they currently intend to make a market in our common stock as permitted by applicable laws and regulations. However, the underwriters are not obligated to do so, and the underwriters may discontinue any market-making activities at any time without notice in their sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common stock, that you will be able to sell any of the common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriters are offering the shares of common stock subject to their acceptance of the shares of common stock from us and subject to prior sale. The underwriters reserve the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. In addition, the underwriters have advised us that they do not intend to confirm sales to any account over which they exercise discretionary authority.

We have granted the underwriters an option for a period of 30 days from the date of this prospectus supplement to purchase up to an additional 5,294,117 shares of common stock at the public offering price listed on the cover page of this prospectus supplement, less underwriting discounts and commissions. If any shares are purchased with this option to purchase additional shares, the underwriters will purchase shares in approximately the same proportion as shown in the table above. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the shares are being offered.

Randal J. Kirk, our Chairman of the Board of Directors, and certain funds affiliated with Mr. Kirk, as well as one of our executive officers have agreed to purchase 23,588,234 shares of our common stock in this offering at the public offering price.

Commission and Expenses

The underwriters have advised us that they propose to offer the shares of common stock to the public at the initial public offering price set forth on the cover page of this prospectus supplement. The underwriters may offer the shares of common stock to securities dealers at the public offering price less a concession not in excess of \$0.0306 per share. If all of the shares of common stock are not sold at the public offering price, the underwriters may change the offering price and other selling terms. After the offering, the initial public offering price may be changed by the underwriters. No such change will impact the amount of proceeds to be received by us as set forth on the cover page of this prospectus supplement. Sales of any shares of common stock may be made by affiliates of the underwriters.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriters and the proceeds, before expenses, to us in connection with this offering.

These amounts are shown assuming both no exercise and full exercise of the underwriters' option to purchase up to an additional shares of common stock.

	Per Share	Total	
		No Exercise	Full Exercise
Offering price	\$ 0.85	\$30,000,000.30	\$34,499,999.75
Underwriting discounts and commissions	\$0.051	\$ 1,800,000.02	\$ 2,069,999.99
Proceeds to us, before expenses	\$0.799	\$28,200,000.28	\$32,429,999.77

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$0.5 million. We have also agreed to reimburse the underwriters for up to \$30,000 for its counsel fees related to determining the offering's compliance with the rules of the Financial Industry Regulatory Authority, or FINRA. In accordance with FINRA Rule 5110, these reimbursed fees and expenses are deemed underwriting compensation for this offering.

Listing

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

No Sales of Similar Securities

We have agreed that we will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, or file with, the Securities and Exchange Commission a registration statement under the Securities Act relating to, any shares of our common stock or securities convertible into or exercisable or exchangeable for any shares of our common stock, or publicly disclose the intention to make any offer, sale, pledge, loan, disposition or filing (other than filings on Form S-8 relating to outstanding company stock plans that are disclosed in the Prospectus), or (ii) enter into any swap or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of any shares of common stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of shares of common stock or such other securities, in cash or otherwise, in each case without the prior written consent of Stifel, Nicolaus & Company, Incorporated for a period of 60 days after the date of this prospectus, other than the shares of our common stock to be sold in this offering.

The restrictions on our actions, as described above, do not apply to certain transactions, including (i) the shares of common stock to be sold in this offering; (ii) any shares of common stock issued upon the exercise of options granted or to be granted under our stock based compensation plans; (iii) any shares of common stock issued upon the exercise of warrants or conversion of convertible notes outstanding on the date of this prospectus supplement; (iv) sales of shares pursuant to our employee stock purchase plan and grants of equity awards granted or to be granted under our stock based compensation plans, in each case for (ii) – (iv) as described in the prospectus supplement and the accompanying prospectus and in the registration statement of which this prospectus supplement and the accompanying prospectus form a part; (v) the issuance of up to that number of shares equal to seven percent (7%) of our outstanding shares of common stock, calculated following the sale of shares hereunder ("Carveout Shares"), in connection with mergers or acquisitions of businesses, entities, property or other assets, joint ventures or strategic alliances, provided that we shall cause each such recipient of Carveout Shares to execute and deliver to the underwriters a lock-up agreement with the underwriters for the balance of the 60-day restricted period; or (vii) the filing of a shelf registration statement on Form S-3 (and any amendments thereto) with the Securities and Exchange Commission, so long as no sales are made under such registration statement during the 60-day restriction period.

Our directors and executive officers, and certain of their affiliates (such persons, the "lock-up parties") have entered into lock-up agreements with the underwriters prior to the commencement of this offering pursuant to which each lock-up party, with limited exceptions, for a period of 90 days after the date of this prospectus (such period, the "restricted period"), may not (and may not cause any of their direct or indirect

affiliates to), without the prior written consent of Stifel, Nicolaus & Company, Incorporated, (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend or otherwise transfer or dispose of, directly or indirectly, any shares of our common stock or any securities convertible into or exercisable or exchangeable for our common stock (including, without limitation, common stock or such other securities which may be deemed to be beneficially owned by such lock-up parties in accordance with the rules and regulations of the SEC and securities which may be issued upon exercise of a stock option or warrant (collectively with the common stock, the “lock-up securities”)), (2) enter into any hedging, swap or other agreement or transaction that transfers, in whole or in part, any of the economic consequences of ownership of the lock-up securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of lock-up securities, in cash or otherwise, (3) make any demand for, or exercise any right with respect to, the registration of any lock-up securities, or (4) publicly disclose the intention to do any of the foregoing. Such persons or entities have further acknowledged that these undertakings preclude them from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (by any person or entity, whether or not a signatory to such agreement) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any lock-up securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of lock-up securities, in cash or otherwise.

The restrictions described in the immediately preceding paragraph and contained in the lock-up agreements between the underwriters and the lock-up parties do not apply, subject in certain cases to various conditions, to certain transactions, including (a) transfers of lock-up securities: (i) as bona fide gifts, or for bona fide estate planning purposes, (ii) by will or intestacy, (iii) to any trust for the direct or indirect benefit of the lock-up party or any immediate family member, or if the lock-up party is a trust, to a trustor or beneficiary of the trust or to the estate of a beneficiary of such trust, (iv) to a partnership, limited liability company or other entity of which the lock-up party or its immediate family members are the legal and beneficial owner of all of the outstanding equity securities or similar interests, (v) in the case of a corporation, partnership, limited liability company, trust or other business entity, (A) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate of the lock-up party, or to any investment fund or other entity controlling, controlled by, managing or managed by or under common control with the lock-up party or its affiliates or (B) as part of a distribution to members or shareholders of the lock-up party; (vi) by operation of law, such as pursuant to a qualified domestic order, divorce settlement, divorce decree or separation agreement, (vii) to us from an employee upon death, disability or termination of employment of such employee, (viii) to us in connection with the vesting, settlement or exercise of restricted stock units, options, warrants or other rights to purchase shares of our common stock (including, in each case, by way of “net” or “cashless” exercise), including for the payment of exercise price and tax and remittance payments due as a result of the vesting, settlement, or exercise of such restricted stock units, options, warrants or rights, provided that any such shares of common stock received upon such exercise, vesting or settlement shall remain subject to the restrictions in the immediately preceding paragraph, and provided further that any such restricted stock units, options, warrants or rights are held by the lock-up party pursuant to an agreement or equity awards granted under a stock incentive plan or other equity award plan, each such agreement or plan which is described in this prospectus, or (ix) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction that is approved by our board of directors and made to all shareholders involving a change in control, provided that if such transaction is not completed, all such lock-up securities would remain subject to the restrictions in the immediately preceding paragraph; (b) exercise of the options, settlement of RSUs or other equity awards, or the exercise of warrants granted pursuant to plans described in this prospectus, provided that any lockup securities received upon such exercise, vesting or settlement would be subject to restrictions similar to those in the immediately preceding paragraph; and (c) the establishment by lock-up parties of trading plans under Rule 10b5-1 under the Exchange Act, provided that (1) such plan does not provide for the transfer of lock-up securities during the restricted period, (2) no filing by any party under the Exchange Act or other public announcement shall be made voluntarily in connection with such trading plan, and (3) any required announcement or filing under the Exchange Act includes a statement to the effect that no transfer of shares of common stock shall be made under such plan during the restricted period.

Stifel, Nicolaus & Company, Incorporated may, in its sole discretion and at any time or from time to time before the termination of the 90-day or 60-day period, as applicable, release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriters and any of our officers and directors who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Stabilization

The underwriters have advised us that they, pursuant to Regulation M under the Exchange Act, as well as certain persons participating in the offering, may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common stock at a level above that which might otherwise prevail in the open market. A short sale involves the sale by the underwriters of a greater number of shares than they are required to purchase in this offering. A short position is more likely to be created if the underwriters are concerned that there may be downward pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering. Short sales may be “covered” shorts, which are short positions in an amount not greater than the underwriters’ option referred to above, or may be “naked” shorts, which are short positions in excess of that amount. The underwriters may close out any covered short position either by exercising their option, in whole or in part, or by purchasing shares in the open market. In making this determination, the underwriters will consider, among other things, the price of shares available for purchase in the open market compared to the price at which the underwriters may purchase shares through the option. A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriters for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriters to reduce a short position incurred by the underwriters in connection with the offering. Similar to other purchase transactions, the underwriters’ purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriters to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the common stock originally sold by such syndicate member is purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor the underwriters make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. The underwriters are not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

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

Electronic Distribution

A prospectus supplement in electronic format may be made available by e-mail or on the web sites or through online services maintained by the underwriters or their affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriters may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriters on the same basis as other allocations. Other than the prospectus supplement in electronic format, the information on the underwriters’ website and any information contained in any other website maintained by the underwriters is not part of this prospectus supplement, has not been approved and/or endorsed by us or the underwriters and should not be relied upon by investors.

Other Activities and Relationships

The underwriters and certain of their affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriters and certain of their affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriters and certain of their affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. The underwriters and certain of their affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Investors

Canada

This prospectus supplement constitutes an “exempt offering document” as defined in and for the purposes of applicable Canadian securities laws. No prospectus has been filed with any securities commission or similar regulatory authority in Canada in connection with the offer and sale of the common stock. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this prospectus supplement or on the merits of the common stock and any representation to the contrary is an offence.

Canadian investors are advised that this prospectus supplement has been prepared in reliance on section 3A.3 of National Instrument 33-105 Underwriting Conflicts (“NI 33-105”). Pursuant to section 3A.3 of NI 33-105, this prospectus supplement is exempt from the requirement that the issuer and the underwriter provides investors with certain conflicts of interest disclosure pertaining to “connected issuer” and/or “related issuer” relationships that may exist between the issuer and the underwriter as would otherwise be required pursuant to subsection 2.1(1) of NI 33-105.

Resale Restrictions

The offer and sale of the common stock in Canada is being made on a private placement basis only and is exempt from the requirement that the issuer prepares and files a prospectus under applicable Canadian securities laws. Any resale of the common stock acquired by a Canadian investor in this offering must be made in accordance with applicable Canadian securities laws, which may vary depending on the relevant jurisdiction, and which may require resales to be made in accordance with Canadian prospectus requirements, pursuant to a statutory exemption from the prospectus requirements, in a transaction exempt from the prospectus requirements or otherwise under a discretionary exemption from the prospectus requirements granted by the applicable local Canadian securities regulatory authority. These resale restrictions may under certain circumstances apply to resales of the common stock outside of Canada.

Representations of Purchasers

Each Canadian investor who purchases the common stock will be deemed to have represented to the issuer and the underwriter that the investor (i) is purchasing the common stock as principal, or is deemed to be purchasing as principal in accordance with applicable Canadian securities laws, for investment only and not with a view to resale or redistribution; (ii) is an “accredited investor” as such term is defined in section 1.1 of National Instrument 45-106 Prospectus Exemptions (“NI 45-106”) or, in Ontario, as such term is defined in section 73.3(1) of the Securities Act (Ontario); and (iii) is a “permitted client” as such term is defined in section 1.1 of National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations.

Taxation and Eligibility for Investment

Any discussion of taxation and related matters contained in this prospectus supplement does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a Canadian investor when deciding to purchase the common stock and, in particular, does not address any Canadian tax considerations. No representation or warranty is hereby made as to the tax consequences to a resident, or deemed resident, of Canada of an investment in the common stock or with respect to the eligibility of the common stock for investment by such investor under relevant Canadian federal and provincial legislation and regulations.

Rights of Action for Damages or Rescission

Securities legislation in certain of the Canadian jurisdictions provides certain purchasers of securities pursuant to an offering memorandum (such as this prospectus supplement), including where the distribution involves an “eligible foreign security” as such term is defined in Ontario Securities Commission Rule 45-501 *Ontario Prospectus and Registration Exemptions* and in Multilateral Instrument 45-107 *Listing Representation and Statutory Rights of Action Disclosure Exemptions*, as applicable, with a remedy for damages or rescission, or both, in addition to any other rights they may have at law, where the offering memorandum, or other offering document that constitutes an offering memorandum, and any amendment thereto, contains a “misrepresentation” as defined under applicable Canadian securities laws. These remedies, or notice with respect to these remedies, must be exercised or delivered, as the case may be, by the purchaser within the time limits prescribed under, and are subject to limitations and defences under, applicable Canadian securities legislation. In addition, these remedies are in addition to and without derogation from any other right or remedy available at law to the investor.

Language of Documents

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the common stock described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur Canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

Australia

This document does not constitute a prospectus, product disclosure statement or other disclosure document under the Australia's Corporations Act 2001 (Cth) (the “Corporations Act”) of Australia. This document has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this document in Australia:

You confirm and warrant that you are either:

- a “sophisticated investor” under section 708(8)(a) or (b) of the Corporations Act;
- a “sophisticated investor” under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant's certificate to the Company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made; or
- a “professional investor” within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor or professional investor under the Corporations Act, any offer made to you under this document is void and incapable of acceptance.

You warrant and agree that you will not offer any of the common stock issued to you pursuant to this document for resale in Australia within 12 months of those shares of common stock being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

European Economic Area

In relation to each member state of the European Economic Area (each a “Member State”), no shares of common stock that are the subject of the offering contemplated by this prospectus supplement have been offered or will be offered pursuant to the offer described herein in that Member State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that the shares may be offered to the public in that Member State at any time:

- (i) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;
- (ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation) in that Member State, subject to obtaining the prior consent of the underwriter for any such offer; or
- (iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of common stock shall require the issuer or the underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Member State who acquires any common stock in the offer or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriters that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any shares being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriters that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Member State to qualified investors, in circumstances in which the prior consent of the underwriter has been obtained to each such proposed offer or resale. Neither the issuer nor the underwriters have authorised, nor do they authorise, the making of any offer of shares of common stock through any financial intermediary, other than offers made by the underwriters which constitute the final placement of common stock contemplated in this document.

The issuer and the underwriters and their respective affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

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

In Member States, this document is being distributed only to, and is directed only at, persons who are “qualified investors” within the meaning of Article 2(e) of the Prospectus Regulation (“Qualified Investors”). This document must not be acted on or relied on in any Member State by persons who are not Qualified Investors. Any investment or investment activity to which this document relates is available in any Member State only to Qualified Investors and will be engaged in only with such persons.

Hong Kong

The contents of this prospectus supplement have not been reviewed, approved or authorized by any regulatory authority in Hong Kong. The information contained in this prospectus supplement is for information purposes only and does not constitute an offer, solicitation, invitation or recommendation to subscribe for or purchase any shares, other products or to provide any investment advice. You are advised to exercise caution in relation to this prospectus supplement. If you are in any doubt about any of the contents of this prospectus supplement, you should obtain independent professional advice. No shares have

been, may be or will be offered or sold in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the “SFO”) and any rules made thereunder; or in other circumstances which do not result in the document being a “prospectus” as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the “C(WUMP)O”), or which do not constitute an offer to the public within the meaning of the C(WUMP)O. No document, invitation or advertisement relating to the shares has been issued or may be issued or will be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to shares which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made thereunder.

This document has not been and will not be registered with the Registrar of Companies in Hong Kong. Accordingly, this document may not be issued, circulated or distributed in Hong Kong, and the shares may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the shares will be required, and is deemed by the acquisition of the shares, to confirm that he is aware of the restriction on offers of the shares described in this document and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948 of Japan, as amended) (the “FIEA”), and the Initial Purchaser will not offer or sell any shares, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means, unless otherwise provided herein, any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEA and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore

This document and any other document or material relating to the shares have not been and will not be lodged or registered with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or the invitation for subscription or purchase of the shares may not be issued, circulated or distributed, nor may the shares be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the “SFA”), (ii) to a relevant person as defined under Section 275(2) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA and where (where applicable) Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018, or (iii) otherwise pursuant to, and in accordance with the conditions of any other applicable provision of the SFA. **In the event that you are not an investor falling within any of the categories set out above, please return this document immediately. You may not forward or circulate this document to any other person in Singapore.**

No offer is made to you with a view to the shares being subsequently offered for sale to any other party. There are on-sale restrictions that may be applicable to investors who acquire the shares. As such, investors are advised to acquaint themselves with the provisions of the SFA relating to resale restrictions and comply accordingly.

Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor as defined under Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferable within six months after that corporation or that trust has acquired the securities under Section 275 of the SFA except:

- to an institutional investor under Section 274 of the SFA or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018 of Singapore.

Switzerland

The shares may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange ("SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the shares or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the issuer or the shares have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of the shares will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of shares has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the shares.

Israel

This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the shares is directed only at, investors listed in the first addendum, or the Addendum, to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisers, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and "qualified individuals," each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

United Kingdom

In relation to the United Kingdom, no shares of the common stock that are the subject of the offering contemplated by this prospectus supplement have been offered or will be offered to the public in the United Kingdom prior to the publication of a prospectus in relation to the shares which has been approved by

the UK Financial Conduct Authority, except that the shares may be offered to the public in the United Kingdom at any time:

- (i) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;
- (ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the underwriters for any such offer; or
- (iii) in any other circumstances falling within Section 86 of the Financial Services and Markets Act 2000 (as amended) (the “FSMA”), provided that no such offer of the shares shall require the issuer or any underwriters to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the United Kingdom who acquires any shares in the offer or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriters that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any common stock being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriters that the shares acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the United Kingdom to qualified investors, in circumstances in which the prior consent of the underwriters has been obtained to each such proposed offer or resale. Neither the issuer nor the underwriters have authorised, nor do they authorise, the making of any offer of common stock through any financial intermediary, other than offers made by the underwriters which constitute the final placement of shares of common stock contemplated in this document.

The issuer and the underwriters and their respective affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to the securities in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase or subscribe for any common stock and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of United Kingdom law by virtue of the European Union (Withdrawal) Act 2018.

In the United Kingdom, this document is being distributed only to, and is directed only at, persons who are “qualified investors” within the meaning of Article 2(e) of the UK Prospectus Regulation who are also: (i) persons who fall within the definition of “investment professionals” in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the “Order”); (ii) persons falling within Article 49(2) of the Order; or (iii) persons to whom it may otherwise lawfully be communicated (all such persons together being referred to as “relevant persons”). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. Any investment or investment activity to which this document relates is available in the United Kingdom only to relevant persons and will be engaged in only with such persons.

Any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) may only be communicated or caused to be communicated in connection with the issue or sale of the common stock in circumstances in which Section 21(1) of the FSMA does not apply. All applicable provisions of the FSMA and the Order must be complied with in respect of anything done by any person in relation to the common stock in, from or otherwise involving the United Kingdom.

LEGAL MATTERS

We are being represented by Davis Polk & Wardwell LLP, New York, New York with respect to certain legal matters as to U.S. federal securities and New York State law. Certain legal matters in connection with the offering will be passed upon for the underwriters by Paul Hastings LLP. The validity of the common stock offered in this offering and legal matters as to Virginia State law will be passed upon for us by Hogan Lovells LLP.

EXPERTS

The financial statements of Precigen, Inc. as of December 31, 2023 and 2022, and for each of the three years in the period ended December 31, 2023, incorporated by reference in this prospectus supplement have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports. Such financial statements are incorporated by reference in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements, and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements, and other information about issuers, such as us, who file electronically with the SEC. The address of that website is *www.sec.gov*. We make available, free of charge, on our website at *www.precigen.com*, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to such reports as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC.

Information on or accessible through our website is not incorporated by reference herein and is not part of this prospectus.

This prospectus supplement and accompanying prospectus are part of a registration statement that we have filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained through the SEC's website, as provided above, or from us, as provided in the section of this prospectus entitled "Incorporation by Reference." Certain documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus supplement and accompanying prospectus about these documents are summaries and each statement is subject, and qualified in all respects by reference, to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters.

INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for each of the documents incorporated by reference in this prospectus supplement is 001-36042. The documents incorporated by reference into this prospectus supplement contain important information that you should read.

This prospectus supplement and accompanying prospectus incorporate by reference the documents set forth below that have previously been filed with the SEC (other than those documents or the portions of those documents not deemed to be filed):

- the 2023 Annual Report on Form 10-K, filed with the SEC on [March 19, 2024](#), as amended on Form 10-K/A, filed with the SEC on [April 29, 2024](#);
- [our quarterly report on Form 10-Q for the quarter ended March 31, 2024, filed with the SEC on May 14, 2024](#);
- our current reports on Form 8-K filed with the SEC on [January 8, 2024](#), [February 8, 2024](#), [July 5, 2024](#) and [August 6, 2024](#) (Item 8.01 only); and
- the description of our common stock contained in our registration statement on [Form 8-A filed with the SEC on September 24, 2018](#), including any amendment or report filed for the purpose of updating such description, including [Exhibit 4.3](#) to the 2023 Annual Report.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including those filed after the date of the initial registration statement of which this prospectus supplement is part and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and deemed to be part of this prospectus supplement from the date of the filing of such reports and documents. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed “filed” with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting: Precigen, Inc., 20374 Seneca Meadows Parkway, Germantown, Maryland 20876. Our corporate phone number is (301) 556-9900. In addition, copies of any or all of the documents incorporated herein by reference may be accessed at our website at www.precigen.com. The information on or accessible through our website is not incorporated by reference herein and is not a part of this prospectus supplement.

PROSPECTUS



Precigen, Inc.

\$300,000,000

**Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Stock Purchase Contracts
Units**

We may offer and sell up to \$300,000,000 in the aggregate of the securities identified above from time to time in one or more offerings. This prospectus provides you with a general description of the securities we may offer and sell and the general manner in which they may be offered.

Each time we offer securities pursuant to this prospectus, we will provide one or more supplements to this prospectus or free writing prospectuses containing specific information about the offering and the terms of the securities being sold. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. You should carefully read this prospectus, the applicable prospectus supplement, the information incorporated herein and therein by reference, and any free writing prospectus before you invest in any of our securities.

We may offer and sell the securities described in this prospectus and any prospectus supplement to or through one or more underwriters, dealers, and agents, or directly to purchasers, or through a combination of these methods. The names of any underwriters, dealers or agents involved in the sale of any of the securities and the terms of the arrangements with them will be set forth in the applicable prospectus supplement or free writing prospectus. See the sections of this prospectus entitled “About this Prospectus” and “Plan of Distribution” for more information. No securities may be sold without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

INVESTING IN OUR SECURITIES INVOLVES RISKS. SEE THE SECTION OF THIS PROSPECTUS ENTITLED “Risk Factors” ON PAGE 5 OF THIS PROSPECTUS AND ANY SIMILAR SECTION CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT CONCERNING FACTORS YOU SHOULD CONSIDER BEFORE INVESTING IN OUR SECURITIES.

Our common stock is listed on the Nasdaq Global Select Market under the symbol “PGEN.” On December 28, 2023, the last reported sale price of our common stock on the Nasdaq Global Select Market was \$1.41 per share.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 17, 2024.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the U.S. Securities and Exchange Commission, or the SEC, using a “shelf” registration process. By using a shelf registration statement, we may sell securities from time to time and in one or more offerings up to an aggregate dollar amount of \$300,000,000 of securities as described in this prospectus. Each time that we offer and sell securities, we will provide a prospectus supplement to this prospectus that contains specific information about the securities being offered and sold and the specific terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement or free writing prospectus may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or free writing prospectus, you should rely on the prospectus supplement or free writing prospectus, as applicable. Before purchasing any securities, you should carefully read this prospectus, the applicable prospectus supplement, and any applicable free writing prospectuses, together with the additional information described in the sections of this prospectus entitled “Where You Can Find More Information” and “Incorporation by Reference.”

We have not authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We will not make an offer to sell or solicit an offer to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus and the applicable prospectus supplement is accurate only as of the date on its respective cover, that the information appearing in any applicable free writing prospectus is accurate only as of the date of that free writing prospectus, and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference, unless we indicate otherwise. Our business, financial condition, results of operations, and prospects may have changed since those dates.

This prospectus, the information incorporated herein by reference, and any prospectus supplement or free writing prospectus contain or may contain references to trademarks, service marks, and trade names owned by us or other companies. Solely for convenience, trademarks, service marks, and trade names, including logos, artwork, and other visual displays, may appear without the ® or ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks, service marks, and trade names. We do not intend our use or display of other companies’ trade names, service marks, or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies. Other trademarks, trade names, and service marks appearing in this prospectus are the property of their respective owners.

When we refer to “we,” “our,” “us,” and the “Company” in this prospectus, we mean Precigen, Inc., unless otherwise specified. When we refer to “you,” we mean the potential holders of the applicable series of securities.

WHERE YOU CAN FIND MORE INFORMATION

We file reports, proxy statements, and other information with the SEC. The SEC maintains a website that contains reports, proxy and information statements, and other information about issuers, such as us, who file electronically with the SEC. The address of that website is www.sec.gov. We make available, free of charge, on our website at www.precigen.com, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to such reports as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the SEC.

Information on or accessible through our website is not incorporated by reference herein and does not form a part of this prospectus.

This prospectus and any prospectus supplement are part of a registration statement that we have filed with the SEC and do not contain all of the information in the registration statement. The full registration statement may be obtained through the SEC's website, as provided above, or from us, as provided in the section of this prospectus entitled "Incorporation by Reference." Certain documents establishing the terms of the offered securities are or may be filed as exhibits to the registration statement or documents incorporated by reference in the registration statement. Statements in this prospectus or any prospectus supplement about these documents are summaries and each statement is subject, and qualified in all respects by reference, to the document to which it refers. You should refer to the actual documents for a more complete description of the relevant matters.

INCORPORATION BY REFERENCE

The SEC's rules allow us to "incorporate by reference" information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus, and subsequent information that we file with the SEC will automatically update and supersede that information. Any statement contained in this prospectus or a previously filed document incorporated by reference will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or a subsequently filed document incorporated by reference modifies or replaces that statement.

This prospectus and any accompanying prospectus supplement incorporate by reference the documents set forth below that have previously been filed with the SEC (other than those documents or the portions of those documents not deemed to be filed):

- our [annual report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 6, 2023](#), or the 2022 Annual Report, including the information incorporated therein by reference from our [definitive proxy statement for our 2023 Annual Meeting of Shareholders filed on April 25, 2023](#);
- our quarterly reports on Form 10-Q for the quarter ended March 31, 2023, June 30, 2023, and September 30, 2023, filed with the SEC on [May 10, 2023](#), [August 9, 2023](#), and [November 9, 2023](#), respectively;
- our current reports on Form 8-K filed with the SEC on [January 27, 2023](#), [April 5, 2023](#), and [June 9, 2023](#); and
- the description of our common stock contained in our [Registration Statement on Form 8-A filed with the SEC on September 24, 2018](#), including any amendment or report filed for the purpose of updating such description, including Exhibit 4.5 to the 2022 Annual Report.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, prior to the termination of this offering, including those filed after the date of the initial registration statement of which this prospectus is part and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed "filed" with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

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 of such person, a copy of any or all of the documents incorporated by reference in this prospectus, other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents. Requests may be made in writing or by telephone at:

Precigen, Inc.
20374 Seneca Meadows Parkway
Germantown, Maryland 20876
(301) 556-9900

THE COMPANY

We are a dedicated discovery and clinical-stage biopharmaceutical company advancing the next generation of gene and cell therapies with the overall goal of improving outcomes for patients with significant unmet medical needs. We are leveraging our proprietary technology platforms to develop product candidates designed to target urgent and intractable diseases in our core therapeutic areas of immuno-oncology, autoimmune disorders, and infectious diseases. We have developed an extensive pipeline of therapies across multiple indications within these core focus areas.

We are a Virginia corporation formed in 1998 and our principal executive offices are located at 20374 Seneca Meadows Parkway, Germantown, MD 20876, and our telephone number is (301) 556-9900. Our website address is www.precigen.com. Information on or accessible through our website is not incorporated by reference herein and does not form a part of this prospectus.

RISK FACTORS

Investment in any securities offered pursuant to this prospectus and the applicable prospectus supplement involves significant risks. You should carefully consider the risk factors incorporated by reference to our most recent Annual Report and any subsequent reports we file with the SEC after the date of this prospectus, and all other information contained or incorporated by reference into this prospectus, as updated by our subsequent filings under the Exchange Act, and the risk factors and other information contained in the applicable prospectus supplement and any applicable free writing prospectus before making a decision about investing in our securities. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business, financial condition, and results of operations. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, the applicable prospectus supplement and any free writing prospectus may contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, which statements involve substantial risks and uncertainties. All statements, other than statements of historical facts, included in this prospectus, including statements regarding our strategy; future events, including their outcome or timing; future operations; future financial position; future revenue; projected costs; prospects; plans; objectives of management; and expected market growth, are forward-looking statements. The words “aim”, “anticipate”, “assume”, “believe”, “continue”, “could”, “due”, “estimate”, “expect”, “intend”, “may”, “plan”, “positioned”, “potential”, “predict”, “project”, “seek”, “should”, “target”, “will”, “would”, and the negatives of these terms or similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. These statements may relate to, among other things: (i) the timeliness of regulatory approvals; (ii) our strategy and overall approach to our business model, our efforts to realign our business, and our ability to exercise more control and ownership over the development process and commercialization path; (iii) our ability to successfully enter new markets or develop additional product candidates, including the expected timing and results of investigational studies and preclinical and clinical trials, whether with our collaborators or independently; (iv) our ability to consistently manufacture our product candidates on a timely basis or to establish agreements with third-party manufacturers; (v) our ability to successfully enter into optimal strategic relationships with our subsidiaries and operating companies that we may form in the future; (vi) our ability to hold or generate significant operating capital, including through partnering, asset sales, and operating cost reductions; (vii) actual or anticipated variations in our operating results; (viii) actual or anticipated fluctuations in competitors’ or collaborators’ operating results or changes in their respective growth rates; (ix) our cash position; (x) market conditions in our industry; (xi) the volatility of our stock price; (xii) the ability, and the ability of our collaborators, to protect our intellectual property and other proprietary rights and technologies; (xiii) outcomes of pending and future litigation; (xiv) the rate and degree of market acceptance of any products developed by us, our subsidiaries, collaborations, or joint ventures, or JVs, and competition from existing technologies and products or new technologies and products that may emerge; (xv) our ability to retain and recruit key personnel; (xvi) expectations related to the use of proceeds from public offerings and other financing efforts; and (xvii) estimates regarding expenses, future revenue, capital requirements, and needs for additional financing.

These statements are based on management’s current expectations, estimates, forecasts and projections about our business and industry, are not guarantees of future performance and involve known and unknown risks, uncertainties, and other factors that are in some cases beyond our control and that may cause our or our industry’s actual results, levels of activity, performance or achievements to be materially different from those anticipated by the forward-looking statements. We discuss many of these risks in greater detail in the section of this prospectus entitled “Risk Factors” and elsewhere in this prospectus and any related free writing prospectus, and in any other documents incorporated herein or therein (including in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q, and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act). You should read these factors and the other cautionary statements made in this prospectus, the applicable prospectus supplement, and any free writing prospectus as being applicable to all related forward-looking statements wherever they appear herein or therein. If one or more of these factors materialize, or if any underlying assumptions prove incorrect, our actual results, levels of activity, performance, or achievements may vary materially from any future results, activity, performance, or achievements expressed or implied by these forward-looking statements. We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they were made. We undertake no obligation to publicly update any forward-looking statements after the date of this prospectus, whether as a result of new information, future events or otherwise, except as required by law.

You should read this prospectus, the applicable prospectus supplement and the documents that we reference in this prospectus and have filed 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 what we expect. We qualify all of our forward-looking statements by the foregoing cautionary statements.

USE OF PROCEEDS

Unless we specify otherwise in a prospectus supplement, we intend to use the net proceeds from sales of securities by us for general corporate purposes. These purposes may include clinical trials, research and development expenditures, expenditures to build our development and commercialization capabilities, capital expenditures, working capital, repayment or redemption of existing indebtedness, and any other corporate purpose. As of the date of this prospectus, we cannot specify with certainty all of the particular uses of the net proceeds from the sale of securities under this prospectus or the amounts to be used for such purposes. Accordingly, we will retain broad discretion over the use of such proceeds. Pending the use of the net proceeds described above, we plan to invest any net proceeds from sales of securities by us in a variety of capital preservation investments, including money market funds and U.S. government debt securities. We will not receive proceeds from sales of securities by persons other than us except as may otherwise be stated in an applicable prospectus supplement.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes certain information about our capital stock. The summary does not purport to be complete and is subject, and qualified in its entirety by reference, to our amended and restated articles of incorporation, or articles of incorporation, and our amended and restated bylaws, or bylaws, each of which is incorporated by reference as an exhibit to the registration statement of which this prospectus is a part, and the applicable provisions of Virginia law.

General

Our authorized capital stock consists of 400,000,000 shares of common stock, no par value per share, and 25,000,000 shares of preferred stock, no par value per share, all of which shares of preferred stock are undesignated. As of December 26, 2023, we had 248,919,093 shares of common stock outstanding and held of record by approximately 314 shareholders. The actual number of shareholders is greater than this number of record holders and includes shareholders who are beneficial owners but whose shares are held in street name by brokers and other nominees. This number of holders of record also does not include shareholders whose shares may be held in trust by other entities. All outstanding shares of common stock are fully paid and nonassessable. There are no shares of preferred stock outstanding.

Common Stock

Voting rights; Dividends; Liquidation

Holders of our common stock are entitled to:

- cast one vote for each share on all matters submitted to a vote of our shareholders, including the election of directors. Holders of our common stock do not have cumulative voting rights in the election of directors;
- receive dividends if and when dividends are declared by our board of directors out of assets legally available for the payment of dividends, subject to preferential rights of outstanding shares of preferred stock, if any; and
- in the event of our liquidation, dissolution or winding up, whether voluntary or involuntary, after payment of our debts and other liabilities and making provision for the holders of outstanding shares of preferred stock, if any, to share equally and ratably in the remainder of our assets.

Other Rights and Preferences

Holders of our common stock have no preemptive, redemption, conversion, or subscription rights and there are no sinking fund provisions applicable to our common stock. The rights, powers, preferences, and privileges of holders of common stock are subject to, and may be impaired by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

Preferred Stock

Our board has the authority to designate and issue from time to time one or more series of preferred stock without shareholder approval. Our board may fix and determine the preferences, limitations, and relative rights of each series of preferred stock issued. Because our board has the power to establish the preferences and rights of each series of preferred stock, it may afford the holders of any series of preferred stock preferences and rights, voting or otherwise, senior to the rights of holders of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock upon the rights of holders of common stock until our board determines the specific rights of the holders of preferred stock. However, the effects might include:

- restricting dividends on our common stock;
- diluting the voting power of our common stock;
- impairing liquidation rights of our common stock; or

- delaying or preventing a change in control of us without further action by our shareholders.

Anti-Takeover Effects of Provisions of our Articles of Incorporation and Bylaws and of Virginia Law

Our articles of incorporation, bylaws, and Virginia law contain provisions that may have the effect of impeding the acquisition of control of us by means of a tender offer, a proxy contest, open market purchases, or otherwise in a transaction not approved by our board of directors. These provisions are designed to reduce, or have the effect of reducing, our vulnerability to coercive takeover practices and inadequate takeover bids. The existence of these provisions could limit the price that investors might otherwise pay in the future for shares of common stock. In addition, these provisions make it more difficult for our shareholders to remove our board of directors or management, should they choose to do so.

Articles of Incorporation and Bylaws

Undesignated preferred stock. Our articles of incorporation authorize our board to establish one or more series of preferred stock and to determine, with respect to any series of preferred stock, the preferences, rights, and other terms of such series. See “Preferred Stock” above for additional information. Under this authority, our board could create and issue a series of preferred stock with rights, preferences or restrictions that have the effect of discriminating against an existing or prospective holder of our capital stock as a result of such holder beneficially owning or commencing a tender offer for a substantial amount of our common stock. One of the effects of authorized but unissued and unreserved shares of preferred stock may be to render it more difficult for, or to discourage an attempt by, a potential acquirer to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, and thereby protect the continuity of our management. The issuance of shares of preferred stock may have the effect of delaying, deferring or preventing a change in control of our Company without any action by our shareholders.

Qualification and election of directors. Our bylaws provide that to be eligible to be a nominee for election to our board of directors, a person must submit a written questionnaire regarding his or her background and qualifications and must agree to other representations as set forth in our bylaws. In addition, we have adopted a director resignation policy. Our bylaws provide that, in uncontested director elections (i.e., an election where the number of nominees is not greater than the number of directors to be elected), a nominee for director will be elected to the board of directors if the votes cast for such nominee’s election exceed the votes cast against such nominee’s election. However, directors will be elected by a plurality of the votes cast at any meeting of the shareholders for which (i) the Secretary receives a notice that a shareholder has nominated a person for election to the board of directors in compliance with the advance notice requirements for shareholder nominees for director set forth in the bylaws, and (ii) such nomination has not been withdrawn by such shareholder on or prior to the 10th day preceding the date we first mail the notice of meeting for such meeting to the shareholders (i.e., if there is a contested director election). If directors are to be elected by a plurality of the votes cast, the shareholders may withhold votes, but will not be permitted to vote against a nominee. Our Corporate Governance Guidelines provide that any nominee for director in an uncontested election who receives a greater number of shareholder votes cast against his or her election than votes for his or her election must promptly tender his or her resignation to the board of directors for consideration. The Nominating and Governance Committee will then evaluate the best interests of the Company and will recommend to the board of directors whether to accept or reject the tendered resignation. Following the board of directors’ receipt of this recommendation and determination as to whether to accept the resignation, we will disclose the board of directors’ decision and an explanation of how the decision was reached.

Board vacancies; removal. Our articles of incorporation provide that any vacancy occurring on our board of directors may be filled by a majority of directors then in office, even if less than a quorum.

Special meetings of shareholders. Our bylaws provide that a special meeting may be called by a vote of shareholders representing in the aggregate not less than 25 percent of the total number of shares of stock entitled to vote on the matter to be brought before the proposed special meeting, and that shareholders may only conduct business at special meetings of shareholders that was specified in the notice of the meeting.

Advance notification of shareholder nominations and proposals. Our bylaws establish advance notice procedures with respect to shareholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our board.

Exclusive forum provision. Our bylaws provide that unless we consent in writing to the selection of an alternative forum, the United States District Court for the Eastern District of Virginia, Alexandria Division, or in the event that court lacks subject matter jurisdiction to hear such action, the Circuit Court of the County of Fairfax, Virginia, will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action for breach of duty to the Company or our shareholders by any current or former officer or other employee or agent or director of the Company, (iii) any action against the Company or any current or former officer or other employee or agent or director of the Company arising pursuant to any provision of the Virginia Stock Corporation Act (as it may be amended from time to time) or our articles of incorporation or our bylaws (as either may be amended from time to time), or (iv) any action against the Company or any current or former officer or other employee or agent or director of the Company governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring or holding any interest in shares of our capital stock shall be deemed to have notice of and consented to the forum provisions in our bylaws. It is possible that a court of law could rule that the choice of forum provision contained in our bylaws is inapplicable or unenforceable if it is challenged in a proceeding or otherwise.

Virginia Anti-takeover Statutes

Affiliated transactions statute. The Virginia Stock Corporation Act contains provisions governing affiliated transactions. In general, these provisions prohibit a Virginia corporation from engaging in affiliated transactions (as defined in the Virginia Stock Corporation Act) with any interested shareholder, defined to include any holder of more than 10 percent of any class of its outstanding voting shares, unless a majority of (but not fewer than two) disinterested directors of the corporation and the holders of two-thirds of the voting shares, other than the shares beneficially owned by the interested shareholder, approve the affiliated transaction, subject to certain exceptions.

Affiliated transactions subject to this approval requirement include mergers, share exchanges, material dispositions of corporate assets not in the ordinary course of business, any dissolution of the corporation proposed by or on behalf of an interested shareholder or any reclassification, including reverse stock splits, recapitalizations or mergers of the corporation with its subsidiaries, which increases the percentage of voting shares owned beneficially by an interested shareholder by more than five percent.

Virginia law permits a corporation to exempt itself from this statutory provision by placing a statement to that effect in its articles of incorporation. Our articles of incorporation do not specifically address the Virginia statute regarding affiliated transactions; therefore, we are subject to this provision.

Control share acquisitions statute. Virginia law also contains provisions relating to control share acquisitions, which are transactions causing the voting strength of any person acquiring beneficial ownership of shares of a Virginia public corporation to meet or exceed certain threshold percentages (20 percent, 33 1/3 percent or 50 percent) of the total votes entitled to be cast for the election of directors. Shares acquired in a control share acquisition have no voting rights unless:

- the voting rights are granted by a majority vote of all outstanding shares entitled to vote in the election of directors, other than those held by the acquiring person or any officer or employee director of the corporation; or
- the articles of incorporation or bylaws of the corporation provide that these Virginia law provisions do not apply to acquisitions of its shares.

The acquiring person may require that a special meeting of the shareholders be held within 50 days of the corporation's receipt of the acquiring person's request to consider the grant of voting rights to the shares acquired in the control share acquisition. If voting rights are not granted and the corporation's articles of incorporation or bylaws permit, the acquiring person's shares may be repurchased by the corporation, at its option, at a price per share equal to the acquiring person's cost. Virginia law grants dissenters' rights to any shareholder who objects to a control share acquisition that is approved by a vote of disinterested shareholders and that gives the acquiring person control of a majority of the corporation's voting shares.

Our articles of incorporation provide that the statutory provisions governing control share acquisitions do not apply to our Company; therefore, we are not subject to this provision.

Authorized but Unissued Shares

The authorized but unissued shares of common stock and preferred stock are available for future issuance without shareholder approval, subject to any limitations imposed by the Nasdaq Stock Market LLC listing rules. These additional shares may be used for a variety of corporate finance transactions, acquisitions, and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could make it more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger, or otherwise.

Listing on the Nasdaq Global Select Market

Our common stock is listed on the Nasdaq Global Select Market under the symbol “PGEN”.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

DESCRIPTION OF DEBT SECURITIES

The following description summarizes certain terms and conditions of the debt securities that we will offer and sell pursuant to this prospectus. When we offer to sell a particular series of debt securities, we will describe the specific terms and conditions of the series in a prospectus supplement to this prospectus. We will also indicate in the applicable prospectus supplement whether the general terms and conditions described in this prospectus apply to the series of debt securities. The terms and conditions of the debt securities of a series may be different in one or more respects from the terms and conditions described below. If so, those differences will be described in the applicable prospectus supplement. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the indenture, which may be amended or supplemented from time to time, that contains the terms of the debt securities.

The following summary of provisions of the indenture does not purport to be complete and is subject, and qualified in its entirety by reference, to the complete text of the indenture, including, but not limited to, definitions therein of certain terms. This summary may not contain all of the information that you may find useful. The terms and conditions of the debt securities of each series will be set forth in those debt securities and in the indenture and in the applicable prospectus supplement.

The form of indenture has been filed as an exhibit to the registration statement of which this prospectus forms a part. A form of each debt security, reflecting the specific terms and provisions of that series of debt securities, will be filed with the SEC in connection with each offering and will be incorporated by reference in the registration statement of which this prospectus forms a part.

General

We may offer the debt securities from time to time in as many distinct series as we may determine. The indenture does not limit the amount of debt securities that we may issue thereunder. We may, without the consent of the holders of the debt securities of any series, issue additional debt securities ranking equally with, and otherwise similar in all respects to, the debt securities of the series (except for the public offering price and the issue date) so that those additional debt securities will be consolidated and form a single series with the debt securities of the series previously offered and sold.

The debt securities of each series will be issued in fully registered form without interest coupons. We currently anticipate that the debt securities of each series offered and sold pursuant to this prospectus will be issued as global debt securities as described under "Global Debt Securities" and will trade in book-entry form only.

Debt securities denominated in U.S. dollars will be issued in denominations of \$2,000 and any integral multiple of \$1,000 in excess thereof, unless otherwise specified in the applicable prospectus supplement. If the debt securities of a series are denominated in a foreign or composite currency, the applicable prospectus supplement will specify the denomination or denominations in which those debt securities will be issued.

Unless otherwise specified in the applicable prospectus supplement, we will repay the debt securities of each series at 100% of their principal amount, together with any premium and accrued and unpaid interest thereon at maturity, except if those debt securities have been previously redeemed or purchased and cancelled.

Unless otherwise specified in the applicable prospectus supplement, the debt securities of each series will not be listed on any securities exchange.

Provisions of Indenture

A prospectus supplement, the indenture and a supplemental indenture or authorizing resolution of our board of directors (including any related officer's certificate or Company order), if any, relating to any series of debt securities being offered will include specific terms relating to the offering. These terms will include some or all of the following:

- the form and title of the debt securities;
- the aggregate principal amount of the debt securities and any limit on the aggregate principal amount, *provided, however*, that such amount may from time to time be increased by a resolution of our board of directors;

- the price or prices at which the debt securities will be sold;
- the person to whom any interest on a debt security of the series will be payable, if other than the person in whose name that debt security is registered;
- the date or dates on which the principal of the debt securities will be payable;
- the rate or rates (fixed or variable, or combination thereof) at which the debt securities will bear interest, if any, or the method of determining such rate or rates;
- the date or dates on which any such interest shall be payable, the date or dates on which payment of any such interest will commence and the record dates, if any, for such payment date or dates, or the method of determining such date or dates, and the basis upon which interest shall be calculated if other than that of a 360-day year of twelve 30-day months, the right, if any, to extend or defer interest payments and the duration of such extension or deferral;
- any optional or mandatory redemption or repayment option, including any sinking fund, amortization or analogous provisions;
- if other than a minimum denomination equal to \$2,000 or an integral multiple of \$1,000 in excess thereof, the denominations in which any debt securities of the series will be issuable;
- any special tax implications of the debt securities, including provisions for original issue discount securities, if offered;
- any provisions granting special rights to holders when a specified event occurs;
- the percentage of the principal amount at which the debt securities will be issued and any payments due if the maturity of the debt securities is accelerated;
- any Events of Default or covenants with respect to the debt securities that differ from, or are in addition to, those set forth in the indenture;
- if other than U.S. dollars, the currency or currencies for which the debt securities will be issued or in which the principal thereof, any premium thereon and any interest thereon will be payable;
- provisions regarding the convertibility or exchangeability of the debt securities;
- provisions pertaining to the issuance of debt securities in the form of global debt securities, as described below;
- provisions relating to the satisfaction and discharge of the indenture;
- the form of and conditions to issuance of debt securities issuable in definitive form, other than as described below;
- if other than the trustee, the identity of any other trustee, the registrar for the debt securities and any paying agent;
- whether the debt securities of the series will be guaranteed by any persons and, if so, the identity of such persons, the terms and conditions upon which such debt securities will be guaranteed and, if applicable, the terms and conditions upon which such guarantees may be subordinated to other indebtedness of the respective guarantors;
- whether the debt securities of the series will be secured by any collateral and, if so, the terms and conditions upon which such debt securities will be secured and, if applicable, upon which such liens may be subordinated to other liens securing other indebtedness of us or of any guarantor;
- whether the debt securities will be issued in a transaction exempt from registration under the Securities Act and any restriction or condition on the transferability of the debt securities of such series;
- the exchanges, if any, on which the debt securities may be listed;
- the terms of any right to convert or exchange debt securities of such series into any other securities or property of ours or of any other corporation or person, and the additions or changes, if any, to the indenture with respect to the debt securities of such series to permit or facilitate such conversion or exchange; and

- any other terms not prohibited by the provisions of the indenture.

Global Debt Securities

Certain series of the debt securities may be issued as permanent global debt securities to be deposited with a depository with respect to that series. Unless otherwise indicated in the applicable prospectus supplement, the following is a summary of the depository arrangements applicable to debt securities issued in permanent global form and for which The Depository Trust Company, or DTC, acts as depository.

Each global debt security will be deposited with, or on behalf of, DTC, as depository, or its nominee and registered in the name of a nominee of DTC. Except under the limited circumstances described below, global debt securities are not exchangeable for definitive certificated debt securities.

Ownership of beneficial interests in a global debt security is limited to institutions that have accounts with DTC or its nominee, or participants, or persons that may hold interests through participants. In addition, ownership of beneficial interests by participants in a global debt security will be evidenced only by, and the transfer of that ownership interest will be effected only through, records maintained by DTC or its nominee for a global debt security. Ownership of beneficial interests in a global debt security by persons that hold through participants will be evidenced only by, and the transfer of that ownership interest within that participant will be effected only through, records maintained by that participant. DTC has no knowledge of the actual beneficial owners of the debt securities. Beneficial owners will not receive written confirmation from DTC of their purchase, but beneficial owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the participants through which the beneficial owners entered the transaction. The laws of some jurisdictions require that certain purchasers of securities take physical delivery of such securities in definitive form. Such laws may impair the ability to transfer beneficial interests in a global debt security.

Payments on debt securities represented by a global debt security registered in the name of or held by DTC or its nominee will be made to DTC or its nominee, as the case may be, as the registered owner and holder of the global debt security representing the debt securities. We expect that upon receipt of any payments with respect to a global debt security, DTC will immediately credit accounts of participants on its book-entry registration and transfer system with payments in amounts proportionate to their respective beneficial interests in the principal amount of that global debt security as shown in the records of DTC. Payments by participants to owners of beneficial interests in a global debt security held through those participants will be governed by standing instructions and customary practices, as is now the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the sole responsibility of those participants, subject to any statutory or regulatory requirements that may be in effect from time to time.

Neither we, any trustee nor any of our respective agents will be responsible for any aspect of the records of DTC, any nominee or any participant relating to, or payments made on account of, beneficial interests in a permanent global debt security or for maintaining, supervising or reviewing any of the records of DTC, any nominee or any participant relating to such beneficial interests.

A global debt security is exchangeable for definitive debt securities registered in the name of, and a transfer of a global debt security may be registered to, any person other than DTC or its nominee, only if:

- DTC notifies us that it is unwilling or unable to continue as depository for that global debt security or at any time DTC ceases to be registered under the Exchange Act, and a successor depository is not appointed by us within 90 days after our receipt of such notice;
- there shall have occurred and be continuing an event of default under the debt securities and the registrar shall have received a request from the depository to issue certificated securities;
- we determine in our sole discretion that the global debt security will be exchangeable for definitive debt securities in registered form; or
- as may be provided in any applicable prospectus supplement.

Any global debt security that is exchangeable pursuant to the preceding sentence will be exchangeable in whole for definitive debt securities in registered form, of like tenor and of an equal aggregate principal

amount as the global debt security. The definitive debt securities will be registered by the registrar in the name or names instructed by DTC. We expect that these instructions may be based on directions received by DTC from its participants with respect to ownership of beneficial interests in the global debt security.

Except as provided above, owners of the beneficial interests in a global debt security will not be entitled to receive physical delivery of debt securities in definitive form and will not be considered the holders of debt securities for any purpose under the indenture. No global debt security will be exchangeable except for another global debt security of like denomination and tenor to be registered in the name of DTC or its nominee. Accordingly, each person owning a beneficial interest in a global debt security must rely on the procedures of DTC and, if that person is not a participant, on the procedures of the participant through which that person owns its interest, to exercise any rights of a holder under the global debt security or the indenture.

We understand that, under existing industry practices, in the event that we request any action of holders, or an owner of a beneficial interest in a global debt security desires to give or take any action that a holder is entitled to give or take under the debt securities or the indenture, DTC would authorize the participants holding the relevant beneficial interest to give or take that action, and those participants would authorize beneficial owners owning through those participants to give or take that action or would otherwise act upon the instructions of beneficial owners owning through them.

DTC is a limited purpose trust company organized under the laws of the State of New York, a “banking organization” within the meaning of the New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the New York Uniform Commercial Code and a “clearing agency” pursuant to the provisions of Section 17A of the Exchange Act. DTC was created to hold securities of its participants and to facilitate the clearance and settlement of securities transactions among its participants in those securities through electronic book-entry changes in accounts of the participants, thereby eliminating the need for physical movement of securities certificates. DTC’s participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearance Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others, such as banks, brokers, dealers, trust companies and clearing corporations that clear through or maintain a custodial relationship with a participant, either directly or indirectly. The rules applicable to DTC and its participants are on file with the SEC. More information about DTC can be found at www.dtcc.com; the information contained on that website is not incorporated in this prospectus or in any prospectus supplement.

Certain Covenants

The indenture sets forth limited covenants that will apply to each series of debt securities issued under the indenture, unless otherwise specified in the applicable prospectus supplement. Under the indenture, we will agree to:

- pay the principal of, and interest and any premium on, the debt securities when due;
- maintain a place of payment;
- deliver an officer’s certificate to the trustee within 120 days after the end of each fiscal year regarding our review of compliance with our obligations under the indenture;
- maintain our corporate existence; and
- deposit sufficient funds with any paying agent on or before the due date for any payment of principal, interest or premium.

Consolidation, Merger or Asset Sale

The indenture generally will allow us to consolidate with or merge into any other person, association or entity. The indenture will also allow us to convey, transfer or lease our property and assets as, or substantially as, an entirety to a person, association or entity.

However, we will only consolidate with or merge into any other person, association or entity or convey, transfer or lease our properties and assets as, or substantially as, an entirety according to the terms and conditions of the indenture, including the following requirements:

- (i) we are the surviving person or (ii) the remaining or acquiring person, association or entity is a corporation or partnership organized under the laws of the United States, any state or the District of Columbia and expressly assumes all of our responsibilities and liabilities under the indenture, including the punctual payment of all amounts due on the debt securities and performance of the covenants in the indenture;
- immediately after giving effect to the transaction, no Event of Default, and no event which, after notice or lapse of time or both, would become an Event of Default, as defined below, exists; and
- delivery to the trustee of an officer's certificate and an opinion of counsel, each stating that all related conditions have been satisfied.

The remaining or acquiring person, association or entity will be substituted for us in the indenture with the same effect as if it had been an original party to the indenture. Thereafter, the successor may exercise our rights and powers under the indenture, in our name or in its own name. If we sell or transfer our assets substantially as an entirety, we will be released from all our liabilities and obligations under the indenture and the debt securities. If we lease our assets substantially as an entirety, we will not be released from our obligations under the indenture and the debt securities.

Events of Default

Unless otherwise specified in the applicable prospectus supplement, each of the following events will be an Event of Default under the indenture with respect to any series of debt securities issued under the indenture:

- failure to pay any interest on any debt security of the series when due, continued for 30 days;
- failure to pay principal of (or premium, if any, on) any debt security of the series when due;
- failure to deposit a sinking fund payment when and as due by the terms of a debt security of the series;
- failure to perform or comply with any covenant in the indenture or related supplemental indenture, continued for 90 days after written notice as provided in the indenture;
- certain events in bankruptcy, insolvency or reorganization affecting us; and
- any other Event of Default set forth in the indenture or supplemental indenture relating to the debt securities of that series.

An Event of Default for a particular series of debt securities does not necessarily constitute an Event of Default for any other series of debt securities issued under the indenture. The trustee may withhold notice to the holders of a series of debt securities of any default, except payment defaults of principal or interest or any premium on those debt securities, if it considers such withholding to be in the interest of the holders.

If an Event of Default occurs and is continuing, then the trustee or the holders of 25% in aggregate principal amount of the outstanding debt securities of that series may declare the entire principal amount of the debt securities of that series to be due and payable immediately; *provided, however*, that the holders of a majority of the aggregate principal amount of the debt securities of that series may, under certain circumstances, rescind and annul the declaration.

Subject to provisions in the indenture relating to its duties in case an Event of Default shall have occurred and be continuing, the trustee will not be under an obligation to exercise any of its rights or powers under the indenture at the request, order or direction of any holders of debt securities then outstanding under the indenture, unless the holders shall have offered to the trustee reasonable indemnity. If such reasonable indemnity is provided, the holders of a majority in aggregate principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any power conferred on the trustee, for any series of debt securities.

Defeasance

Debt securities of a series may be defeased at any time in accordance with their terms and as set forth in the indenture and described briefly below, unless the securities resolutions or supplemental indenture establishing the terms of the series provides otherwise. Any defeasance may terminate all of our obligations (with limited exceptions) with respect to a series of debt securities and the indenture, or legal defeasance, or it may terminate only our obligations under any restrictive covenants which may be applicable to a particular series, or covenant defeasance.

We may exercise our legal defeasance option even though we have also exercised our covenant defeasance option. If we exercise the legal defeasance option with respect to a series of debt securities, that series may not be accelerated because of an Event of Default. If we exercise the covenant defeasance option, that series of debt securities may not be accelerated by reference to any restrictive covenants which may be applicable to that particular series.

To exercise either defeasance option as to a series of debt securities, we must:

- irrevocably deposit in trust with the trustee or another trustee money or U.S. government obligations in an amount to pay and discharge the principal of and any premium and interest on the debt securities on the stated maturities or redemption dates therefor and any mandatory sinking fund payments;
- deliver a certificate from an independent public accountant or financial advisor expressing its opinion that the payments of principal and interest when due on the deposited U.S. government obligations, without reinvestment, plus any deposited money without investment, will provide cash at the times and in the amounts necessary to pay the principal of and premium and interest when due on all debt securities of the series to maturity or redemption, as the case may be, and any mandatory sinking fund payments; and
- comply with certain other conditions, including that there be no Event of Default at the time of deposit or Event of Default due to bankruptcy on or prior to the 90th day after the deposit date. In particular, we must obtain an opinion of tax counsel that the defeasance will not result in recognition of any gain or loss to holders for federal income tax purposes as a result of the deposit.

Discharge

We may discharge all our obligations under the indenture with respect to the notes of any series, other than our obligation to register the transfer of and to exchange notes of that series, when either:

- all outstanding notes of that series (except (i) mutilated, destroyed, lost or stolen notes that have been replaced or paid and notes for whose payment money has been deposited in trust and thereafter repaid to us and (ii) notes for whose payment money has theretofore been deposited in trust or segregated and held in trust by us and thereafter repaid to us or discharged from such trust) have been delivered to the trustee cancelled or for cancellation; or
- all such notes not so delivered for cancellation have either become due and payable or will become due and payable at their stated maturity within one year or are to be called for redemption within one year, and we have deposited with the trustee in trust an amount of cash sufficient to pay the entire indebtedness of such notes, including interest to the stated maturity or applicable redemption date; and
- we have paid all other sums due under the indenture and delivered an officer's certificate and opinion of counsel to the trustee stating that all related conditions have been satisfied.

Modification of the Indenture

Under the indenture, generally we and the trustee may modify our rights and obligations and the rights of the holders with the consent of the holders of not less than a majority in aggregate principal amount of the outstanding debt securities of each series affected by the modification.

No modification of the principal or interest payment terms, no modification reducing the percentage required for any waiver or modifications and no modification impairing the right to institute suit for the enforcement of any payment on debt securities of any series when due, is effective against any holder without its consent.

In addition, we and the trustee may amend the indenture without the consent of any holder of the debt securities to make certain changes, such as:

- curing ambiguities or correcting defects or inconsistencies;
- otherwise adding or changing provisions with respect to matters or questions arising under the indenture relating to a particular series of debt securities that does not adversely affect the rights of any holder in any material respect;
- evidencing the succession of another person to us, and the assumption by that successor of our obligations under the indenture and the debt securities of any series;
- providing for the acceptance of appointment by a successor trustee;
- qualifying the indenture under the Trust Indenture Act, or TIA;
- complying with the rules and regulations of any securities exchange or automated quotation system on which debt securities of any series may be listed or traded or any applicable depository;
- adding, changing or eliminating provisions relating to a particular series of debt securities to be issued, provided that any such addition, change or elimination (1) shall neither (i) apply to any debt security of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision nor (ii) modify the rights of the holders of any such debt security with respect to such provision or (2) shall become effective only when there is not such debt security outstanding;
- to establish the form or terms of any debt securities of any series under the indenture; or
- to provide for the issuance of additional debt securities of any series.

No Individual Liability of Officers, Directors, Employees or Stockholders

No director, officer, employee or stockholder, as such, of ours or any of our affiliates will have any personal liability in respect of our obligations under the indenture or the debt securities by reason of his, her or its status as such.

Governing Law

The indenture and all the debt securities will be governed by, and construed in accordance with, the laws of the State of New York.

Regarding the Trustee

The indenture provides that there may be more than one trustee thereunder, each with respect to one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust or trusts separate and apart from the trust or trusts administered by any other trustee under the indenture. Unless otherwise indicated in any applicable prospectus supplement, any action permitted to be taken by a trustee may be taken by such trustee only with respect to the one or more series of debt securities for which it is the trustee under the indenture. Any trustee under the indenture may resign or be removed with respect to one or more series of debt securities. All payments of principal of, and premium, if any, and interest on, and all registration, transfer, exchange, authentication and delivery (including authentication and delivery on original issuance of the debt securities) of, the debt securities of a series will be effected by the trustee with respect to that series at an office designated by the trustee.

We may maintain corporate trust relationships in the ordinary course of business with the trustee. The trustee shall have and be subject to all the duties and responsibilities specified with respect to the indenture trustee under the TIA. Subject to the provisions of the TIA, the trustee is under no obligation to exercise any

of the powers vested in it by the indenture at the request of any holder of debt securities, unless offered satisfactory indemnity by the holder against the costs, expense and liabilities which might be incurred thereby.

Under the TIA, the indenture is deemed to contain limitations on the right of the trustee, should it become a creditor of our company, to obtain payment of claims in some cases or to realize on certain property received in respect of any such claim as security or otherwise. The trustee may engage in other transactions with us. If it acquires any conflicting interest under the TIA relating to any of its duties with respect to the debt securities, however, it must eliminate the conflict or resign as trustee.

DESCRIPTION OF WARRANTS

We may issue warrants for the purchase of shares of our common stock or preferred stock or of debt securities. We may issue warrants independently or together with other securities, and the warrants may be attached to or separate from any offered securities. Each series of warrants may be issued under a separate warrant agreement to be entered into between us and the investors or a warrant agent. The following description summarizes certain provisions of the warrants and warrant agreements and is subject, and qualified in its entirety by reference, to the complete text of the warrant agreement and warrant certificate applicable to a particular series of warrants. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the number of shares of common stock or preferred stock purchasable upon the exercise of warrants to purchase such shares and the price at which such number of shares may be purchased upon such exercise;
- the designation, stated value and terms (including, without limitation, liquidation, dividend, conversion, and voting rights) of the series of preferred stock purchasable upon exercise of warrants to purchase preferred stock;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the date, if any, on and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;
- the terms of any rights to redeem or call the warrants;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- certain United States federal income tax consequences applicable to the warrants; and
- any additional terms of the warrants, including terms, procedures, and limitations relating to the exchange, exercise and settlement of the warrants.

Holders of equity warrants will not be entitled:

- to vote, consent or receive dividends;
- to receive notice as shareholders with respect to any meeting of shareholders for the election of our directors or any other matter; or
- to exercise any rights as shareholders of the Company.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to the specified time on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

A holder of warrant certificates may exchange them for new warrant certificates of different denominations, present them for registration of transfer and exercise them at the corporate trust office of the warrant agent or any other office indicated in the applicable prospectus supplement. Until any warrants to purchase debt securities are exercised, the holder of the warrants will not have any rights of holders of the debt securities that can be purchased upon exercise, including any rights to receive payments of principal, premium or interest on the underlying debt securities or to enforce covenants in the applicable indenture. Until any warrants to purchase common stock or preferred stock are exercised, the holders of the warrants

will not have any rights of holders of the underlying common stock or preferred stock, including any rights to receive dividends or payments upon any liquidation, dissolution or winding up on the common stock or preferred stock, if any.

The description in the applicable prospectus supplement of any warrants that we may offer will not necessarily be complete and will be subject, and qualified in its entirety by reference, to the complete text any applicable warrant agreement and certificate, which will be filed with the SEC.

DESCRIPTION OF RIGHTS

We may issue rights to purchase debt securities, preferred stock, common stock or other securities. These rights may be issued independently or together with any other security offered hereby and may or may not be transferable by the shareholder receiving the rights in such offering. The applicable prospectus supplement may add, update or change the terms and conditions of the rights as described in this prospectus. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete rights agreements and rights certificates that contain the terms of the rights.

The applicable prospectus supplement will describe the specific terms of any offering of rights for which this prospectus is being delivered, including the following:

- the price, if any, per right;
- the exercise price payable for debt securities, preferred stock, common stock, or other securities upon the exercise of the rights;
- the number of rights issued or to be issued to each shareholder;
- the number and terms of debt securities, preferred stock, common stock, or other securities which may be purchased per right;
- the extent to which the rights are transferable;
- any other terms of the rights, including the terms, procedures and limitations relating to the exchange and exercise of the rights;
- the date on which the holder's ability to exercise the rights shall commence, and the date on which the rights shall expire;
- the extent to which the rights may include an over-subscription privilege with respect to unsubscribed securities; and
- if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of such rights.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the applicable securities purchased upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than shareholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements with one or more underwriters or other purchasers, pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering, as described in the applicable prospectus supplement.

The description in the applicable prospectus supplement of any rights that we may offer will not necessarily be complete and will be subject, and qualified in its entirety by reference, to the applicable rights agreement and rights certificate, which will be filed with the SEC.

DESCRIPTION OF STOCK PURCHASE CONTRACTS

We may issue stock purchase contracts, including contracts obligating holders to purchase from or sell to us, and obligating us to sell to or purchase from the holders, a specified number of shares of common stock, preferred stock or other securities at a future date or dates, which we refer to in this prospectus as stock purchase contracts. The price per share of the securities and the number of shares of the securities may be fixed at the time the stock purchase contracts are issued or may be determined by reference to a specific formula set forth in the stock purchase contracts, and may be subject to adjustment under anti-dilution formulas.

The applicable prospectus supplement will describe the material terms of the stock purchase contracts. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete stock purchase contract agreements and stock purchase contracts that contain the terms of the stock purchase contracts. Certain United States federal income tax considerations applicable to the stock purchase contracts will also be discussed in the applicable prospectus supplement.

The description in the applicable prospectus supplement of any stock purchase contracts that we may offer will not necessarily be complete and will be subject, and qualified in its entirety by reference, to the applicable stock purchase contract, and, if applicable, collateral or depositary arrangements relating to the stock purchase contract, which will be filed with the SEC.

DESCRIPTION OF UNITS

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of any unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes certain features of the units that we may offer under this prospectus. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete unit agreements that contain the terms of the units. If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

The description in the applicable prospectus supplement of any units that we may offer will not necessarily be complete and will be subject, and qualified in its entirety by reference, to the applicable unit agreement, which will be filed with the SEC.

PLAN OF DISTRIBUTION

We may sell the offered securities from time to time:

- through underwriters or dealers;
- through agents;
- directly to one or more purchasers; or
- through a combination of any of these methods of sale.

We will identify the specific plan of distribution, including any underwriters, dealers, agents or direct purchasers and their compensation in the applicable prospectus supplement.

LEGAL MATTERS

Certain legal matters relating to the issuance and sale of the securities offered hereby will be passed upon for us by our counsel, Hogan Lovells US LLP, Baltimore, Maryland, and Davis Polk & Wardwell LLP, New York, New York. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The financial statements of Precigen, Inc. incorporated by reference in this prospectus, and the effectiveness of Precigen, Inc.'s internal control over financial reporting, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports. Such financial statements are incorporated by reference in reliance upon the reports of such firm, given their authority as experts in accounting and auditing.



35,294,118 Shares of Common Stock

Prospectus supplement

Sole Book-Running Manager

Stifel

August 7, 2024