

660,000 Shares of Series H Convertible Preferred Stock
660,000 Warrants to Purchase 660,000 Shares of Series H Convertible Preferred Stock
660,000 shares of Series H Convertible Preferred Stock issuable upon exercise of the Warrants
and
Up to 19,140,000 shares of Common Stock Underlying (i) the Series H Convertible Preferred Stock Sold Hereunder and (ii) the Series H Convertible Preferred Stock to Be Issued Upon Exercise of the Warrants



We are offering up to 660,000 shares of our Series H Non-Voting Convertible Preferred Stock (the “Preferred Stock”) and warrants to purchase up to 660,000 shares of our Series H Convertible Preferred Stock (the “Warrants”) (and up to 19,140,000 shares of Common Stock, which represents our reasonable good-faith estimate of how many shares of Common Stock may be issuable from time to time upon conversion of the Preferred Stock (including the conversion of the Preferred Stock underlying the Warrants) and payment of dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock). Each share of Preferred Stock we sell in this offering will be accompanied by a Warrant to purchase one share of Series H Convertible Preferred Stock at an exercise price of \$25.00 per share of Series H Convertible Preferred Stock. The shares of Preferred Stock and Warrants will be issued separately but can only be purchased together in this offering. Each Warrant will be immediately exercisable and will expire on the five-year anniversary of the date of issuance.

The combined public offering price for each share of Preferred Stock and accompanying Warrant is \$25.00 (the “Offering Price”). The Offering Price, as well as the exercise price and other terms of the Warrants, was determined by the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company. See, “Risk Factors” for more information.

The Conversion Price of the Preferred Stock (the “Conversion Price”) was set, with input from our Placement Agent, at the time of pricing the offering. The number of shares of Common Stock into which each share of Preferred Stock is convertible into is determined by dividing the Offering Price by the Conversion Price. Thus, if the Conversion Price is \$2.50, each share of Preferred Stock, exclusive of dividends, is convertible into approximately 10 shares of Common Stock. As to any fraction of a share which a holder would otherwise be entitled to receive upon such conversion, at our election, we may either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round to the nearest whole number. If the Conversion Price is set lower, or it is adjusted pursuant to the anti-dilution provision discussed below, the number of shares of Common Stock to be issued upon conversion will increase. For example, if the Conversion Price is lowered to \$1.00, each share of Preferred Stock that has not previously been converted, exclusive of dividends, will be convertible into approximately 25 shares of Common Stock.

The Certificate of Designation for our Preferred Stock contains anti-dilution provisions, which provisions require the lowering of the Conversion Price on any unconverted Preferred Stock to the purchase price of future offerings by us (subject to certain exclusions). If in the future we issue securities for less than the Conversion Price of our Preferred Stock, we will be required to reduce the relevant Conversion Price of any unconverted Preferred Stock, which will result in a greater number of shares of Common Stock being issuable upon conversion, which in turn will have a greater dilutive effect on our shareholders. In addition, as there is no floor price on the Conversion Price, we cannot determine the total number of shares issuable upon conversion. As such, it is possible that we will not have sufficient available shares to satisfy the conversion of the Preferred Stock if we enter into a future transaction that results in the reduction of the Conversion Price. If we do not have sufficient available shares for any Preferred Stock conversions, we will be required to increase our authorized shares, which may not be possible and will be time consuming and expensive. The potential for such Conversion Price adjustments may depress the price of our Common Stock regardless of our business performance, and, as a result, we may find it more difficult to raise additional equity capital while our Preferred Stock is outstanding. See, “Risk Factors” for additional information.

We have retained Dawson James Securities, Inc. to act as placement agent in connection with this offering and to use its “best efforts” to solicit offers to purchase the Preferred Stock and the Warrants. We have agreed to pay the placement agent a cash fee equal to 7.0% of the gross proceeds of the offering. There are no minimum purchase requirements. We may not sell the entire amount of the securities being offered pursuant to this prospectus. The placement agent is not purchasing or selling any securities pursuant to this offering, nor are we requiring any minimum purchase or sale of any specific number of securities. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual public offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth below. See “Plan of Distribution” beginning on page 30 of this prospectus for more information regarding these arrangements.

The Offering Price will be fixed for the duration of this offering. Because there is no minimum offering amount required as a condition to closing this offering, we may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. In addition, because there is no escrow account and no minimum offering amount in this offering, investors could be in a position where they have invested in our company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Also, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan. The offering will be terminated by July 31, 2025, and may not be extended. See “Risk Factors” for more information.

Our Common Stock is listed on the NYSE American under the symbol “OGEN”. On June 30, 2025, the closing price for our Common Stock, as reported on the NYSE American, was \$3.82 per share. The recent market price used throughout this prospectus may not be indicative of the actual market price at the time of the closing of this offering. There is no established public trading market for the Preferred Stock or the Warrants, and we do not expect a market to develop. We do not intend to apply for listing of the Preferred Stock or the Warrants on any securities exchange or other nationally recognized trading system. Without an active trading market, the liquidity of the Preferred Stock and Warrants will be limited.

On June 3, 2025 we effectuated a one-for-thirty reverse stock split of our issued and outstanding Common Stock (the “Reverse Stock Split”). Except where the context otherwise requires, share numbers in this prospectus reflect the Reverse Stock Split.

We have received deficiency letters from the NYSE American that we are not in compliance with the continued listing standards set forth in Sections 1003(a)(i), (ii) and (iii) of the NYSE American Company Guide (the “Company Guide”). Section 1003(a)(i) requires stockholders’ equity of no less than \$2,000,000 if the Company has sustained losses from continuing operations and/or net losses in two of its three most recent fiscal years. Section 1003(a)(ii) requires a listed company to have stockholders’ equity of \$4 million or more if the listed company has reported losses from continuing operations and/or net losses in three of its four most recent fiscal years. Section 1003(a)(iii) requires a listed company to have stockholders’ equity of \$6 million or more if the listed company has reported losses from continuing operations and/or net losses in our five most recent fiscal years. On May 17, 2024, we submitted a plan of compliance (the “Plan”) to the NYSE American. On June 18, 2024, the NYSE American accepted our Plan and, as such, we will be able to continue our listing during the Plan period and will be subject to continued periodic review by the NYSE American staff. If we are not in compliance with the

continued listing standards by October 18, 2025 or if the Company does not make progress consistent with the Plan during the Plan period, the Company will be subject to delisting procedures as set forth in the Company Guide. The Company is committed to undertaking a transaction or transactions in the future to achieve compliance with the NYSE American's requirements. However, there can be no assurance that the Company will be able to achieve compliance with the NYSE American's continued listing standards within the required timeframe. See "Risk Factors".

We have agreed to pay the Placement Agent a fee based on the aggregate proceeds raised in this offering as set forth in the table below:

	Per Share and Accompanying Warrant (1)		Total(3)
Public offering price	\$	25.00	\$ 16,500,000
Placement Agent Fees (2)	\$	1.75	\$ 1,155,000
Proceeds to us, before expenses, to us(4)	\$	23.25	\$ 15,345,000

- (1) Per share price represents the offering price for one share of Preferred Stock and a Warrant to purchase one share of Preferred Stock. The price of a share of Preferred Stock and accompanying Warrant in this prospectus assumes a combined public offering price of \$25 per share and accompanying Warrant. The Offering Price, as well as the exercise price of the Warrants, was determined by the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers, and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company.
- (2) We will pay the Placement Agent a cash fee equal to seven percent (7%) of the aggregate gross proceeds raised in this offering. In addition, we have agreed to reimburse the Placement Agent for certain offering-related expenses. We refer you to "Plan of Distribution" beginning on page 30 for additional information regarding compensation to be received by the Placement Agent.
- (3) Assuming the maximum offering amount is sold in this offering.
- (4) Because there is no minimum number of securities or amount of proceeds required as a condition to closing in this offering, the actual public offering amount, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above. We estimate the total expenses of this offering payable by us, excluding the placement agent fee, will be approximately \$350,000.

Investing in our securities involves a high degree of risk. You should review carefully the disclosures described under the heading "Risk Factors" beginning on page 13 of this prospectus and in documents that are incorporated by reference into this prospectus for a discussion of the risks and uncertainties that should be considered in connection with an investment in our securities.

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

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

The delivery to the purchasers of the shares of Preferred Stock and Warrants in this offering is expected to be made on or about July 2, 2025, subject to satisfaction of certain customary closing conditions.

Sole Book-Running Manager

Dawson James Securities, Inc.

The date of this prospectus is July 2, 2025

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ABOUT THIS PROSPECTUS

We incorporate by reference important information into this prospectus. You may obtain the information incorporated by reference without charge by following the instructions under "Where You Can Find More Information." You should carefully read this prospectus as well as additional information described under "Incorporation of Certain Information by Reference," before deciding to invest in our securities.

To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference filed with the Securities and Exchange Commission, or the SEC, before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in a document incorporated by reference is inconsistent with a statement in another document incorporated by reference having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in this prospectus. We have not, and Dawson James has not, authorized anyone to provide any information or to make any representations other than those contained in this prospectus or in any free writing prospectuses prepared by or on behalf of us or to which we have referred you, and we take no responsibility for any other information others may give you. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

This prospectus is an offer to sell only the securities offered hereby, and only under circumstances and in jurisdictions where it is lawful to do so. We are not making an offer to sell these securities in any jurisdiction where an offer or sale is not permitted. The information contained in this prospectus or in any applicable free writing prospectus is current only as of its date, regardless of its time of delivery or any sale of our securities. Our business, financial condition, results of operations and prospects may have changed since that date.

The information incorporated by reference or provided in this prospectus contains statistical data and estimates, including those relating to market size and competitive position of the markets in which we participate, that we obtained from our own internal estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Industry publications, studies and surveys generally state that they have been obtained from sources believed to be reliable. While we believe our internal company research is reliable and the definitions of our market and industry are appropriate, neither this research nor these definitions have been verified by any independent source.

For investors outside the United States: We have not, and Dawson James has not, done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus outside the United States.

This prospectus and the information incorporated by reference into this prospectus contain references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus and the information incorporated by reference into this prospectus, including logos, artwork, and other visual displays, may appear without the ® or TM 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 and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other company.

We may also provide a prospectus supplement or post-effective amendment to the registration statement to add information to, or update or change information contained in, this prospectus. You should read both this prospectus and any applicable prospectus supplement or post-effective amendment to the registration statement together with the additional information to which we refer you in the sections of this prospectus entitled "Where you Can Find More Information".

The representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

As used in this prospectus, unless the context indicates or otherwise requires, "the Company," "our Company," "we," "us," and "our" refer to Oragenics, Inc., a Florida corporation, and its consolidated subsidiaries.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain forward-looking statements. These are based on our management's current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the sections entitled "Business," "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" contained in the documents incorporated by reference herein.

Any statements in this prospectus, or incorporated herein, about our expectations, beliefs, plans, objectives, assumptions or future events or performance are not historical facts and are forward-looking statements. Within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, these forward-looking statements include statements regarding:

- Our need to raise additional capital to continue to implement our business strategy;
- Our financial capacity and performance, including our ability to obtain funding, non-dilutive or otherwise, necessary to do the research, development, manufacture, and commercialization of any one or all of our product candidates;
- Our ability to maintain our listing on the NYSE American and the trading market of our Common Stock;
- Our ability to commence clinical trials and enroll patients, including in New Zealand, and the conditions, timing, progress and results of clinical trials of our product candidates;
- Uncertainties regarding submission, approval and scope of filings for regulatory approval of our product candidates and our ability to obtain and maintain regulatory approvals for our product candidates for any indication;
- Uncertainties regarding the potential benefits, activity, effectiveness and safety of our product candidates including as to administration, distribution and storage;
- Uncertainties regarding the size of the patient populations, market acceptance and opportunity for and clinical utility of our product candidates, if approved for commercial use;
- Our manufacturing capabilities and strategy, including the scalability and commercial viability of our manufacturing methods and processes, and those of our contractual partners;
- Our ability to successfully commercialize our product candidates;
- The potential benefits of, and our ability to maintain, our relationships and collaborations with the NIAID, the NIH, the NRC and other potential collaboration or strategic relationships;
- Uncertainties regarding our expenses, ongoing losses, future revenue, capital requirements;

- Our ability to identify, recruit and retain key personnel and consultants;
- Our ability to obtain, retain, protect, and enforce our intellectual property position for our product candidates, and the scope of such protection;
- Our ability to advance the development of our new and existing product candidate under the timelines and in accord with the milestones projected;
- Our need to comply with extensive and costly regulation by worldwide health authorities, who must approve our product candidates prior to substantial research and development and could restrict or delay the future commercialization of certain of our product candidates;
- Our ability to successfully complete pre-clinical and clinical development of, and obtain regulatory approval of our product candidates and commercialize any approved products on our expected timeframes or at all;
- The safety, efficacy, and benefits of our product candidates;
- The effects of government regulation and regulatory developments, and our ability and the ability of the third parties with whom we engage to comply with applicable regulatory requirements;
- The capacities and performance of our suppliers and manufacturers and other third parties over whom we have limited control; and
- Our competitive position and the development of and projections relating to our competitors or our industry.

In some cases, you can identify forward-looking statements by the words “may,” “might,” “can,” “will,” “to be,” “could,” “would,” “should,” “expect,” “intend,” “plan,” “objective,” “anticipate,” “believe,” “estimate,” “predict,” “project,” “potential,” “likely,” “continue” and “ongoing,” or the negative of these terms, or other comparable terminology intended to identify statements about the future, although not all forward-looking statements contain these words. These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements.

You should refer to the “Risk Factors” section contained in this prospectus and any related free writing prospectus, and under similar headings in the other documents that are incorporated by reference into this prospectus, for a discussion of important factors that may cause our actual results to differ materially from those expressed or implied by our forward-looking statements. Given these risks, uncertainties and other factors, many of which are beyond our control, we cannot assure you that the forward-looking statements in this prospectus will prove to be accurate, and you should not place undue reliance on these forward-looking statements. Furthermore, if our forward-looking statements prove to be inaccurate, the inaccuracy may be material. In light of the significant uncertainties in these forward-looking statements, you should not regard these statements as a representation or warranty by us or any other person that we will achieve our objectives and plans in any specified time frame, or at all.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

PROSPECTUS SUMMARY

This summary highlights certain information appearing elsewhere in this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in our Common Stock and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus. Before you decide to invest in our Common Stock, you should read the entire prospectus carefully, including “Risk Factors” beginning on page 13 and the financial statements and related notes incorporated by reference to this prospectus.

Our Company

We are a development-stage company dedicated to the research and development of nasal delivery pharmaceutical medications in neurology and fighting infectious diseases. Our lead product, ONP-002, is a fully synthetic, non-naturally occurring neurosteroid, is lipophilic, and we believe can cross the blood-brain barrier with the goal of rapidly eliminating swelling, oxidative stress and inflammation while restoring proper blood flow through gene amplification.

Our ONP-002 Neurology Asset for Brain Related Illness and Injury

Our lead product and focus is on the development and commercialization of ONP-002 for the treatment of mild traumatic brain injury (“mTBI” or “Concussion”).

ONP-002, together with our other neurology assets are referred to herein as the Neurology Assets. To date, ONP-002 has been shown to be stable up to 104 degrees for 18 months. The drug candidate is manufactured into a powder and filled into a novel intranasal device. The drug is then administered through the nasal passage from the device. The novel intranasal device is lightweight and easy to use in the field.

We believe the proprietary powder formulation and intranasal administration allows for rapid and direct accessibility to the brain. The device is breath propelled and is designed to allow patients to blow into the device which closes the soft palate in the back of the nasopharynx, preventing the flow of drug to the lungs or esophagus, minimizes system exposure and side effects, and effectively crosses the blood brain barrier. This mechanism is designed to trap ONP-002 in the nasal cavity allowing for more abundant and faster drug availability in the traumatized brain.

Expected ONP-002 Product Development Timeline:

Pre-clinical Animal Studies	Phase 1	Phase 2a	Phase 2b	Phase 3
Complete	Complete	Estimated Q2 2025 start	Estimated Q2 2026 start	Estimated Q2 2027 start

This product development plan is an estimate and is subject to change based on funding, technical risks and regulatory approvals.

Validation and Stability of ONP-002

A Certificate of Analysis (“COA”) was issued by the manufacturer of the drug, indicating that testing methods were standard and include appearance, identification by 1H NMR, identification by Mass Spectroscopy (MS), optical purity by HPLC, residual solvent analysis, elemental impurities, percent water, and residue on ignition. The manufacturer has shown both the specifications and the results, indicating that the material supplied passes all criteria. The ONP-002 drug is supplied in essentially pure form. As such, no excipients are believed to be present. Stability studies were performed by storing the ONP-002 drug samples under carefully controlled conditions with respect to temperature and humidity. The stability testing protocol included storage at about 25 °C ± 2 °C at about 60% relative humidity ± 5% relative humidity for about 24 months and at about 40 °C ± 2 °C at about 75% relative humidity ± 5% for about 18 months. The ONP-002 drug samples were pulled at essentially the scheduled time and analyzed for appearance, purity, assay, optical purity, and water content. No changes in ONP-002 were observed.

Intellectual Property

Domestic and foreign patents applications on the ONP-002 compound have been filed and to date, several have been issued. Domestic and foreign patent applications have also been filed on the novel breath-powered intranasal delivery device as follows:

- New chemical entity patent filings concerning the C-20 steroid compounds have been filed with the USPTO and are pending in the U.S. To date, national patents in 9 different countries have been granted, including European countries and Canada. A bundle of patents under the European Patent Convention have also been granted.
 - C-20 steroid compounds, composition and uses thereof to treat traumatic brain injury (TBI), including concussion.
 - Inventions relate to, inter alia, ONP-002 compositions, methods of use to treat, minimize and/or prevent traumatic brain injury (TBI), including severe TBI, moderate TBI, and mild TBI, including concussions, methods of manufacture and/or synthesis, products by process, and intermediates.
 - An issued U.S. patent expiration with 5-year maximum patent term extension - 9/17/2040.
 - An issued U.S. patent expiration without patent term extension - 9/17/2035.
- Multiple nasal delivery device patent applications concerning the Breath-Powered Nasal Devices and Uses Thereof have been filed in the U.S. with the USPTO as utility patent applications. In addition, multiple nationalized patent applications drawn to the Breath-Powered Nasal Devices and Uses Thereof have been filed in over 60 countries.
 - Breath-Powered Nasal Devices and Uses Thereof for Treatment of TBI, Including Concussion, and Methods.
 - Inventions relate to, inter alia, breath-powered nasal devices, single-directional breath-powered nasal devices for providing dual airflow for propelling a drug substance into a nasal cavity for targeted delivery to the olfactory region in high drug substance concentration for rapid diffusion into the brain for the treatment of local or systemic and/or central nervous system ("CNS") injury, disease or disorder, and methods of treating local or systemic and/or CNS injury, disease or disorder with such devices.
 - An exemplary issued U.S. patent expiration - 10/19/2042.

ONP-002 Pre-Clinical Trials

The ONP-002 drug has completed toxicology studies in rats and dogs. Those studies show that ONP-002 has a large safety margin for its predicted efficacious dose. In preclinical animal studies, the drug demonstrated rapid and broad biodistribution throughout the brain while simultaneously reducing swelling, inflammation, and oxidative stress, along with an excellent safety profile.

Results from the preclinical studies suggest that ONP-002 has an equivalent, and potentially superior, neuroprotective effect compared to related neurosteroids. The animals treated with the drug post-concussion showed positive behavioral outcomes using various testing platforms including improved memory and sensory-motor performance, and reduced depression and anxiety-like behaviors.

ONP-002 Drug Induction of PXR

The induction of the human CYP450 enzymes, CYP2B6, and CYP3A4 by ONP-002, as measured by mRNA expression, was tested in human hepatocytes from 3 donors at 3 concentrations: about 1 μ M, about 10 μ M and about 100 μ M. Results reflected that the ONP-002 drug through the known PXR-mechanism produced a modest induction of CYP3A4, up to about 17% of the positive control, and a greater induction of CYP2B6, of up to about 59% of the positive control, both at a concentration of about 100 μ M. Past data reflected that the ONP-001 drug candidate (*ent*-Progesterone) and Progesterone induce the PXR receptor. Receptor binding studies have been performed showing neither the ONP-001 drug candidate or the ONP-002 drug activate the classical Progesterone Receptor.

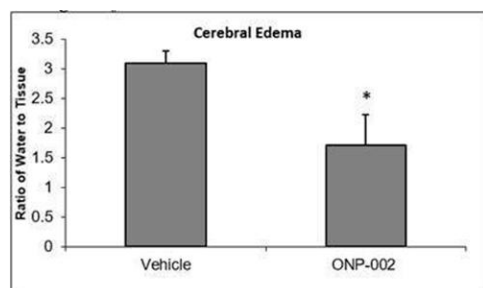
ONP-002 Drug Animal Studies

All surgical animals (male Sprague-Dawley rats approx. 250 grams) were anesthetized with an initial isoflurane induction for about 4 min-the minimum time necessary to sedate the animal. The scalp was shaved and cleaned with isopropanol and betadine. During the stereotaxic surgery, anesthesia was maintained with isoflurane. A medial incision was made, and the scalp was pulled back over the medial frontal cortex. An approximate 6-mm diameter craniotomy was performed exposing the brain tissue. An electrically controlled injury device using a 5 mm metal impactor was positioned over the exposed brain. An impact speed of about 1.6 m/s at about a 90-degree angle from vertical was used to produce an open head injury at a depth of 1mm to create a milder TBI. All treatments were given intranasal (IN) as a liquid solution with a micro atomizer. Vehicle for all administrations was about 22.5% Hydroxy-Propyl- β -cyclodextrin (HP β CD).

Molecular Studies - Brain tissue was taken from the penumbral region of injury.

Cerebral Edema

In Figure 2, we show that the ONP-002 drug reduces swelling in rats compared to vehicle-treated at 24-hrs after brain injury by measure of brain water content through speed-vacuum dehydration and tissue weight comparisons. The ONP-002 drug-treated (about 4mg/kg) and vehicle-treated were compared to sham which was set at zero. Local edema can occur after mTBI. Severe cerebral edema is associated with poor outcomes including increased mortality after mTBI with Second Impact Syndrome (2). *Denotes significance at $p < 0.05$, $n=6$



Inflammation

mTBI causes vascular and neuronal stress. Microglia and reactive astrocytes infiltrate the areas of injury and release inflammatory mediators, like TNF-alpha. We show that the ONP-002 drug (about 4mg/kg) reduces TNF-alpha-mediated neuroinflammation in brain tissue of rats compared to vehicle at approximately 24-hrs after mTBI (ELISA).

This pivotal GLP 14-day study used repeat dosing of the ONP-002 drug, 3X a day, approximately about 4 hours apart, for approximately 14 consecutive days at concentrations of about 0, 3, 10 or 23 mg/mL at a volume of about 1 mL/nostril to beagle dogs (both nostrils had drug administered). The intranasal treatment was given as a liquid solution using a micro atomizer using about 22.5% HPβCD as the vehicle. Intranasal ONP-002 drug dosing revealed that the ONP-002 drug was well tolerated up to the highest dose of about 23 mg/ml or about 46mg in total per dosing. Clinical observations were limited to increased salivation in dogs which occurred in a dose-dependent manner. There were no effects on body weight, food consumption, ophthalmic parameters, clinical chemistry, haematology, or organ weights at any of the doses tested. Microscopic analysis revealed purulent exudates in the nasal turbinate and evidence of inflammatory infiltrates and fibrin deposition in the lungs. All of these events were classified as mild, reversed during the recovery period, and did not appear to show any dose dependency. Similar findings were evident in vehicle control treated dogs indicating the findings were vehicle related. The highest dose of about 23 mg/ml was thus determined to be the NOAEL which is equivalent to a ONP-002 dose of about 1.5mg/kg and about 2.3mg/kg in male and female dogs, respectively. Testing shows the dose-dependent increase in plasma exposure of the ONP-002 drug in male and female dogs following IN administration. Plasma exposure levels were similar in males and females and there did not appear to be any evidence of drug accumulation following multiple doses.

Cardiopulmonary Safety Pharmacology

The effect of the ONP-002 drug on the human ether-a-go-go related gene (hERG) tail currents was assessed in a non-Good Laboratory Practice (GLP) study using manual whole-cell patch clamp. The ONP-002 drug tested at a single concentration of about 10 μM inhibited hERG tail currents by about 42.6% (n=3). In order to achieve a safety factor of about 30-fold between in vitro hERG IC50 and free plasma levels of the ONP-002 drug in clinical studies, the Cmax (maximum concentration) should not exceed a free drug concentration of about 0.33 μM (about 99 ng/ml). The ONP-002 drug is about 97.2% human plasma protein bound and is estimated to reach a plasma Cmax of about 12.5 nM, the highest dose of about 0.533 mg/kg to be administered in the planned first in human (FIH) study, which provides a safety factor of about 800-fold. A GLP study has been conducted at Charles River, Inc. and will be incorporated into the IND submission.

ONP-002 Drug Clinical Trials

The ONP-002 drug has completed a Phase 1 clinical trial in healthy human subjects showing it is safe and well tolerated.

Safety studies have established a dosing regimen of 2X/day for fourteen days. The Phase 1 clinical trial was performed in Melbourne, Australia with a Contract Research Organization (CRO), Avance Clinical Pty Ltd and Nucleus Network Pty Ltd. The country of Australia provides a currency exchange advantage and a tax rebate at the end of our fiscal year from the Australian government on all Research and Development performed in Australia.

The Phase 1 study was double-blinded, randomized and placebo controlled (3:1, drug:placebo). Phase 1 used a Single Ascending/Multiple Ascending (SAD/MAD) drug administration design. The SAD component was a 1X treatment (low, medium, or high dose) and the MAD component was a 1X/day treatment for five consecutive days (low and medium dose). Blood and urine samples were collected at multiple time points for safety pharmacokinetics. Standard safety monitoring was provided for each body system.

Forty human subjects (31 males, 9 females) were successfully enrolled in Phase 1. The Safety Review Board, made up of medical doctors, has reviewed the trial data and has determined the drug is safe and well tolerated at all dosing levels.

We anticipate preparing for Phase 2 clinical trials to further evaluate the ONP-002 drug’s safety and efficacy, but our ability to do so is uncertain. Based on the Phase 1 data, we plan to apply for an Investigational New Drug application with the FDA and conduct a Phase 2 trial in the United States. In connection therewith, in April, 2025, we submitted a clinical trial protocol for regulatory review to the Health and Disability Ethics Committee (HDEC) in New Zealand, Pending approval, of which there can be no certainty, we expect to initiate patient enrollment in New Zealand. The trial is expected to be conducted at Christchurch Hospital in New Zealand, the largest tertiary, teaching, and research hospital on the South Island. Christchurch Hospital provides a full range of emergency, acute, elective, and outpatient services, and its Emergency Department is one of the busiest in Australasia, treating more than 83,000 patients annually.

We anticipate a Phase 2 clinical trial will be performed administering the ONP-002 drug intranasally in concussed patients 2x a day for up to fourteen days. The Phase 2a feasibility study is expected to be performed in New Zealand with a target initiation date in the second or third quarter of 2025 to be followed closely by a Phase 2b proof of concept study in the US.

On July 10, 2024, we announced that we had developed a new proprietary formulation for the novel ONP-002 neurosteroid. We believe the nasal cavity provides access for our novel neurosteroid formulation to enter the brain in minutes. Given the difficulty of getting neurosteroids into solution, unique formulations must be developed to achieve therapeutic levels. We believe that our recent work has increased the final dose levels significantly while also providing for improved intranasal drug delivery and adhesion and, thus, longer absorption times. We further believe we have successfully completed an improved proprietary formulation of the ONP-002 drug that should significantly increase the bioavailability of the intranasal drug formulation. The enhanced drug percentages in this novel proprietary formulation have been developed as part of our platform for acute-field delivery of the drug. Our newly developed proprietary intranasal drug formulation is intended to reduce the duration of initial concussion symptoms and prevent long-lasting symptoms that can be debilitating after a concussion.

On August 8, 2024, we announced our candidate for treating concussion successfully completed a study that indicates the ONP-002 drug does not cause cardiotoxicity. Prior to conducting a clinical trial, the U.S. Food and Drug Administration (FDA) requires pharmaceuticals to be tested on cardiac receptors to ensure that they do not show any causes of electrical malformations. Further, on August 30, 2024, we announced we successfully completed a study that indicates the ONP-002 drug does not cause DNA damage and genotoxicity in an animal model. Prior to conducting a clinical trial, the U.S. Food and Drug Administration (FDA) requires that pharmaceuticals be tested on cells and animals to ensure they do not cause damage affecting cell division.

Key Milestones Ahead

The upcoming projected milestones include:

Milestone	Expected Timing
HDEC approval in New Zealand	Q2 2025
First patient enrolled in Phase IIa trial	Q2 2025
Completion of Phase IIa enrollment	Q4 2025
Interim safety and biomarker readout	Q4 2025 – Q1 2026
Initiation of Phase IIb (Part B)	Q2 2026
Topline Phase IIb results	Q1 2027
FDA End-of-Phase 2 Meeting	Q2 2027
FDA Accelerated Approval Filing (if eligible)	Q3 2027

Our Medical Advisors

Dr. James “Jim” Kelly, Neurologist, serves as our Chief Medical Officer, and oversees our upcoming Phase 2 clinical trial for treating concussion. In the recent past, Dr. Kelly served as the Executive Director of the Marcus Institute for Brain Health (MIBH) and Professor of Neurology at the University of Colorado Anschutz Medical Campus in Aurora, Colorado. The MIBH specialized treatment program is funded by the Marcus Foundation to care for US military veterans with persistent symptoms of TBI. Dr. Kelly was also National Director of the Avalon Action Alliance TBI Programs for which the MIBH serves as the clinical coordinating center. Prior to these recent positions, Dr. Kelly was the Director of the National Intrepid Center of Excellence (NICoE) at Walter Reed National Military Medical Center in Bethesda, MD. As its founding Director, he led the creation of an innovative interdisciplinary team of healthcare professionals who blended high-tech diagnosis and treatment with complementary and alternative medical interventions in a holistic, integrative approach to the care of US military personnel with the complex combination of TBI and psychological conditions, such as post-traumatic stress, depression, and anxiety. In this role, Dr. Kelly was frequently called upon by leaders of the Military Health System at the Pentagon, the US Congress, the Department of Veterans Affairs, and numerous military facilities in the continental US and abroad. Dr. Kelly has interacted with the FDA and clinical trials for brain injury throughout his esteemed career. He is a strong advocate for treatments in the acute phase of brain injury and understands the value of protecting the brain early on from inflammation, swelling and oxidative stress to gain better clinical outcomes.

Dr. William “Frank” Peacock serves as our Chief Clinical Officer, and will conduct our anticipated Phase 2 clinical trial for treating concussion in emergency departments. Dr. Peacock is currently the Vice Chair for Emergency Medicine Research at Baylor College of Medicine and a past Professor at the Cleveland Clinic Lerner College of Medicine. He is also the Principal Investigator of a trial for a company developing blood biomarkers for the identification of concussion in the emergency department, which is analyzing acute blood markers that are elevated after concussion to not only ensure concussion is identified but also as a predictor of potential severity and longer-term complications. Dr. Peacock is a world-renowned speaker and researcher. He has been instrumental in the approval and use of high sensitivity blood troponins for acute coronary syndrome failure in emergency settings, which can be seen in the *JAMA Cardiology* publication, *Efficacy of High-Sensitivity Troponin T in Identifying Very-Low-Risk Patients with Possible Acute Coronary Syndrome*, and he is the editor of the first book of “Biomarkers of Traumatic Brain Injury”.

Our Business Development Strategy

Success in the biopharmaceutical and product development industry relies on the continuous development of novel product candidates. Most product candidates do not make it past the clinical development stage, which forces companies to look externally for innovation. Accordingly, we expect, from time to time, to seek strategic opportunities through various forms of business development, which can include strategic alliances, licensing deals, joint ventures, collaborations, equity or debt-based investments, dispositions, mergers, and acquisitions. We view these business development activities as a necessary component of our strategies, and we seek to enhance shareholder value by evaluating business development opportunities both within and complementary to our current business, as well as opportunities that may be new and separate from the development of our existing product candidates.

Our current focus is on advancing our ONP-002 product candidate to treat concussion. Work on our other project candidates currently is not active.

Recent Developments*Reverse Stock Split*

On June 3, 2025 we effectuated a one-for-thirty reverse stock split of our issued and outstanding Common Stock (the “Reverse Stock Split”). Except where the context otherwise requires, share numbers in this prospectus reflect the Reverse Stock Split.

Human Research Ethics Committee Approval

On May 13, 2025 we announced that we had received approval from the Human Research Ethics Committee (HREC) in Australia to initiate a Phase II clinical trial evaluating ONP-002, our proprietary neuroprotective therapy, for the treatment of mild traumatic brain injury (mTBI), aka concussion.

This approval marked a significant milestone in expanding Oragenics’ clinical development efforts internationally. With this clearance, we can initiate clinical trials in Australia and could begin patient enrollment as early as the second quarter of 2025. Once we are prepared to commence enrollment, enrollment and treatment administration is expected occur in a level I trauma emergency departments where concussed patients are often seen following motor vehicle accidents, falls, and contact sports related injuries.

Strategic Partnership

In February 2025, we entered into a strategic partnership with BRAINBox Solutions, a leader in multi-modality diagnostics for traumatic brain injury (TBI), that is anticipated to create a comprehensive trigger-to-treat platform by combining BRAINBox’s advanced multimarker/ multimodality diagnostic capabilities with our novel therapeutic developments. The partnership intends to integrate BRAINBox’s proprietary diagnostic product platform—which utilizes a combination of neurological biomarkers, neuropsychological assessments, and AI-driven analytics to provide early and accurate TBI assessments—with our intranasal therapeutic candidate, ONP-002. Together, these technologies aim to transform the standard of care for concussion patients by providing rapid diagnosis, predictive prognosis, and timely, targeted treatment.

ATM Funding

On October 11, 2024, we entered into an At-the-Market Sales Agreement (the “ATM Agreement”) with Dawson James pursuant to which are allowed to issue and sell, from time to time, shares of our Common Stock by any method permitted by law as an “at the market offering” as defined in Rule 415(a)(4) of the Securities Act of 1933, including, without limitation, sales made directly on or through the NYSE American. In February 2025, we sold approximately 260,000 shares of Common Stock from our ATM program. The gross proceeds before commission and expenses from the February 2025 ATM sales were approximately \$2.75 million.

Bridge Note

On March 13, 2025, we entered into and consummated a note securities purchase agreement (the “Purchase Agreement”) with a single investor (the “Purchaser”) pursuant to which we sold, in a private placement (the “Bridge Financing”), to the Purchaser a promissory note with an aggregate principal amount of \$3,000,000 (the “Bridge Note”) and 1,000,000 shares of Series G Mirroring Preferred Stock (the “Series G Preferred Stock”). The aggregate gross proceeds to the Company are expected to be \$2,500,000 million, before deducting placement agent fees and expenses. We intend to use the net proceeds from the Bridge Financing for working capital and other general corporate purposes. Dawson James Securities, Inc. served as the placement agent in the Bridge Financing pursuant to the terms of a placement agent agreement dated February 26, 2024 and received 6% of the gross proceeds of the private placement and reimbursement of the legal fees of its counsel. The Bridge Note and Series G Preferred Stock sold in the Offering were issued in a Bridge Financing under Section 4(a)(2) of the Securities Act of 1933, as amended (the “Act”), and Regulation D promulgated thereunder and, have not been registered under the Act, or applicable state securities laws. Pursuant to the terms of the Series G Certificate of Designation, upon effectiveness of an amendment to the Amended and Restated Articles of Incorporation of the Company to effect the Reverse Stock Split, each share of Series G Preferred Stock was automatically transferred to the Company and cancelled for no consideration with no action on behalf of the holders of Series E Preferred Stock. The Company effectuated the Reverse Stock Split on June 3, 2025, and accordingly, all of the shares of Series G Preferred Stock resumed the status of authorized but unissued preferred stock and are no longer designated as Series G Preferred Stock.

The Bridge Note was issued with an original issue discount of 20%. No interest accrues on the Bridge Note unless and until an Event of Default (as defined in the Bridge Note) has occurred, upon which interest shall accrue at a rate of twenty percent (20.0%) per annum and shall be computed on the basis of a three hundred sixty (360)-day year and twelve (12) thirty (30)-day months and shall be payable on the maturity date. The Bridge Note matures upon the earlier of 120 days from the issuance date or the closing of any subsequent offering by the Company with net proceeds equal to or in excess of all amounts due under the Bridge Note. The Bridge Note contains certain Events of Default, including (i) the Company's failure to pay any amount of principal, interest, redemption price or other amounts due under the Notes or any other transaction document, (ii) any default under, redemption of, or acceleration prior to maturity of any indebtedness of the Company, as such term is defined in the transaction documents, (iii) bankruptcy of the Company or its subsidiaries, (iv) a final judgement or judgements for the payment of money in excess of \$250,000, which is not discharged or stayed pending appeal within 60 days, and (v) any breach or failure to comply with any provision of the Note or any other transaction document. Upon the occurrence of any Event of Default and at any time thereafter, the Purchaser shall have the right to exercise all of the remedies under the Note.

Corporate and Other Information

We were incorporated in November 1996 and commenced operations in 1999. We consummated our initial public offering in June 2003. Our executive office is located at, 1990 Main Street, Suite 750, Sarasota, Florida 34236. Our telephone number is (813) 286-7900 and our website is <http://www.oragenics.com>. We make available free of charge on our website our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports as soon as reasonably practicable after we electronically file or furnish such materials to the Securities and Exchange Commission (the "SEC"). The reports are also available at www.sec.gov.

Implications of Being a Smaller Reporting Company

We are a "smaller reporting company" as defined in Rule 10(f)(1) of Regulation S-K. We will remain a smaller reporting company until the last day of the fiscal year in which (1) the market value of our shares of Common Stock held by non-affiliates exceeds \$250 million or (2) our annual revenues exceeded \$100 million during such completed fiscal year and the market value of our shares of Common Stock held by non-affiliates exceeds \$700 million, each as determined on an annual basis. A smaller reporting company may take advantage of relief from some of the reporting requirements and other burdens that are otherwise applicable generally to public companies. These provisions include:

- being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure;
- not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting; and
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements.

We have taken advantage of the reduced reporting requirements in this prospectus and in the documents incorporated by reference into this prospectus. Accordingly, the information contained herein may be different from the information you receive from other public companies that are not small reporting companies.

SUMMARY OF RISK FACTORS

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

- We have incurred significant losses since our inception, have limited financial resources, do not generate any revenues and will need to raise additional capital in the future.
- We may not be able to secure additional funding.
- Our auditor has expressed substantial doubt about our ability to continue as a going concern.
- We may not be able to satisfy the continued listing standards of the NYSE American and may be delisted from the NYSE American.
- We may not receive approval to commence our clinical trials in New Zealand.
- We have limited neurology-specific research, development, manufacturing, testing, regulatory, commercialization, sales, distribution, and marketing experience, and we may need to invest significant financial and management resources to establish these capabilities.
- None of our product candidates have been approved for sale and if we are unable to successfully develop our product candidates, we may not be able to continue as a going concern.
- Our product candidates, if approved, will face significant competition; many of our competitors have significantly greater resources and experience.
- Our ONP-002 concussion candidate may face competition from biosimilars approved through an abbreviated regulatory pathway.
- The market opportunities for our neurology product candidates may be smaller than we believe them to be and we cannot assure you that the market and consumers will accept our products or product candidates.
- If our manufacturers and suppliers fail to meet our requirements and the requirements of regulatory authorities, our research and development may be materially adversely affected.
- We rely on the significant experience and specialized expertise of our senior management and scientific team and the loss of any of our key personnel or our inability to successfully hire their successors could harm our business.
- If any of our product candidates are shown to be ineffective or harmful in humans, we will be unable to generate revenues from these product candidates.
- We might not be successful at acquiring, investing in or integrating businesses, entering into joint ventures or divesting businesses.
- Our concussion and neurology related research and development efforts are to a large extent dependent upon our intellectual property and biologicals materials licenses.

- We may not be able to protect our intellectual property and if we are unable to protect our trademarks or other intellectual property from infringement, our business prospects may be harmed.
- We may be subject to claims challenging the inventorship of our patents and other intellectual property rights.
- If we are sued for infringing intellectual property rights of third parties, it will be costly and time-consuming and an unfavorable outcome in that litigation could have a material adverse effect on our business.
- Our success will depend on our ability to partner or sub-license our product candidates.
- Security breaches and other disruptions to our information technology systems or those of the vendors on whom we rely on could compromise our information and expose us to liability, reputational damage, or other costs.
- Our product candidates are subject to substantial government regulation and will be subject to ongoing and continued regulatory review and we may also be subject to healthcare laws, regulation and enforcement.
- We may be unable to obtain regulatory approval for our product candidates under applicable regulatory requirements.
- Delays or difficulties in the enrollment of patients in clinical trials may result in additional costs and delays.
- Our product candidates may cause serious or undesirable side effects.
- Our employees, independent contractors, principal investigators, consultants, vendors and CROs may engage in misconduct or other improper activities, including noncompliance with regulatory standards and requirements.
- Even if our current product candidates or any future product candidates obtain regulatory approval, they may fail to achieve the broad degree of health care payers, physician and patient adoption and use necessary for commercial success.
- The issuance of additional equity securities by us in the future will result in dilution and the conversion of our outstanding preferred stock will result in significant dilution.
- Our Series F Convertible preferred stock, if not converted into Common Stock, has a distribution and liquidation preference senior to our Common Stock in liquidation which could negatively affect the value of our Common Stock and impair our ability to raise additional capital.
- Certain provisions of our articles of incorporation, bylaws, executive employment agreements and stock option plan may prevent a change of control of our company that a shareholder may consider favorable.
- The price and volume of our Common Stock has been volatile and fluctuates substantially.
- The requirements of being a public company may strain our resources, divert management's attention and affect our ability to attract and retain qualified members for our Board of Directors.
- If we fail to maintain an effective system of internal controls, we may not be able to accurately report our financial results or prevent fraud.

THE OFFERING

Securities Offered by us:

660,000 shares of our Series H Convertible Preferred Stock (the "Preferred Stock") and Warrants to purchase up to 660,000 shares of our Series H Convertible Preferred Stock (the "Warrants") (and up to 9,570,000 the shares of Common Stock issuable from time to time upon conversion of the Preferred Stock at a Conversion Price of \$2.50 and payment of dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock).

Each share of Preferred Stock and accompanying Warrant is being offered at an offering price of \$25.00 (the "Offering Price"). The Offering Price, as well as the exercise price and other terms of the Warrants, was determined by the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company. See, "Risk Factors" for more information.

The shares of Preferred Stock and Warrants will be issued separately but can only be purchased together in this offering. Each warrant will be immediately exercisable and will expire on the five-year anniversary of the date of issuance.

This prospectus also relates to the offering of up to 660,000 shares of Preferred Stock issuable upon exercise of the Warrants (and up to an additional 9,570,000 shares of Common Stock issuable from time to time upon conversion of the Preferred Stock purchased upon exercise of the Warrants at a Conversion Price of \$2.50 and payment of dividends accrued on such Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock, assuming the Warrants are immediately exercised).

Altogether we are registering 19,140,000 shares of Common Stock, which represents our reasonable good-faith estimate of how many shares of Common Stock may be issuable from time to time upon conversion of the Preferred Stock (including the conversion of the Preferred Stock underlying the Warrants) and payment of dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock (assuming the immediately conversion of all of the Warrants).

Common stock outstanding immediately before this offering:

822,927 shares

Common stock outstanding immediately after this offering:

10,392,927 shares (assuming conversion of 660,000 shares of Preferred Stock and payment of all dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock at a Conversion Price of \$2.50 per share and no exercise of any of the Warrants offered hereby, and excluding any shares issuable upon exercise of the Warrants).

Conversion:

The Stated Value of each share of our Preferred Stock is \$25.00. Our Preferred Stock, based on its Stated Value, is convertible into shares of our Common Stock at the Conversion Price, subject to adjustment as provided in the Certificate of Designation, at any time at the option of the holder prior to July 2, 2025 (the fifth anniversary of the closing of the offering), at which time all shares of outstanding Preferred Stock shall automatically and without any further action by the holder be converted into shares of our Common Stock at the then effective Conversion Price, provided that the holder will be prohibited from converting Preferred Stock into shares of our Common Stock if, as a result of such conversion, the holder, together with its affiliates, would own more than 4.99% of the total number of shares of our Common Stock then issued and outstanding. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99%, provided that any increase in such percentage shall not be effective until 61 days after such notice to us.

The Conversion Price of the Preferred Stock (the “Conversion Price”), subject to adjustment pursuant to the Preferred Stock Certificate of Designation, as discussed further below, was set, with input from our Placement Agent, at the time of pricing the offering. The number of shares of Common Stock into which each share of Preferred Stock is convertible into is determined by dividing the Offering Price by the Conversion Price. Thus, if the Conversion Price is \$2.50, each share of Preferred Stock, exclusive of dividends, is convertible into approximately 10 shares of Common Stock. As to any fraction of a share which a holder would otherwise be entitled to receive upon such conversion, at our election, we may either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round to the nearest whole number. If the Conversion Price is set lower, or it is adjusted pursuant to the anti-dilution provision discussed below, the number of shares of Common Stock to be issued upon conversion will increase. For example, if the Conversion Price is lowered to \$1.00, each share of Preferred Stock that has not previously been converted, exclusive of dividends, will be convertible into approximately 25 shares of Common Stock.

The Certificate of Designation for our Preferred Stock contains anti-dilution provisions, which provisions require the lowering of the Conversion Price on any unconverted Preferred Stock to the purchase price of future offerings by us (subject to certain exclusions). If in the future we issue securities for less than the Conversion Price of our Preferred Stock, we will be required to reduce the relevant Conversion Price of any unconverted Preferred Stock, which will result in a greater number of shares of Common Stock being issuable upon conversion, which in turn will have a greater dilutive effect on our shareholders. In addition, as there is no floor price on the Conversion Price, we cannot determine the total number of shares issuable upon conversion. As such, it is possible that we will not have sufficient available shares to satisfy the conversion of the Preferred Stock if we enter into a future transaction that results in the reduction of the Conversion Price. If we do not have sufficient available shares for any Preferred Stock conversions, we will be required to increase our authorized shares, which may not be possible and will be time consuming and expensive. The potential for such Conversion Price adjustments may depress the price of our Common Stock regardless of our business performance, and, as a result, we may find it more difficult to raise additional equity capital while our Preferred Stock is outstanding. See, “Risk Factors” for additional information.

Liquidation Preference:

In the event of our liquidation, dissolution, or winding up, holders of our Preferred Stock will be entitled to receive the amount of cash, securities or other property to which such holder would be entitled to receive with respect to such shares of Preferred Stock if such shares had been converted to Common Stock immediately prior to such event (without giving effect for such purposes to any beneficial ownership limitation), subject to the preferential rights of holders of any class or series of our capital stock specifically ranking by its terms senior to the Preferred Stock as to distributions of assets upon such event, whether voluntarily or involuntarily.

Dividends:

The holders of Preferred Stock will be entitled to receive cumulative dividends, payable in shares of Common Stock, at the rate per share of 9% per annum of the Stated Value per share from the date of issuance of such Preferred Stock until July 2, 2030 (the fifth anniversary of the date of closing of this offering). The dividends become payable in shares of Common Stock, (i) upon any conversion of the Preferred Stock, (ii) on each such other date as our board of directors may determine, subject to written consent of the holders of Preferred Stock holding a majority of the then issued and outstanding Preferred Stock, (iii) upon our liquidation, dissolution or winding up, and (iv) upon occurrence of a fundamental transaction, including any merger or consolidation, sale of all or substantially all of our assets, exchange or conversion of all of our Common Stock by tender offer, exchange offer or reclassification; provided, however, that if Preferred Stock is converted into shares of Common Stock at any time prior to July 2, 2030 (the fifth anniversary of the closing of the offering) of the Preferred Stock, the holder will receive a make-whole payment in an amount equal to all of the dividends that, but for the early conversion, would have otherwise accrued on the applicable shares of Preferred Stock being converted for the period commencing on the conversion date and ending on July 2, 2030 (the fifth anniversary of the date of closing of this offering), less the amount of all prior dividends paid on such converted Preferred Stock before the date of conversion. Make-whole payments are payable in shares of Common Stock. With respect to any dividends and make-whole payments paid in shares of Common Stock, the number of shares of Common Stock to be issued to a holder of Preferred Stock will be an amount equal to the quotient of (i) the amount of the dividend payable to such holder divided by (ii) the Conversion Price then in effect.

Voting Rights:

The holders of the Preferred Stock have no voting rights, except as required by law. Any amendment to our articles of incorporation, bylaws or Certificate of Designation that adversely affects the powers, preferences and rights of the Preferred Stock requires the approval of the holders of a majority of the shares of Preferred Stock then outstanding.

Use of Proceeds:

We estimate that the net proceeds from this offering, after deducting placement agent fees and estimated offering expenses payable by us, will be approximately \$15 million, assuming no exercise of the Warrants. We will receive additional proceeds from the Warrants to the extent such Warrants are exercised.

We intend to use the net proceeds from this offering, along with our existing cash and cash equivalents, to fund our ongoing ONP-2 concussion clinical trials, along with other related research and development activities, to repay the \$3 million Bridge Note, as well as for working capital and other general corporate purposes. See “Use of Proceeds” in this prospectus for a more complete description of the intended use of proceeds from this offering.

Trading market and symbol:

Our Common Stock is listed on NYSE American, or the “NYSE American,” under the symbol “OGEN.” Neither the Preferred Stock nor the Warrants will be listed on the NYSE American or any other exchange or trading market. There is no established trading market for the Preferred Stock or Warrants. We do not expect any such trading market to develop for the Preferred Stock or the Warrants.

Risk Factors:

Investing in our Common Stock involves a high degree of risk. See “Risk Factors” beginning on page 13 and the other information in this prospectus for a discussion of the factors you should consider carefully before you decide to invest in our common

Lock-Up:

We, and each of our officers and directors have agreed, subject to certain exceptions, not to sell, offer, agree to sell, contract to sell, hypothecate, pledge, grant any option to purchase, make any short sale of, or otherwise dispose of or hedge, directly or indirectly, any shares of our capital stock or any securities convertible into or exercisable or exchangeable for shares of capital stock, for a period of one hundred eighty (180) days after the closing of the Offering, without the prior written consent of Dawson James Securities, Inc. See “Plan of Distribution” for additional information.

The number of shares of our Common Stock to be outstanding after this offering is based on 822,927 shares of our Common Stock outstanding as of March 31, 2025, and excludes the following:

- 25,683 shares of our Common Stock issuable upon the exercise of outstanding options under our equity incentive plans at a weighted average exercise price of \$146.04 per share;
- 24,569 shares of Common Stock reserved for issuance under outstanding warrants with a weighted average exercise price of \$983.10 post-split per share;
- 3,140,984 additional shares of Common Stock reserved for future issuance under our 2021 equity incentive plan; and
- 249,624 additional shares of Common Stock reserved for issuance under conversion of 7,488,692 outstanding shares of Series F Non-Voting, Convertible Preferred Stock.

Unless we indicate otherwise or unless the context otherwise requires, all information in this prospectus assumes the following:

- no exercise of outstanding options or warrants; and
- assumes no exercise of the Warrants issued in this offering.

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding whether to purchase our securities, including the shares of Common Stock offered by this prospectus, you should carefully consider the risks and uncertainties described under “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, any subsequent Quarterly Report on Form 10-Q and our other filings with the SEC, all of which are incorporated by reference herein. If any of these risks actually occur, our business, financial condition and results of operations could be materially and adversely affected and we may not be able to achieve our goals, the value of our securities could decline and you could lose some or all of your investment. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. If any of these risks occur, our business, results of operations or financial condition and prospects could be harmed. In that event, the market price of our Common Stock and the value of the warrants could decline, and you could lose all or part of your investment.

Risks Relating to this Offering

Because there is no minimum required for the offering to close, investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus.

We have not specified a minimum offering amount nor have or will we establish an escrow account in connection with this offering. Because there is no escrow account and no minimum offering amount, investors could be in a position where they have invested in our company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Further, because there is no escrow account in operation and no minimum investment amount, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan. Investor funds will not be returned under any circumstances whether during or after the offering.

Because our offering will be conducted on a best efforts basis, there can be no assurance that we can raise the money we need.

The placement agent is offering the securities on a “best efforts” basis with no minimum, and the placement agent is under no obligation to purchase any securities for their own account. The placement agent is not required to sell any specific number or dollar amount of securities in this offering but will use its best efforts to sell the securities offered in this prospectus. As a “best efforts” offering, there can be no assurance that the offering contemplated hereby will ultimately be consummated. If the offering is not consummated or we receive less than the maximum proceeds, our business plans and prospects for the current fiscal year could be adversely affected.

The amount we raise in this offering may not be sufficient to pursue our business goals or to repay our outstanding Bridge Note.

Our outstanding Bridge Note has an aggregate principal amount of \$3,000,000 and was issued with an original issue discount of 20%. No interest accrues on the Bridge Note unless and until an Event of Default (as defined in the Bridge Note) has occurred, upon which interest shall accrue at a rate of twenty percent (20.0%) per annum and shall be computed on the basis of a three hundred sixty (360)-day year and twelve (12) thirty (30)-day months and shall be payable on the maturity date. The Bridge Note matures on the earlier of July 14, 2025 or the closing of any subsequent offering by the Company with net proceeds equal to or in excess of all amounts due under the Bridge Note. The Bridge Note contains certain Events of Default, including (i) the Company’s failure to pay any amount of principal, interest, redemption price or other amounts due under the Notes or any other transaction document, (ii) any default under, redemption of, or acceleration prior to maturity of any indebtedness of the Company, as such term is defined in the transaction documents, (iii) bankruptcy of the Company or its subsidiaries, (iv) a final judgement or judgements for the payment of money in excess of \$250,000, which is not discharged or stayed pending appeal within 60 days, and (v) any breach or failure to comply with any provision of the Note or any other transaction document.

If the net amount raised in this offering is less than the amount required to repay the Bridge Note in full and we are unable to use other funds or obtain other financing to pay the Bridge Note in full, will be in default of the Bridge Note. Upon the occurrence of any Event of Default and at any time thereafter, the holder of the Bridge Note has the right to exercise all of the remedies under the Bridge Note. We likely will not be able to continue as a going concern if we do not raise sufficient funds in this offering to repay the Bridge Note. Even if we are able to pay our Bridge Note using our other cash and cash equivalents on hand as of the maturity date of the Bridge Note, the use of such cash for purposes of repaying the Bridge Note will result in our inability to pursue our business goals, in which event we likely will be unable to continue as a going concern, unless we obtain other financing, of which there can be no assurances.

The Offering Price, as well as the exercise price and other terms of the Warrants, in this offering was determined by the Company on an arbitrary basis and may not be indicative of the price at which the shares would trade if they were listed on an exchange or were actively traded by brokers.

The Offering Price per share of Preferred Stock and the accompanying Warrant, as well as the exercise price and other terms of the Warrants, were determined by our the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company. Furthermore, while the Conversion Price of the Preferred Stock was set, with input from our Placement Agent, at the time of pricing the offering and is expected to be based upon the closing price of our Common Stock immediately prior to such pricing, it may be at a discount to the then current market price of our Common Stock. There is no established public trading market for the Preferred Stock or the Warrants, and we do not expect a market to develop, but even if a public trading market develops for the Preferred Stock or Warrants, there can be no assurance that the value of the Preferred Shares and Warrants will attain market values commensurate with the Offering Price.

If you purchase the Preferred Stock sold in this offering and assuming its conversion into shares of our Common Stock, you will experience immediate and substantial dilution in your investment.

Since the Conversion Price per share of our Preferred Stock being offered in this offering exceeds the net tangible book value per share of our Common Stock outstanding prior to this offering, you will suffer immediate and substantial dilution with respect to the net tangible book value of the Common Stock underlying your Preferred Stock you purchase in this offering, assuming conversion of the Preferred Stock into shares of our Common Stock. After giving effect to (i) the sale of 660,000 shares of Preferred Stock issued by us at a combined public offering price of \$25 per share of Preferred Stock and Warrant and after deducting commissions and estimated offering expenses payable by us, our pro forma as-adjusted net tangible book value as of March 31, 2025 would have been approximately \$15,132,688 million, or \$1.46 per share (assuming conversion of 660,000 shares of Preferred Stock into 9,570,000 shares of Common Stock, including the payment of all dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock at a Conversion Price of \$2.50 per share and the Stated Value per share of \$25 and no exercise of any of the Warrants offered hereby) and (ii) the repayment of the Bridge Note in full. This represents an immediate increase in pro forma as adjusted net tangible book value of \$1.29 per share to our existing stockholders and an immediate dilution of \$1.04 per share to new investors participating in this offering. If any outstanding options or warrants are exercised, you could experience further dilution. For the purpose of this calculation, the entire purchase price for the shares of Preferred Stock and accompanying Warrants is being allocated to the shares of Preferred Stock, and shares issuable upon exercise of the Warrants have not been included. Furthermore, the exercise of outstanding Warrants and options and conversion of our outstanding Series F Preferred Stock will result in further dilution of your investment. See the section entitled “Dilution” on page 22 below for a more detailed illustration of the dilution you will incur if you participate in this offering.

The Certificate of Designation for our Preferred Stock contains anti-dilution provisions that may result in the reduction of the Conversion Price for the Preferred Stock in the future. This feature may result in an indeterminate number of shares of Common Stock being issued upon conversion.

The Certificate of Designation for our Preferred Stock contains anti-dilution provisions, which provisions require the lowering of the Conversion Price on any unconverted Preferred Stock to the purchase price of future offerings by us (subject to certain exclusions). If in the future we issue securities for less than the Conversion Price of our Preferred Stock, we will be required to reduce the relevant Conversion Price of any unconverted Preferred Stock, which will result in a greater number of shares of Common Stock being issuable upon conversion, which in turn will have a greater dilutive effect on our shareholders. In addition, as there is no floor price on the Conversion Price, we cannot determine the total number of shares issuable upon conversion. As such, it is possible that we will not have sufficient available shares to satisfy the conversion of the Preferred Stock if we enter into a future transaction that results in the reduction of the Conversion Price. If we do not have sufficient available shares for any Preferred Stock conversions, we will be required to increase our authorized shares, which may not be possible and will be time consuming and expensive. The potential for such Conversion Price adjustments may depress the price of our Common Stock regardless of our business performance, and, as a result, we may find it more difficult to raise additional equity capital while our Preferred Stock is outstanding.

We will need to raise additional capital in the future to complete the development and commercialization of our product candidates and operate our business.

Developing and commercializing biopharmaceutical products, including Phase 2 work for our ONP-002 product candidate and conducting nonclinical studies and clinical trials and establishing manufacturing capabilities, and the progress of our efforts to develop and commercialize our product candidates, is expensive, and can cause us to use our limited, available capital resources faster than we currently anticipate. Our current cash, cash equivalents and short-term investments are not sufficient to fully implement our business strategy and sustain our operations. Our auditor has expressed substantial doubt about our ability to continue as a going concern and absent additional financing we may be unable to remain a going concern. Furthermore, the amount of net proceeds to be raised in this offering will be insufficient to allow us to fully implement our business strategy and sustain our operations. See, “Use of Proceeds”. Accordingly, we anticipate we will need to raise additional capital in the future to complete the development and commercialization of our product candidates and operate our business. Until we can generate a sufficient amount of product revenue, if ever, we expect to finance future cash needs through public or private equity offerings, debt financings or corporate or government collaboration and licensing arrangements. However, this offering and the anti-dilution protection contained in the Preferred Stock’s Certificate of Designation, as well as our auditor’s substantial doubt about our ability to continue as a going concern, may depress the price of our Common Stock regardless of our business performance and may make it more difficult for us to raise or obtain additional financing. Furthermore, even if we are able to obtain additional financing, it may not be on favorable terms and, if such financing is undertaken at a price below the Conversion Price of our preferred stock, it will trigger the anti-dilution protection in our Preferred Stock’s Certificate of Designation, as discussed above, which in turn may result in a greater number of shares of Common Stock being issued upon conversion of our Preferred Stock, which in turn will have a greater dilutive effect on our shareholders and may make it more difficult to raise additional capital. If we do not succeed in raising additional funds on acceptable terms, we may be unable to complete existing nonclinical and planned clinical trials or obtain approval of our product candidates from the FDA and other regulatory authorities, and, absent sufficient additional financing, we may be unable to remain a going concern.

The market price of our Common Stock has been, and may continue to be volatile and fluctuate significantly, which could result in substantial losses for investors.

The trading price for our Common Stock has been, and we expect it to continue to be, volatile. The price at which our Common Stock trades depends upon a number of factors, including our historical and anticipated operating results, our financial situation, announcements by us or our competitors, our ability or inability to raise the additional capital we may need and the terms on which we raise it, and general market and economic conditions. Some of these factors are beyond our control. Broad market fluctuations may lower the market price of our Common Stock and affect the volume of trading in our stock, regardless of our financial condition, results of operations, business or prospects. The closing price of our Common Stock as reported on the NYSE American had a high price of \$205.20 and a low price of \$8.10 in the 52-week period ended December 31, 2024. Furthermore, our stock traded within a range of a high volume of 15,238,600 and a low volume of 4,400 per share for the period of January 1, 2024 through December 31, 2024. As a result of this volatility, our shareholders could incur substantial losses. Among the factors that may cause the market price of our Common Stock to fluctuate are the risks described in this “Risk Factors” section and other factors, including:

- results of preclinical and clinical studies of our product candidates or those of our competitors;
- regulatory or legal developments in the U.S. and other countries, especially changes in laws and regulations applicable to our product candidates;
- actions taken by regulatory agencies with respect to our product candidates, clinical studies, manufacturing process or sales and marketing terms;
- introductions and announcements of new products by us or our competitors, and the timing of these introductions or announcements;
- announcements by us or our competitors of significant acquisitions or other strategic transactions or capital commitments;
- fluctuations in our quarterly operating results or the operating results of our competitors;

- variance in our financial performance from the expectations of investors;
- changes in the estimation of the future size and growth rate of our markets;
- changes in accounting principles or changes in interpretations of existing principles, which could affect our financial results;
- failure of our products to achieve or maintain market acceptance or commercial success;
- conditions and trends in the markets we serve;

- changes in general economic, industry and market conditions;
- changes in legislation or regulatory policies, practices or actions;
- the commencement or outcome of litigation involving our company, our general industry or both;
- recruitment or departure of key personnel;
- changes in our capital structure, such as future issuances of securities, redemption or conversion of preferred stock or the incurrence of additional debt;
- actual or expected sales of our Common Stock by our shareholders;
- acquisitions and financings; and
- the trading volume of our Common Stock.

In addition, the stock markets, in general, NYSE American and the market for biotech companies in particular, may experience a loss of investor confidence. Such loss of investor confidence may result in extreme price and volume fluctuations in our Common Stock that are unrelated or disproportionate to the operating performance of our business, financial condition or results of operations. These broad market and industry factors may materially harm the market price of our Common Stock and expose us to securities class action litigation. Such litigation, even if unsuccessful, could be costly to defend and divert management's attention and resources, which could further materially harm our financial condition and results of operations.

This offering may cause the trading price of our Common Stock to decrease.

The shares of Common Stock we propose to issue and ultimately will issue if this offering is completed may result in an immediate decrease in the market price of our Common Stock. This decrease may continue after the completion of this offering.

We cannot assure you that we will continue to be listed on the NYSE American.

Our Common Stock commenced trading on the NYSE American (formerly the NYSE MKT) on April 10, 2013, and we are subject to certain NYSE American continued listing requirements and standards. On April 18, 2024, we received notification (the "Notice") from the NYSE American that we were no longer in compliance with NYSE American's continued listing standards. Specifically, the letter stated that the Company was not in compliance with the continued listing standards set forth in Sections 1003(a)(ii) and 1003(a)(iii) of the NYSE American Company Guide (the "Company Guide"). Section 1003(a)(ii) requires a listed company to have shareholders' equity of \$4 million or more if the listed company has reported losses from continuing operations and/or net losses in three of its four most recent fiscal years. Section 1003(a)(iii) requires a listed company to have shareholders' equity of \$6 million or more if the listed company has reported losses from continuing operations and/or net losses in our five most recent fiscal years. Subsequently, the NYSE American notified the Company that it also is not in compliance with subsection (i) Section 1003(a), which requires stockholders' equity of no less than \$2,000,000 if the Company has sustained losses from continuing operations and/or net losses in two of its three most recent fiscal years. We reported shareholders' equity (deficit) of (\$211,885) million as of December 31, 2024, and losses from continuing operations and/or net losses in its five most recent fiscal years ended December 31, 2024. On May 17, 2024, we submitted a plan of compliance (the "Plan") to the NYSE American. On June 18, 2024, the NYSE American accepted our Plan. The Company will be able to continue its listing during the Plan period and will be subject to continued periodic review by the NYSE American staff. If we are not in compliance with the continued listing standards by October 18, 2025 or if the Company does not make progress consistent with the Plan during the Plan period, the Company will be subject to delisting procedures as set forth in the NYSE American Company Guide. The Company is committed to undertaking a transaction or transactions in the future to achieve compliance with the NYSE American's requirements. However, there can be no assurance that the Company will be able to achieve compliance with the NYSE American's continued listing standards within the required timeframe.

Furthermore, the Company is subject to the NYSE American's other continued listing requirement and is subject to delisting if, among other things, its Common Stock is selling for a substantial period of time at a low price per share. In part because the Company was trading below \$0.50 per share, on June 3, 2025, we effectuated a one-for-thirty reverse stock split of our issued and outstanding Common Stock (the "Reverse Stock Split"). Reverse stock splits typically increase the share price of a company's stock, at least initially, by consolidating the company's outstanding shares at a pre-determined ratio, with stockholders maintaining their respective ownership percentages in the company, subject to elimination of any resulting fractional share entitlements. While the Company's stock price has traded above \$3.50 since the date of the Reverse Stock Split, there can be no assurances that the Company's stock price will not fall to a level that is below the NYSE American's requirements. This offering and the anti-dilution protection contained in the Preferred Stock's Certificate of Designation may depress the price of our Common Stock regardless of our business performance, and if our closing price sells for a substantial period of time at a low price per share, the Company may be subject to delisting.

In an effort to curtail the excessive use of reverse stock splits to regain compliance with the minimum stock price requirements, particularly by distressed companies that had often resorted to repeatedly effecting a number of successive reverse stock splits over a short period of time to avoid being delisted, both the NYSE and Nasdaq recently promulgated updated rules that limited the ability of companies to utilize such practices to remedy a minimum share price deficiency. The rules now provide that a listed company is no longer eligible for a six month cure period to regain compliance with the minimum share price requirement, and the NYSE will immediately begin suspension and delisting procedures if: (1) a company has effectuated a reverse stock split within the past year, or (2) a company has effectuated one or more reverse stock splits over the past two years with a cumulative ratio of 200 shares or more to one. Further, listed companies may not effectuate a reverse stock split to regain compliance with the minimum share price requirement if doing so would result in non-compliance with any of the other NYSE American continued listing requirements. Accordingly, we will not be able to undertake another reverse stock split to regain compliance with the NYSE American's additional listing requirements until after June 3, 2026.

If the Common Stock ultimately were to be delisted for any reason, it could negatively impact the Company by (i) reducing the liquidity and market price of the Company's Common Stock; (ii) reducing the number of investors willing to hold or acquire the Common Stock, which could negatively impact the Company's ability to raise equity financing; (iii) limiting the Company's ability to use a registration statement to offer and sell freely tradable securities, thereby preventing the Company from accessing the public capital markets; and (iv) impairing the Company's ability to provide equity incentives to its employees.

Future sales of our Common Stock in the public market could cause our stock price to fall.

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. Future issuances of Common Stock could further depress the market for our Common Stock. We expect to continue to incur drug development and selling, general and administrative costs, and to satisfy our funding requirements, we will need to sell additional equity securities, which may include sales of significant amounts of Common Stock to investors, and which Common Stock may be subject to registration rights and warrants with anti-dilutive protective provisions. The sale or the proposed sale of substantial amounts of our Common Stock or other equity securities in the public markets or in private transactions 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. Also, new equity securities issued may have greater rights, preferences or privileges than our existing Common Stock. In addition, we have a significant number of shares of restricted stock, stock options and warrants outstanding. To the extent that outstanding stock options or warrants have been or may be exercised or other shares issued, investors purchasing our Common Stock in this offering may experience further dilution.

If we make one or more significant acquisitions in which the consideration includes stock or other securities, our shareholders' holdings may be significantly diluted. In addition, shareholders' holdings may also be diluted if we enter into arrangements with third parties permitting us to issue shares of Common Stock in lieu of certain cash payments upon the achievement of milestones.

The issuance of shares of our Common Stock under our 2021 Equity Incentive Plan is covered by Form S-8 registration statements we filed with the Securities and Exchange Commission, or SEC, and upon exercise of the options, such shares may be resold into the market. We have also issued shares of Common Stock and warrants in connection with previous private placements. Such shares are available for resale as well as certain of the shares of Common Stock issuable upon exercise of the warrants. We have also issued shares of our Common Stock in the private placement and financing transaction, which are deemed to be "restricted securities," as that term is defined in Rule 144 promulgated under the Securities Act of 1933, as amended, or Securities Act, and such shares may be resold pursuant to the provisions of Rule 144. The resale of shares acquired from us in private transactions could cause our stock price to decline significantly. In addition, the conversion of the outstanding shares preferred stock into Common Stock and the subsequent sale of shares of Common Stock could also cause our stock price to decline significantly.

In addition, from time to time, certain of our shareholders may be eligible to sell all or some of their restricted shares of Common Stock by means of ordinary brokerage transactions in the open market pursuant to Rule 144, subject to certain limitations. In general, pursuant to Rule 144, after satisfying a six-month holding period: (i) affiliated shareholders, or shareholders whose shares are aggregated, may, under certain circumstances, sell within any three-month period a number of securities which does not exceed the greater of 1% of the then-outstanding shares of Common Stock or the average weekly trading volume of the class during the four calendar weeks prior to such sale and (ii) non-affiliated shareholders may sell without such limitations, in each case provided we are current in our public reporting obligations. Rule 144 also permits the sale of securities by non-affiliates that have satisfied a one-year holding period without any limitation or restriction.

We are unable to estimate the number of shares that may be sold because this will depend on the market price for our Common Stock, the personal or business circumstances of sellers and other factors.

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

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

The issuance of additional equity securities by us in the future would result in dilution to our existing common shareholders.

Our Board of Directors has authority, without action or vote of our shareholders, to issue all or a part of our authorized but unissued shares, except where shareholder approval is required by law or the rules of any exchange on which our shares are listed. Any issuance of additional equity securities by us in the future could result in dilution to our existing common shareholders. Such issuances could be made at a price that reflects a discount or a premium to the then-current trading price of our Common Stock. In addition, our business strategy may include expansion through internal growth by acquiring complementary businesses, acquiring or licensing additional products or brands, or establishing strategic relationships with targeted customers and suppliers. In order to do so, or to finance the cost of our other activities, we may issue additional equity securities that could result in further dilution to our existing common shareholders. These issuances would dilute the percentage ownership interest of our existing common shareholders, which would have the effect of reducing their influence on matters on which our shareholders vote and might dilute the book value of our Common Stock. For example, our outstanding shares of Common Stock at March 10, 2025, were 822,927. Furthermore, if holders of our outstanding preferred stock convert their preferred shares into Common Stock, an additional 249,624 shares of Common Stock could be issued resulting in dilution to our existing common shareholders.

Our management team may invest or spend the proceeds of this offering in ways with which you may not agree or in ways which may not yield a significant return.

Our management will have broad discretion over the use of proceeds from this offering. We intend to use the net proceeds from this offering to fund a portion of our ONP-002 research and clinical trials, to repay the Bridge Note and for working capital and general corporate purposes. Our management will have considerable discretion in the application of the net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. The net proceeds may be used for corporate purposes that do not increase our operating results or enhance the value of our Common Stock.

The precise amount and timing of the application of these proceeds will depend upon a number of factors, such as the timing and progress of our research and development efforts, our funding requirements and the availability and costs of other funds. As of the date of this prospectus, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Depending on the outcome of our efforts and other unforeseen events, our plans and priorities may change and we may apply the net proceeds of this offering in different manners than we currently anticipated.

The failure by our management to apply these funds effectively could harm our business, financial condition and results of operations. Pending their use, we may invest the net proceeds from this offering in short-term, interest-bearing instruments. These investments may not yield a favorable return to our shareholders.

We do not intend to pay cash dividends.

We have not declared or paid any cash dividends on our Common Stock, and we do not anticipate declaring or paying cash dividends for the foreseeable future. Any future determination as to the payment of cash dividends on our Common Stock will be at our Board of Directors' discretion and will depend on our financial condition, operating results, capital requirements and other factors that our Board of Directors considers to be relevant.

There is no public market for the Preferred Stock or Warrants being offered by us in this offering.

There is no established public trading market for the Preferred Stock or Warrants, and we do not expect a market to develop. In addition, we do not intend to apply to list the Warrants or Preferred Stock on any national securities exchange or other nationally recognized trading system. Without an active market, the liquidity of the Warrants

and Preferred Stock will be limited. Purchasers of the Preferred Stock and Warrants may be unable to resell the Preferred Stock or Warrants or sell them only at an unfavorable price for an extended period of time, if at all.

The market price of our Common Stock may never exceed the Conversion Price of the Preferred Stock.

The Warrants being issued in connection with this offering become exercisable upon issuance and will expire five years from the date of issuance. The exercise price of the Warrants is \$25 per share of Preferred Stock. Upon exercise, a holder will be required to pay us the exercise price per share in cash and in exchange will receive shares of our Preferred Stock with a stated value of \$25. Such shares of Preferred Stock are convertible into shares of Common Stock at the Conversion Price. The Conversion Price of the Preferred Stock is expected to be set at the time of pricing this offering by our board of directors, with input from our Placement Agent, and is expected to be based upon the closing price of our Common Stock immediately prior to such pricing but may be at a discount to the then current market price of our Common Stock. The number of shares of Common Stock into which each share of Preferred Stock is convertible into is determined by dividing the Offering Price by the Conversion Price. Thus, if the Conversion Price is \$4.00, each share of Preferred Stock, exclusive of dividends, is convertible into approximately 6.94 shares of Common Stock. If the market price of our Common Stock is below the Conversion Price, the holder of the Warrant may elect not to exercise the Warrant until the market price of our Common Stock increases. However, the market price of our Common Stock may never exceed the Conversion Price prior to the expiration of the Warrants. As a result, the holders of our Warrants may elect not to ever exercise their Warrants. We will not receive any additional proceeds in connection with unexercised Warrants, which likely will result in our needing to raise additional capital sooner than if some or all of the Warrants are exercised, of which there can be no assurances. Any Warrants not exercised by their date of expiration will expire worthless and we will be under no further obligation to the Warrant holder.

Certain provisions in our existing warrants could discourage an acquisition of us by a third party.

Certain provisions of our existing warrants could make it more difficult or expensive for a third party to acquire us. Our warrants prohibit us from engaging in certain transactions constituting “fundamental transactions” unless, among other things, the surviving entity assumes our obligations under the Warrants. Further, the warrants provide that, in the event of certain transactions constituting “fundamental transactions,” with some exception, holders of such warrants will have the right, at their option, to require us to repurchase such warrants at a price described in such warrants. These and other provisions of the warrants offered by this prospectus could prevent or deter a third party from acquiring us even where the acquisition could be beneficial to you.

USE OF PROCEEDS

We estimate that the net proceeds of this offering, after deducting all placement agent fees and estimated offering expenses payable by us, will be approximately \$15 million, assuming no exercise of the Warrants. We will receive additional proceeds from the Warrants to the extent such Warrants are exercised, based upon an assumed exercise price of \$25 per share of Preferred Stock. It is possible that the Warrants may expire and may never be exercised for cash, in which event will not receive any further proceeds in connection with this offering. In addition, the warrants are exercisable on a cashless basis if at the time of exercise there is no effective registration statement registering, or the prospectus contained therein is not available for, the issuance of shares of common stock for which the warrants are exercisable. As a result, we may never receive meaningful, or any, cash proceeds from the exercise of the warrants. See, “Risk Factors”.

We intend to use the net proceeds from this offering, along with our existing cash and cash equivalents, to fund our ongoing ONP-2 concussion clinical trials, along with other related research and development activities, to repay the \$3 million Bridge Note, as well as for working capital and other general corporate purposes.

The net proceeds from this offering, together with our cash, will not be sufficient for us to fund our ONP-002 product candidate through regulatory approval, and we will need to raise additional capital to complete the development and commercialization of our ONP-002 product candidate. If we raise net proceeds of \$15 million in this offering, we will first apply the net proceeds to repay the \$3 million Bridge Note, including all interest thereon, and will use the balance of any net proceeds raised, along with our existing cash and cash equivalents, to fund our ongoing ONP-2 concussion clinical trials, along with other related research and development activities, as well as for working capital and other general corporate purposes. In such event, we anticipate being able to complete our Phase 2a trials and to commence our Phase 2b clinical trials on our ONP-002 product candidate, but we anticipate needing to raise additional capital or to obtain alternative financing to complete our Phase 2b trials. If, in addition to net proceeds of \$15 million in this offering, all of the Warrants are exercised, of which there can be no assurances, we expect such aggregate proceeds will allow us to complete both our Phase 2a and Phase 2b clinical trials on our ONP-002 product candidate. However, there can be no assurances will be able to raise net proceeds of \$15 million in this offering or that any of the Warrants will be exercised. See, “Risk Factors”.

If we raise less than net proceeds of \$15 million in this offering, and assuming no exercise of the Warrants, we will first apply the net proceeds to repay the Bridge Note, including all interest thereon. We will use the balance of any net proceeds raised, along with our existing cash and cash equivalents, to fund our ongoing ONP-2 concussion clinical trials, along with other related research and development activities, as well as for working capital and other general corporate purposes, but, in such event, we may not be able to complete even our Phase 2a trials, which will require us to raise additional capital sooner than expected, of which there can be no assurance. We anticipate that we will need to raise at least \$10 million in this offering to repay the Bridge Note and complete our Phase 2a trials, of which there can be no assurances. See, “Risk Factors”.

The Bridge Note has an aggregate principal amount of \$3,000,000 and was issued with an original issue discount of 20%. No interest accrues on the Bridge Note unless and until an Event of Default (as defined in the Bridge Note) has occurred, upon which interest shall accrue at a rate of twenty percent (20.0%) per annum and shall be computed on the basis of a three hundred sixty (360)-day year and twelve (12) thirty (30)-day months and shall be payable on the maturity date. The Bridge Note matures on the earlier of July 14, 2025 or the closing of any subsequent offering by the Company with net proceeds equal to or in excess of all amounts due under the Bridge Note. The Bridge Note contains certain Events of Default, including (i) the Company’s failure to pay any amount of principal, interest, redemption price or other amounts due under the Notes or any other transaction document, (ii) any default under, redemption of, or acceleration prior to maturity of any indebtedness of the Company, as such term is defined in the transaction documents, (iii) bankruptcy of the Company or its subsidiaries, (iv) a final judgement or judgements for the payment of money in excess of \$250,000, which is not discharged or stayed pending appeal within 60 days, and (v) any breach or failure to comply with any provision of the Note or any other transaction document. If the net amount raised in this offering is less than the amount required to repay the Bridge Note in full and we are unable to use other funds or obtain other financing to pay the Bridge Note in full, we will be in default of the Bridge Note. Upon the occurrence of any Event of Default and at any time thereafter, the holder of the Bridge Note has the right to exercise all of the remedies under the Bridge Note. We likely will not be able to continue as a going concern if we do not raise sufficient funds in this offering to repay the Bridge Note.

This is a best efforts offering. Because there is no minimum offering amount required as a condition to closing this offering, we may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. In addition, because there is no escrow account and no minimum offering amount in this offering, investors could be in a position where they have invested in our company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Also, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan.

We may satisfy our future cash needs through the sale of equity securities, debt financings, working capital lines of credit, corporate collaborations or license agreements, grant funding, interest income earned on invested cash balances or a combination of one or more of these sources, but there can be no assurances that such future sources will be available to us. This expected use of the net proceeds from this offering represents our intentions based upon our current plans and business conditions. As of the

date of this prospectus, other than with regard to the repayment of the Bridge Note, we cannot predict with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering or the amounts that we will actually spend. The amounts and timing of our actual expenditures and the extent of clinical development may vary significantly depending on numerous factors, including the progress of our development efforts, the clinical trials we may commence in the future, as well as any collaborations that we may enter with third parties for our product candidates and any unforeseen cash needs. As a result, our management will have significant discretion in the use of any net proceeds and Investors will be relying on the judgment of our management regarding the application of the proceeds. See, “Risk Factors.”

DIVIDEND POLICY

We have never paid cash dividends on our Common Stock. Moreover, we do not anticipate paying periodic cash dividends on our Common Stock for the foreseeable future. We intend to use all available cash and liquid assets in the operation and growth of our business. Any future determination about the payment of dividends will be made at the discretion of our board of directors and will depend upon our earnings, if any, capital requirements, operating and financial conditions and on such other factors as our board of directors deems relevant.

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CAPITALIZATION

The following table sets forth our cash and capitalization as of March 31, 2025, as adjusted to give effect to the one-for-thirty Reverse Stock Split of our issued and outstanding Common Stock on June 3, 2025:

- on an actual basis;
- on an as adjusted basis to give effect to the sale of 660,000 shares of Preferred Stock in this offering at an offering price of \$25.00 per share, after deducting the placement agent fees and estimated offering expenses payable by us, and assuming no exercise of any Warrants.

The information below is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual offering price and other terms of this offering determined at pricing. You should read the information in this table together with our financial statements and accompanying notes incorporated by reference to this prospectus and the “Description of Capital Stock” section of this prospectus.

	March 31, 2025	
	Actual (Unaudited)	As adjusted
Assets		
Current assets:		
Cash and cash equivalents	\$ 3,421,078	\$ 15,766,078
Prepaid expenses and other current assets	448,033	448,033
Total current assets	3,869,111	16,214,111
Prepaid research and development expense		
Total assets	\$ 3,869,111	\$ 16,214,111
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable and accrued expenses	\$ 1,177,038	\$ 1,177,038
Short-term notes payable	2,554,385	54,385
Total liabilities	3,731,423	1,231,423
Shareholders' equity:		
Preferred stock, no par value; 50,000,000 shares authorized; -0- Series A shares, -0- Series B shares, -0- Series C shares, and 7,488,692 Series F shares outstanding at December 31, 2024	-	-
Common stock, \$0.001 par value; 350,000,000 shares authorized and 12,570,100 actual shares issued and outstanding at December, 2024	21,475	21,475
Additional paid-in capital	219,119,378	234,464,378
Accumulated Deficit	(219,003,165)	(219,503,165)
Total shareholders' (deficit) equity	(137,688)	14,982,688
Total liabilities and shareholders' equity	\$ 3,869,111	\$ 16,214,111

The number of shares of our Common Stock to be outstanding after this offering is based on 822,927 shares of our Common Stock outstanding as of March 31, 2025, and excludes the following:

- 25,683 shares of our Common Stock issuable upon the exercise of outstanding options under our equity incentive plans at a weighted average exercise price of \$146.04 per share;
- 24,569 shares of Common Stock reserved for issuance under outstanding warrants with a weighted average exercise price of \$983.10 per share;
- 3,140,984 additional shares of Common Stock reserved for future issuance under our 2021 equity incentive plan; and
- 249,624 additional shares of Common Stock reserved for issuance under conversion of 7,488,692 outstanding shares of Series F Non-Voting, Convertible Preferred Stock.

Unless we indicate otherwise or unless the context otherwise requires, all information in this prospectus assumes the following:

- no exercise of outstanding options or warrants; and
- assumes no exercise of the Warrants issued in this offering;

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DILUTION

If you invest in our Preferred Stock, your interest will be diluted to the extent of the difference between the price per share of Preferred Stock you pay in this offering and the as adjusted net tangible book value per share of our Common Stock immediately after this offering (assuming the conversion of all of the Preferred Stock into shares of

Common Stock). For the purpose of such calculation, the entire purchase price for the shares of Preferred Stock and accompanying Warrants is being allocated to the shares of Preferred Stock, and the shares issuable upon exercise of the accompanying Warrants have not been included.

Our net tangible book value as of March 31, 2025, assuming the completion of the Reverse Stock Split had been completed as of such date, was \$137,688, or \$0.17 per share, based upon 822,927 shares of Common Stock outstanding as of March 31, 2025. Net tangible book value per share of our Common Stock represents our total tangible assets (total assets less intangible assets) less total liabilities divided by the number of shares of Common Stock outstanding as of that date. Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of Common Stock in this offering and the net tangible book value per share of Common Stock immediately after this offering.

After giving effect to (i) the sale of 660,000 shares of Preferred Stock issued by us at a combined public offering price of \$25 per share of Preferred Stock and accompanying Warrant and after deducting commissions and estimated offering expenses payable by us, our pro forma as-adjusted net tangible book value as of March 31, 2025 would have been approximately \$15,132,688, or \$1.46 per share (assuming conversion of 660,000 shares of Preferred Stock and the payment of all dividends accrued on the Preferred Stock in shares of Common Stock upon conversion of the Preferred Stock at a Conversion Price of \$2.50 per share and the Stated Value per share of \$25 and no exercise of any of the Warrants offered hereby) and (ii) the repayment of the Bridge Note in full. This represents an immediate increase in pro forma as adjusted net tangible book value of \$1.29 per share to our existing stockholders and an immediate dilution of \$1.04 per share to new investors participating in this offering, as illustrated by the following table (which assumes no exercise of the Warrants).

Conversion Price	\$	2.50
Historical net tangible book value per share as of March 31, 2025	\$	0.17
As adjusted, pro forma net tangible book value per share after giving effect to this offering	\$	1.46
Increase in adjusted, pro forma net tangible book value per share attributable to new investors	\$	1.29
As adjusted, pro forma dilution per share to investors in this offering	\$	1.04

The information discussed above is illustrative only and will adjust based on the actual Conversion Price, the actual number of securities that we offer in this offering, and other terms of this offering determined at pricing. The foregoing discussion does not take into account further dilution to investors in this offering that could occur upon the exercise of outstanding options and warrants having a per share exercise price less than the combined public offering price per share, the conversion of out outstanding Series F Preferred Stock and Warrants in this offering. Importantly, the conversion of our outstanding preferred stock, and in particular our Series F Convertible Preferred Stock, will result in a material further dilution of your investment. See “Risk Factors”.

The number of shares of our Common Stock to be outstanding after this offering is based on 822,927 shares of our Common Stock outstanding as of March 31, 2025, and excludes the following:

- 25,683 shares of our Common Stock issuable upon the exercise of outstanding options under our equity incentive plans at a weighted average exercise price of \$4.87 pre-split/\$146.04, post-split per share;
- 24,569 shares of Common Stock reserved for issuance under outstanding warrants with a weighted average exercise price of \$983.10 post-split per share;
- 3,140,984 additional shares of Common Stock reserved for future issuance under our 2021 equity incentive plan; and
- 249,624 additional shares of Common Stock reserved for issuance under conversion of 7,488,692 outstanding shares of Series F Non-Voting, Convertible Preferred Stock.

In addition, we may choose to raise additional capital due to market conditions or strategic considerations, even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our shareholders.

DESCRIPTION OF CAPITAL STOCK

The following descriptions are summaries of the material terms that are included in our amended and restated articles of incorporation (as amended) and our bylaws (as amended) as well as the specific agreements such descriptions relate to. This summary is qualified in its entirety by the specific terms and provisions contained in our restated articles of incorporation, bylaws and the specific agreements described herein, copies of which we have filed as exhibits to the registration statement of which this prospectus is a part, and by the provisions of applicable law.

Overview

Authorized Capital Stock

Our authorized capital stock consists of 350,000,000 shares of Common Stock, par value \$0.001, and 50,000,000 shares of preferred stock, without par value.

Common Stock

Voting

Holders of our Common Stock are entitled to one vote for each share on all matters submitted to a shareholder vote. Holders of our Common Stock do not have cumulative voting rights. Therefore, holders of a majority of the shares of our Common Stock voting for the election of directors collectively hold the voting power to elect all of our directors. Holders of our Common Stock representing one third of the voting power of our capital stock issued, outstanding and entitled to vote, represented in person or by proxy, are necessary to constitute a quorum at any meeting of shareholders.

Dividends

Subject to preferences that may be applicable to any outstanding preferred stock, the holders of our Common Stock are entitled to receive ratably all dividends, if any, as may be declared from time to time by our Board of Directors out of the funds legally available.

Rights upon Liquidation

Upon our liquidation, dissolution or winding-up, after payment in full of our liabilities and the amounts required to be paid to holders of any outstanding shares of preferred stock, if any, all holders of our Common Stock, along with the holders of our Series A Convertible Preferred Stock and Series B Convertible Preferred Stock on an “as if” converted basis, will be entitled to receive a pro rata distribution of all of our assets and funds legally available for distribution.

Redemption and Pre-Emptive Rights

No shares of our Common Stock are subject to redemption or have preemptive rights to purchase additional shares of our Common Stock or any of our other securities.

Fully Paid and Nonassessable

All of our outstanding shares of Common Stock are, and the shares of Common Stock to be issued in this offering will be, fully paid and nonassessable.

Listing of Common Stock

Our Common Stock is currently listed on the NYSE American under the trading symbol “OGEN”.

Preferred Stock

Our Board of Directors has the authority, without action by our shareholders, to designate and issue up to 50,000,000 shares of preferred stock in one or more series or classes and to designate the rights, preferences and privileges of each series or class, which may be greater than the rights of our Common Stock. These rights, preferences and privileges could include dividend rights, conversion rights, voting rights, redemption rights, liquidation preferences, the number of shares constituting any class or series and the designation of the class or series. Terms selected by our Board of Directors in the future could decrease the amount of earnings and assets available for distribution to holders of shares of Common Stock or adversely affect the rights and powers, including voting rights, of the holders of shares of Common Stock without any further vote or action by the shareholders. As a result, the rights of holders of our Common Stock will be subject to, and may be adversely affected by, the rights of the holders of the Series F Convertible Preferred Stock or any other preferred stock that may be issued by us in the future, which could have the effect of decreasing the market price of our Common Stock. The Company’s previously issued shares of Series A, B, C, D and E Preferred Stock have all either been cancelled or converted and are no longer outstanding.

Series F Convertible Preferred Stock

On December 28, 2023, we issued 8,000,000 shares of convertible preferred stock, designated as the Series F Convertible Preferred Stock (“Series F Preferred Stock”) pursuant to the Certificate of Designation and rights filed by the Company with the Secretary of State of the State of Florida (“Series F Certificate of Designation”), as partial consideration for the purchase of certain assets of Odyssey Health, Inc. On December 28, 2023 and pursuant to the Series F Certificate of Designation, 511,308 shares of Series F Preferred were converted to Common Stock and, as a result of such conversion, 7,488,692 shares of Series F Convertible Preferred Stock remain outstanding.

The following description is a summary of the material provisions of the Series F Convertible Preferred Stock.

Liquidation Preference

The Series F Preferred Stock is economically equivalent to the Company’s Common Stock. Upon liquidation, it is at parity with the Common Stock and junior to any class or series of capital stock of the Corporation created specifically ranking by its terms senior to the Series F Preferred Stock.

Dividends

No dividends shall be paid on shares of the Series F Preferred Stock.

Voting

The Series F Preferred Stock has no voting rights, except as required by applicable law and except for limited protective voting rights specifically set forth in Certificate of Designation.

Conversion

The Series F Preferred Stock is convertible commencing with the date of its issuance into Common Stock initially on a 1-for-1 basis (subject to certain adjustments, including the Reverse Stock Split, as a result of which the Series F Preferred Stock is now convertible into our Common Stock on a thirty-to-one basis). However, pursuant to the Series F Certificate of Designation, the holder of the Series F Preferred Stock cannot convert shares of Series F Preferred Stock into more than 19.9% of the Company’s Common Stock outstanding as of October 4, 2023 until (i) the Company shall have applied for and been approved for initial listing on the NYSE American or another national securities exchange or shall have been delisted from the NYSE American, and (ii) if required by the rules of the NYSE American, the Company’s shareholders shall have approved any change of control that could be deemed to occur upon the conversion of the Series F Preferred Stock into Common Stock, based on the facts and circumstances existing at such time.

Preemptive Rights

No holders of Series F Preferred Stock will, as holders of Series F Preferred Stock, have any preemptive rights to purchase or subscribe for our Common Stock or any of our other securities.

Redemption

The Series F Preferred Stock is not redeemable by the Company.

Trading Market

There is no established trading market for any of the Series F Preferred Stock, and the Company does not expect a market to develop. The Company does not intend to apply for a listing for any of the Series F Preferred Stock on any securities exchange or other nationally recognized trading system.

The following descriptions are summaries of the material terms that are included in our amended and restated articles of incorporation (as amended) and our bylaws (as amended) as well as the specific agreements such descriptions relate to. This summary is qualified in its entirety by the specific terms and provisions contained in our restated articles of incorporation, bylaws and the specific agreements described herein, copies of which we have filed as exhibits to our Form 10-K.

Series A, B, C, D, E and G Preferred Stock

The Company’s previously had issued shares of Series A, B, C, D, E and G Preferred Stock. All of the shares of the Series A and Series B Preferred Stock were converted into Common Stock. All of the shares of Series C Non-Voting, Non-Convertible Preferred Stock were redeemed by the Company in accordance with their terms and

no shares of Series C Non-Voting, Non-Convertible Preferred Stock remain outstanding. All of the shares of Series D Preferred Stock-Converted to Common Stock were converted to Common Stock and as such, the Company no longer has any Series D Preferred Stock outstanding. Pursuant to the terms of the Series E Certificate of Designation, upon effectiveness of an amendment to the Amended and Restated Articles of Incorporation of the Company to effect an increase in the shares of Common Stock the Company was authorized to issue from 4,166,666 shares of Common Stock to 350,000,000 shares of Common Stock (the "Amendment"), each share of Series E Preferred Stock was automatically transferred to the Company and cancelled for no consideration with no action on behalf of the holders of Series E Preferred Stock. The Company's shareholders approved the Amendment on December 14, 2023, and accordingly, all of the shares of Series E Preferred Stock resumed the status of authorized but unissued preferred stock and are no longer designated as Series E Preferred Stock. Pursuant to the terms of the Series G Certificate of Designation, upon effectiveness of an amendment to the Amended and Restated Articles of Incorporation of the Company to effect the Reverse Stock Split, each share of Series G Preferred Stock was automatically transferred to the Company and cancelled for no consideration with no action on behalf of the holders of Series E Preferred Stock. The Company effectuated the Reverse Stock Split on June 3, 2025, and accordingly, all of the shares of Series G Preferred Stock resumed the status of authorized but unissued preferred stock and are no longer designated as Series G Preferred Stock.

Certain Anti-Takeover Provisions

Florida Law

We are not subject to the statutory anti-takeover provisions under Florida law because in our articles of incorporation we have specifically elected to opt out of both the "control-share acquisitions" (F.S. 607.0902) and the "affiliated transactions" (F.S. 607.0901) statutes. Since these anti-takeover statutes do not apply to a corporation that has specifically elected to opt out of such provisions, we would not be able to invoke the protection of such statutes in the event of a hostile takeover attempt.

Articles of Incorporation and Bylaw Provisions

Our articles of incorporation and bylaws contain provisions that could have an anti-takeover effect. These provisions include

- authorization of the issuance of "blank check" preferred stock that could be issued by our Board of Directors without shareholder approval and that may be substantially dilutive or contain preferences or rights objectionable to an acquiror;
- the ability of the Board of Directors to amend the bylaws without shareholder approval;
- vacancies on our board may only be filled by the remaining Directors and not our shareholders; and
- requirements that only our Board, our President or holders of more than 10% of our shares can call a special meeting of shareholders.

These provisions in our articles of incorporation and bylaws could delay or discourage transactions involving an actual or potential change in control of us, including transactions in which shareholders might otherwise receive a premium for their shares over their current prices. Such provisions could also limit the ability of shareholders to approve transactions that shareholders may deem to be in their best interests and could adversely affect the price of our Common Stock.

Transfer Agent and Registrar

The transfer agent and registrar of our Common Stock is Continental Stock Transfer & Trust Company, 1 State Street 30th Floor, New York, New York 10004, telephone: (212) 509-4000.

DESCRIPTION OF SECURITIES WE ARE OFFERING

Series H Convertible Preferred Stock Being Issued in this Offering

The following summary of certain terms and provisions of the Preferred Stock offered in this offering is subject to, and qualified in its entirety by reference to, the terms and provisions set forth in our Certificate of Designation of Preferences, Rights and Limitations of the Preferred Stock, which has been filed as an exhibit to the registration statement of which this prospectus is a part (the "Certificate of Designation").

Our Preferred Stock is convertible into shares of our Common Stock (subject to the beneficial ownership limitations as provided in the Certificate of Designation), based upon the Conversion Price per share of Common Stock, subject to adjustment as provided in the Certificate of Designation and discussed further below, at any time at the option of the holder prior to July 2, 2030 (the fifth anniversary of the closing of the offering), at which time all shares of outstanding Preferred Stock shall automatically and without any further action by the holder be converted into shares of our Common Stock at the then effective Conversion Price, provided that the holder will be prohibited from converting Preferred Stock into shares of our Common Stock if, as a result of such conversion, the holder, together with its affiliates, would own more than 4.99% of the total number of shares of our Common Stock then issued and outstanding. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99%, provided that any increase in such percentage shall not be effective until 61 days after such notice to us.

The Conversion Price of the Preferred Stock, subject to adjustment pursuant to the Preferred Stock Certificate of Designation, as discussed further below, was set, with input from our Placement Agent, at the time of pricing the offering. The number of shares of Common Stock into which each share of Preferred Stock is convertible into is determined by dividing the Offering Price by the Conversion Price. Thus, if the Conversion Price is \$2.50, each share of Preferred Stock, exclusive of dividends, is convertible into approximately 10 shares of Common Stock. As to any fraction of a share which a holder would otherwise be entitled to receive upon such conversion, at our election, we may either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Conversion Price or round to the nearest whole number. If the Conversion Price is set lower, or it is adjusted pursuant to the anti-dilution provision discussed below, the number of shares of Common Stock to be issued upon conversion will increase. For example, if the Conversion Price is lowered to \$1.00, each share of Preferred Stock that has not previously been converted, exclusive of dividends, will be convertible into approximately 25 shares of Common Stock.

The Certificate of Designation for our Preferred Stock contains anti-dilution provisions, which provisions require the lowering of the Conversion Price on any unconverted Preferred Stock to the purchase price of future offerings by us (subject to certain exclusions). If in the future we issue securities for less than the Conversion Price of our Preferred Stock, we will be required to reduce the relevant Conversion Price of any unconverted Preferred Stock, which will result in a greater number of shares of Common Stock being issuable upon conversion, which in turn will have a greater dilutive effect on our shareholders. More specifically, except in connection with certain exempt issuances stipulated in the Certificate of Designation, the Certificate of Designation stipulates that if, at any time while the Preferred Stock is outstanding, we sell or grant any option to purchase or sell or grant any right to reprice, or otherwise dispose of or issue (or announce any sale, grant or any option to purchase or other disposition) any Common Stock or any securities which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock ("Common Stock Equivalents") at an effective price per share that is lower than the then Conversion Price of the Preferred Stock (such lower price, the "Base Conversion Price") then the Conversion Price of the Preferred Stock then outstanding automatically will be reduced to equal the Base Conversion Price at the time such Common Stock or Common Stock Equivalents are issued.

As there is no floor price on the Base Conversion Price or other limit on the potential adjustment of the Conversion Price, if the Conversion Price is adjusted as indicated above, we cannot determine the total number of shares issuable upon conversion. As such, it is possible that we will not have sufficient available shares to satisfy the conversion of the Preferred Stock if we enter into a future transaction that results in the reduction of the Conversion Price. If we do not have sufficient available shares for any Preferred Stock conversions, we will be required to increase our authorized shares, which will require shareholder approval, which may not be possible and will be time consuming and expensive. The potential for such Conversion Price adjustments may depress the price of our Common Stock regardless of our business performance, and, as a result, we may find it more difficult to raise additional equity capital while our Preferred Stock is outstanding. See, “Risk Factors” for additional information.

The holders of Preferred Stock will be entitled to receive cumulative dividends at the rate per share of 9% per annum of the \$25.00 Stated Value per share from the date of issuance of such share of Preferred Stock until July 2, 2030 (the fifth anniversary of the closing of the offering). The dividends become payable in shares of Common Stock (i) upon any conversion of the Preferred Stock, (ii) on each such other date as our board of directors may determine, subject to written consent of the holders of Preferred Stock holding a majority of the then issued and outstanding Preferred Stock, (iii) upon our liquidation, dissolution or winding up, and (iv) upon occurrence of a fundamental transaction, including any merger or consolidation, sale of all or substantially all of our assets, exchange or conversion of all of our Common Stock by tender offer, exchange offer or reclassification; provided, however, that if Preferred Stock is converted into shares of Common Stock at any time prior to July 2, 2030 (the fifth anniversary of the closing of the offering), the holder will receive a make-whole payment in an amount equal to all of the dividends that, but for the early conversion, would have otherwise accrued on the applicable shares of Preferred Stock being converted for the period commencing on the conversion date and ending on July 2, 2030 (the fifth anniversary of the closing of the offering), less the amount of all prior dividends paid on such converted Preferred Stock before the date of conversion. Make-whole payments are payable in shares of Common Stock.

With respect to any dividend payments and make-whole payments paid in shares of Common Stock, the number of shares of Common Stock to be issued to a holder of Preferred Stock will be an amount equal to the quotient of (i) the amount of the dividend payable to such holder divided by (ii) the Conversion Price then in effect.

In the event of our liquidation, dissolution, or winding up, holders of our Preferred Stock will be entitled to receive the amount of cash, securities or other property to which such holder would be entitled to receive with respect to such shares of Preferred Stock if such shares had been converted to Common Stock immediately prior to such event (without giving effect for such purposes to the 4.99% or 9.99% beneficial ownership limitation, as applicable) subject to the preferential rights of holders of any class or series of our capital stock specifically ranking by its terms senior to the Preferred Stock as to distributions of assets upon such event, whether voluntarily or involuntarily.

The holders of the Preferred Stock have no voting rights, except as required by law. Any amendment to our articles of incorporation, bylaws or Certificate of Designation that adversely affects the powers, preferences and rights of the Preferred Stock requires the approval of the holders of a majority of the shares of Preferred Stock then outstanding.

The Preferred Stock will not be listed on the NYSE American or any other exchange or trading market. We do not plan on making an application to list the Preferred Stock on the NYSE American, any other national securities exchange or any other nationally recognized trading system. The Common Stock issuable upon conversion of the Preferred Stock is listed on the NYSE American under the symbol “OGEN.”

Shares of Preferred Stock will be issued in book-entry form under a transfer agency and service agreement between Continental Stock Transfer & Trust, as transfer agent, and us, and shall initially be represented by one or more book-entry certificates deposited with DTC, and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

The transfer agent and registrar for our Preferred Stock is Continental Stock Transfer & Trust. The transfer agent’s address is 1 State Street 30th Floor, New York, NY 10004-1571.

You should review a copy of the certificate of designation of the Preferred Stock, which has been filed as an exhibit to the registration statement of which this prospectus is a part, for a complete description of the terms and conditions of the Preferred Stock.

This offering also relates to the shares of Common Stock issuable upon exercise of the Preferred Stock.

Warrants Being Issued in this Offering

The following is a brief summary of certain terms and conditions of the Warrants and is subject in all respects to the provisions contained in the Warrants being issued in this offering.

Form. The Warrants will be issued in book-entry form under a Warrant Agent Agreement between Continental Stock Transfer & Trust Company, a New York corporation, as Warrant agent, and us, and shall initially be represented by one or more book-entry certificates deposited with DTC, and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC. You should review a copy of the form of Warrant, which is attached as an exhibit to the registration statement of which this prospectus forms a part, for a complete description of the terms and conditions of the Warrants.

Exercisability. The Warrants are exercisable into shares of Preferred Stock at any time after the date of issuance up to July 2, 2030 (the fifth anniversary of the closing of the offering), at which time any unexercised Warrants will expire and cease to be exercisable. The Warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full in immediately available funds for the number of shares of Preferred Stock purchased upon such exercise. No fractional shares of Preferred Stock will be issued in connection with the exercise of a Warrant. In lieu of fractional shares, we will either pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price or round up to the next whole share. In addition, the warrants are exercisable on a cashless basis if at the time of exercise there is no effective registration statement registering, or the prospectus contained therein is not available for, the issuance of shares of common stock for which the warrants are exercisable. As a result, we may never receive meaningful, or any, cash proceeds from the exercise of the warrants.

Exercise Price; Anti-Dilution. The initial exercise price per share of Preferred Stock purchasable upon exercise of the Warrants is \$25.00 per share. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our Preferred Stock.

Transferability. Subject to applicable laws, the Warrants may be offered for sale, sold, transferred or assigned without our consent. There is currently no trading market for the Warrants and a trading market is not expected to develop.

Fundamental Transactions. In the event of a fundamental transaction, as described in the Warrants and generally including any reorganization, recapitalization or reclassification of our Common Stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the holders of the Warrants will be entitled to receive upon exercise of the Warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Warrants immediately prior to such fundamental transaction.

Rights as a Stockholder. Except as otherwise provided in the Warrants or by virtue of such holder’s ownership of shares of our Common Stock, the holder of a Warrant does not have the rights or privileges of a holder of our Common Stock, including any voting rights, until the holder exercises the Warrant.

We, with the consent of the Warrant holders holding all of the then outstanding Warrants, may increase the exercise price, shorten the expiration date and amend all other Warrant terms. We may lower the exercise price or extend the expiration date without the consent of investors.

You should review a copy of the Warrant agent agreement and the form of Warrant, each of which has been filed as an exhibit to the registration statement of which this prospectus is a part, for a complete description of the terms and conditions of the Warrants and the Warrant agent agreement.

This prospectus also relates to the offering of the placement agent's Warrants and of the shares of our Common Stock issuable upon exercise, if any, of such Warrants. See "Plan of Distribution" section below for more information.

Listing of Common Stock

Our Common Stock is currently listed on the NYSE American under the trading symbol "OGEN".

Transfer Agent and Registrar

The transfer agent and registrar of our Common Stock is Continental Stock Transfer & Trust Company, 1 State Street 30th Floor, New York, New York 10004, telephone: (212) 509-4000.

Lock-up agreements

Each of our officers and directors and five percent (5%) shareholders have agreed to be subject to a lock-up period of 180 days following the date of this prospectus. This means that, during the applicable lock-up period, they may not offer for sale, contract to sell, or sell any shares of our Common Stock or any securities convertible into, or exercisable or exchangeable for, shares of our Common Stock subject to certain customary exceptions. In addition, provided that the Company receives at least \$10 million in gross proceeds in this offering, we have agreed to not issue any shares of Common Stock or securities exercisable or convertible into shares of Common Stock or file any registration statement with the Commission relating to the offering of any of our securities, subject to certain exceptions, for a period of 180 days following the closing date of this offering; provided that following the closing date of this offering we will be permitted to enter into an agreement in connection with an "at the market" offering under Rule 415(a)(4) under the Securities Act and make sales thereunder. Dawson James Securities, Inc., in their sole discretion may release any of the securities subject to these lock-up agreements at any time. If the restrictions under the lock-up agreements are waived, shares of our Common Stock may become available for resale into the market, subject to applicable law, which could reduce the market price for our Common Stock. See "Plan of Distribution."

PLAN OF DISTRIBUTION

In connection with this offering, we will enter into a placement agency agreement with Dawson James Securities, Inc., pursuant to which Dawson James Securities, Inc. will agree to act as our exclusive placement agent on a best efforts basis in connection with the sale of our securities. The placement agent has no obligation to purchase or sell any securities offered by us under this prospectus for its own account or to arrange the purchase or sale of any specific number or dollar amount of the securities, but the placement agent will agree to act as our agent and to use its reasonable best efforts to arrange for the sale of all of the securities in this offering. Affiliates and associated persons of Dawson James Securities, Inc. may invest in this offering on the same terms and conditions as the public investors participating in this offering.

Indemnification

We have agreed to indemnify the Placement Agent against certain liabilities, including liabilities under the Securities Act, or to contribute to payments that the Placement Agent or such other indemnified parties may be required to make in respect of those liabilities.

Placement Agent Fees and Expenses

The following table shows the per unit (consisting of one Preferred Share and one Warrant) and total placement agent fees we will pay in connection with the sale of the securities in this offering.

	Per Share and Accompanying Warrant	Total
Public offering price ⁽¹⁾	\$ 25.00	\$ 16,500,000
Placement Agent fees ⁽²⁾	\$ 1.75	\$ 1,155,000
Proceeds to us, before expenses ⁽³⁾	\$ 23.25	\$ 15,345,000

1. The price of a share of Preferred Stock and accompanying Warrant in this prospectus assumes a combined public offering price of \$25 per share and accompanying Warrant and a Conversion Price per share of Preferred Stock of \$2.50 per share. The Offering Price, as well as the exercise price of the Warrants, was determined by the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers, and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company.

2. We have agreed to pay to the placement agent a cash fee equal to 7% of the aggregate gross proceeds raised in this offering. Because there is no minimum offering amount required as a condition to closing in this offering, the actual aggregate cash placement fee, if any, is not presently determinable and may be substantially less than the maximum amount set forth above.

3. We have also agreed to reimburse the Placement Agent at closing for legal and other expenses incurred by the placement agent in connection with this offering in an amount up to \$125,000; provided that if the Offering does not result in the Company receiving at least \$10 million in gross proceeds, the cap on such expenses shall be \$75,000.

We estimate that the total expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding placement agent fees, will be approximately \$350,000, all of which are payable by us. This figure includes the Placement Agent's accountable expenses, including, but not limited to, legal fees for Placement Agent's legal counsel, that we have agreed to pay at the closing of the offering up to an aggregate expense reimbursement of \$125,000, assuming we receive at least \$10 million of gross proceeds in the offering. If we receive less than \$10 million in gross proceeds in the offering, the cap on expense reimbursements will be \$75,000.

Determination of Offering Price

The combined public offering price for each share of Preferred Stock and accompanying Warrant is \$25.00 (the “Offering Price”). The Offering Price, as well as the exercise price and other terms of the Warrants, was determined by the Company on an arbitrary basis and may not be indicative of the price at which Preferred Stock or Warrants would trade if they were listed on an exchange or were actively traded by brokers and may not bear any relationship to the assets, book value, historical earnings or net worth of the Company. However, when determining the Offering Price and the exercise price of the Warrants our board of directors considered, among other factors, the trading of our Common Stock prior to this offering, the history and prospects of our company, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

The Conversion Price of the Preferred Stock was set at the time of pricing the offering. See, “Risk Factors” for more information.

There is no established public trading market for the Preferred Stock or Warrants, and we do not expect such markets to develop. In addition, we do not intend to apply for a listing of the Preferred Stock or Warrants on any national securities exchange or other nationally recognized trading system.

We estimate that the total expenses of the offering, including registration, filing, and listing fees, printing fees and legal and accounting expenses, but excluding the placement agent fees, will be approximately \$350,000, all of which are payable by us. This figure includes the Placement Agent’s accountable expenses, including, but not limited to, legal fees for the Placement Agent’s legal counsel, that we have agreed to pay at the closing of the offering up to an aggregate expense reimbursement of \$125,000, assuming we receive at least \$10 million of gross proceeds in the offering. If we receive less than \$10 million in gross proceeds in the offering, the cap on expense reimbursements will be \$75,000.

Lock-Up Agreements

We have agreed not to (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, any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company; (ii) file or cause to be filed any registration statement with the Commission relating to the offering of any shares of capital stock of the Company or any securities convertible into or exercisable or exchangeable for shares of capital stock of the Company, other than pursuant to a registration statement on Form S-8 for employee benefit plans; whether any such transaction described in clause (i), (ii) or (iii) above is to be settled by delivery of shares of capital stock of the Company or such other securities, in cash or otherwise; or (iv) publicly announce an intention to effect any transaction specified in clause (i), (ii) or (iii), for a period of 180 days following the Shareholder Approval Date (the “Lock-up Period”). These restrictions on future issuances are subject to exceptions for (i) the issuance of shares of our Common Stock sold in this offering and the issuance of the Warrants and shares of Common Stock issuable upon exercise of those Warrants, (ii) the issuance by the Company of Common Stock upon the exercise of stock options, warrants or the conversion of a security, in each case, that is outstanding on the date hereof, (iii) the grant by the Company of stock options or other stock-based awards, or the issuance of shares of capital stock of the Company under any stock compensation plan of the Company in effect on the date hereof. The foregoing restrictions shall not apply to an at-the-market offering of Common Stock conducted by the Company.

In addition, each of our directors and executive officers has entered into a lock-up agreement with the Placement Agent. Under the lock-up agreements, the directors and executive officers may not, during the period commencing on the date of the final prospectus relating to the offering and ending 180 days thereafter, (1) offer, pledge, sell, contract to sell, grant, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of capital stock or any securities convertible into or exercisable or exchangeable for shares of capital stock, whether currently owned or thereafter acquired or with respect to which the director or executive officer has or thereafter acquires the power of disposition (collectively, the “Lock-Up Securities”); (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Lock-Up Securities; (3) establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Exchange Act and the rules and regulations of the SEC promulgated thereunder with respect to any Common Stock owned directly by the director or executive officer (including holding as a custodian) or with respect to which the director or executive officer has beneficial ownership within the rules and regulations of the SEC, 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; (4) make any demand for or exercise any right with respect to the registration of any Lock-Up Securities; or (5) publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge or other arrangement relating to any Lock-Up Securities.

Tail

We have also agreed to pay the Placement Agent a tail fee in an amount equal to 7% of the aggregate gross proceeds raised in any public or private offering or other financing consummated by the Company in the nine month period following the expiration or termination of our engagement of the Placement Agent to the extent that such financing or capital is provided to the Company by investors introduced to this offering by the Placement Agent.

Electronic Distribution

This prospectus in electronic format may be made available on websites or through other online services maintained by the Company, the Placement Agent, or by its affiliates. Other than this prospectus in electronic format, the information on the Company’s and/or placement agent’s website and any information contained in any other website maintained by the Company or the Placement Agent is not part of this prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or the Placement Agent, and should not be relied upon by investors.

Stabilization and Other Transactions

The Placement Agent pursuant to Regulation M under the Securities Exchange Act of 1934 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 units at a level above that which might otherwise prevail in the open market. Establishing short sales positions may involve either “covered” short sales or “naked” short sales. “Covered” short sales are sales made in an amount not greater than the Placement Agents’ option to purchase additional units in this offering. The Placement Agent may close out any covered short position by purchasing our units in the open market or from market participants. “Naked” short sales are sales in excess of the option to purchase additional units. The Placement Agents must close out any naked short position by purchasing units in the open market. A naked short position is more likely to be created if the Placement Agents are concerned that there may be downward pressure on the price of the units in the open market after pricing that could adversely affect investors who purchase in this offering. A stabilizing bid is a bid for the purchase of Common Stock on behalf of the Placement Agent 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 Common Stock on behalf of the Placement Agents to reduce a short position incurred by the Placement Agents in connection with the offering. Similar to other purchase transactions, the Placement Agents’ 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 Placement Agents to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the securities originally sold by such syndicate member are purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member. Neither we, nor the Placement Agent 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 securities. The Placement Agent is not obligated to engage in these activities and, if commenced, may end any of these activities at any time. These transactions may be effected on Nasdaq, in the over-the-counter market or otherwise.

Listing & Transfer Agent

Our Common Stock is listed on the NYSE American under the symbol “OGEN.” On June 30, 2025, the reported closing price per share of our Common Stock was \$3.82. The final public offering price will be determined between us and the Placement Agent and may be at a discount to the current market price of our Common Stock. Therefore, the assumed public offering price used throughout this prospectus may not be indicative of the final public offering price. There is no established public trading market for the Warrants, and we do not expect such markets to develop. In addition, we do not intend to apply for a listing of the Warrants on any national securities exchange or other nationally recognized trading system.

The transfer agent and registrar for our Common Stock is Continental Stock Transfer & Trust Company, 1 State Street 30th Floor, New York, New York 10004, telephone: (212) 509-4000.

Other

Dawson James served as the placement agent in our best efforts private placement of a promissory note with an aggregate principal amount of \$3,000,000 and 1,000,000 shares of Series G Mirroring Preferred Stock of the Company, which closed on March 14, 2025. In connection with this offering, Dawson James received placement agent fees and the reimbursement of expenses.

Other Relationships

Dawson James and certain of its 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. Dawson James and certain of its 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, Dawson James and certain of its 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. If Dawson James or its affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. Dawson James and its affiliates may hedge such exposure by entering into transactions that consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the Common Stock offered hereby. Any such short positions could adversely affect future trading prices of the Common Stock offered hereby. Dawson James and certain of its 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.

Offer and Sale Restrictions Outside the United States

Other than in the United States, no action has been taken by us or Dawson James that would permit a public offering of the securities offered by this prospectus in any jurisdiction where action for that purpose is required. The securities offered by this prospectus may not be offered or sold, directly or indirectly, nor may this prospectus or any other offering material or advertisements in connection with the offer and sale of any such securities be distributed or published in any jurisdiction, except under circumstances that will result in compliance with the applicable rules and regulations of that jurisdiction. Persons into whose possession this prospectus comes are advised to inform themselves about and to observe any restrictions relating to the offering and the distribution of this prospectus. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities offered by this prospectus in any jurisdiction in which such an offer or a solicitation is unlawful.

EXPERTS

The consolidated financial statements for the years ended December 31, 2024 and December 31, 2023, appearing in the Company’s Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on March 14, 2025, have been audited by Cherry Bekaert LLP, Tampa, Florida independent registered public accounting firm, as set forth in their report, which report includes an explanatory paragraph about the existence of substantial doubt concerning the Company’s ability to continue as a going concern, and have been incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing, in giving said reports.

LEGAL MATTERS

The validity of the issuance of the securities offered hereby has been passed upon for us by Shumaker, Loop & Kendrick, LLP, Tampa, Florida. ArentFox Schiff LLP, Washington, D.C., has acted as counsel for Dawson James.

INFORMATION INCORPORATED BY REFERENCE

In this document, we “incorporate by reference” certain information we file with the SEC, which means that we can disclose important information to you by referring to that information. The information incorporated by reference is considered to be a part of this prospectus. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for all purposes to the extent that a statement contained in this prospectus or in any other subsequently filed document that is also incorporated or deemed to be incorporated by reference, modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below (other than, in each case, documents or information deemed to be furnished and not filed in accordance with SEC rules):

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2024, filed with the SEC on March 14, 2025;
- Our Current Report on [Form 10-Q](#) for the quarter ended March 31, 2025, as filed on May 9, 2025;
- Our Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on April 1, 2025;
- Our Current Reports on Form 8-K filed [January 17, 2025](#), [January 21, 2025](#), [February 5, 2025](#), [February 18, 2025](#), [March 6, 2025](#), [March 27, 2025](#), [April 9, 2025](#), [May 2, 2025](#), [May 20, 2025](#) and [May 27, 2025](#).
- The description of our Common Stock set forth in [Exhibit 4.2](#) of our Current Report on Form 8-K filed March 1, 2024.

We also incorporate by reference into this prospectus and the accompanying prospectus all documents (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items) that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities

Exchange Act of 1934, as amended, or the Exchange Act, after the date of this prospectus until we sell all of the securities covered by this prospectus and the accompanying prospectus or the sale of securities by us pursuant to this prospectus and the accompanying prospectus is terminated.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document which is also incorporated by reference in this prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We hereby undertake to 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 any such person, a copy of any and all of the information that has been or may be incorporated by reference in this prospectus, including any exhibits that are specifically incorporated by reference in such documents. Requests for such copies should be directed as follows: Oragenics, Inc., 1990 Main St Suite 750 Sarasota, Florida 34236, Attention: Investor Relations, Phone: (813) 276-7900.

This prospectus is part of a registration statement we filed with the SEC. That registration statement and the exhibits filed along with the registration statement contain more information about us and the shares in this offering. Because information about documents referred to in this prospectus is not always complete, you should read the full documents which are filed as exhibits to the registration statement. You may read and copy the full registration statement and its exhibits at the SEC's website.

WHERE YOU CAN FIND MORE INFORMATION

We are a public company and file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission ("SEC"). You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Our SEC filings are also available to the public at the SEC's web site at <http://www.sec.gov>.

In addition, we maintain a web site that contains information regarding our company, including copies of reports, proxy statements and other information we file with the SEC. The address of our web site is www.oragenics.com. Except for the documents specifically incorporated by reference into this prospectus, information contained on our website or that can be accessed through our website does not constitute a part of this prospectus. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website.

660,000 Shares of Series H Convertible Preferred Stock

660,000 Warrants to Purchase 660,000 Shares of Series H Convertible Preferred Stock

660,000 shares of Series H Convertible Preferred Stock issuable upon conversion of the Warrants

and

Up to 19,140,000 shares of Common Stock Underlying (i) the Series H Convertible Preferred Stock Sold Hereunder and (ii) the Series H Convertible Preferred Stock to Be Issued Upon Exercise of the Warrants



PROSPECTUS

Dawson James Securities, Inc.

July 2, 2025
