As filed with the Securities and Exchange Commission on May 23, 2025
Registration No. 333-

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-1
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

OS THERAPIES INCORPORATED

(Exact name of registrant as specified in its charter)

Delaware	2834	82-5118368
(State or other jurisdiction of incorporation or organization)	(Primary SIC Code)	(IRS Employer Identification No.)

115 Pullman Crossing Road, Suite #103
Grasonville, Maryland 21638
(410) 297-7793
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Paul A. Romness, MPH
President and Chief Executive Officer
OS Therapies Incorporated
115 Pullman Crossing Road, Suite #103
Grasonville, Maryland 21638
(410) 297-7793
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Spencer G. Feldman, Esq.
Olshan Frome Wolosky LLP
1325 Avenue of the Americas, 15th Floor
New York, New York 10019
(212) 451-2300

Approximate date of commencement of proposed sale to the public:
As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, check the following box. ☒

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large Accelerated Filer ☐	Accelerated Filer ☐
Non-Accelerated Filer ☒	Smaller Reporting Company ☒
	Emerging Growth Company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided to Section 7(a)(2)(B) of the Securities Act. ☐

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the Registration Statement filed with the Securities and Exchange Commission becomes effective. This preliminary prospectus is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

PRELIMINARY PROSPECTUS **SUBJECT TO COMPLETION DATED MAY 23, 2025**

7,493,874 Shares of Common Stock

OS THERAPIES

OS THERAPIES INCORPORATED

This prospectus covers up to 7,493,874 shares of common stock of OS Therapies Incorporated that may be offered for resale or otherwise disposed of by the selling stockholders set forth under the caption "Selling Stockholders" beginning on page 17 of this prospectus, including their pledges, assignees or successors-in-interest.

The shares offered for resale under this registration statement consist of (i) 2,164,215 shares of common stock issued and outstanding, (ii) 1,014,728 shares of common stock issuable upon conversion of outstanding shares of our Series A senior convertible preferred stock, par value $0.001 per share (the "Series A Preferred Stock"), (iii) 3,870,890 shares of common stock issuable upon the exercise of outstanding warrants (the "Warrants"), and (iv) 444,041 shares of common stock issuable upon receipt of the Ayala Stockholder Approval (as defined below), which may, in lieu thereof, be issued in the form of a warrant to purchase an equal number of shares of common stock. The selling stockholders acquired their shares of common stock, Series A Preferred Stock and/or Warrants from us either (i) in a private placement transaction that closed on December 31, 2024 and January 14, 2025 (the "Private Placement") or (ii) in connection with our acquisition of the HER2 Assets (as defined herein) from Ayala Pharmaceuticals, Inc., a Delaware corporation formerly known as Advaxis, Inc. ("Ayala"), each as further described in this prospectus.

We will not receive any proceeds from the sale of shares by the selling stockholders. We will, however, receive proceeds from any cash exercise of the Series A Warrants and Agent Warrants (as defined herein). We will bear all costs, expenses and fees in connection with the registration of shares for resale by the selling stockholders. The selling stockholders will each bear their respective discounts, commissions, fees of underwriters, selling brokers or dealer managers and similar expenses, if any, attributable to the sale or disposition of the shares, or interests therein, held by such selling stockholder. See "Use of Proceeds" beginning on page 13 of this prospectus for more information.

The selling stockholders may offer all or part of the shares registered hereby for resale from time to time through public or private transactions, at either prevailing market prices or at privately negotiated prices. Our registration of the shares covered by this prospectus does not mean that the selling stockholders will offer or sell any of the shares. With regard only to the shares the selling stockholders sell for their own behalf, such selling stockholder may be deemed an "underwriter" within the meaning of the Securities Act of 1933, as amended (the "Securities Act"). See "Plan of Distribution" beginning on page 21 of this prospectus for more information.

Our common stock trades on the NYSE American under the symbol "OSTX." On May 22, 2025, the closing price of our shares on the NYSE American was $1.53 per share.

You should read this prospectus, together with additional information described under the headings "Information Incorporated by Reference" and "Where You Can Find More Information," carefully before you invest in our common stock.

Investing in our shares is highly speculative and involves a high degree of risk. Before buying any shares, you should carefully read the discussion of material risks of investing in our shares in "Risk Factors" beginning on page 11 of this prospectus, as well as the other information contained in or incorporated by reference in this prospectus or in any accompanying prospectus supplement.

We are an "emerging growth company" and "smaller reporting company" as defined under the U.S. federal securities laws and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and may elect to do so after this offering in future filings.

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

The date of this prospectus is _____, 2025

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-1 that we filed with the Securities and Exchange Commission (the "SEC") using the "shelf" registration process. Under this shelf registration process, the selling stockholders identified herein (or their pledgees, donees, transferees or other successors-in-interest) may, from time to time, sell or otherwise dispose of the shares of common stock described in this prospectus in one or more offerings. We will not receive any proceeds from the sale by such selling stockholders of the shares of common stock offered by them described in this prospectus.

This prospectus provides you with a general description of the shares of our common stock that the selling stockholders may sell or otherwise dispose of. You should rely only on the information provided in this prospectus, as well as the information incorporated by reference into this prospectus and any applicable prospectus supplement. If there is any inconsistency between the information in this prospectus and any prospectus supplement, you should rely on the information provided in the prospectus supplement. Neither we nor the selling stockholders have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus or any applicable prospectus supplement. Neither we nor the selling stockholders take responsibility for and can provide no assurance as to the reliability of, any other information that others may give you. You should not assume that the information in this prospectus or any applicable prospectus supplement is accurate as of any date other than the date of the applicable document. Since the date of this prospectus and the documents incorporated by reference into this prospectus, our business, financial condition, results of operations and prospects may have changed. Neither we nor the selling stockholders will make an offer to sell these shares of common stock in any jurisdiction where the offer or sale is not permitted.

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 information incorporated by reference herein or therein. For information about the distribution of shares of common stock offered, please see "Plan of Distribution" below. You should carefully read both this prospectus and any prospectus supplement, together with the additional information described in "Where You Can Find More Information" and "Incorporation of Certain Information by Reference" before you make any investment decisions regarding the shares of common stock. You may obtain the information incorporated by reference into this prospectus without charge by following the instructions under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference."

This prospectus summarizes certain documents and other information, and we refer you to them for a more complete understanding of what we discuss in this prospectus. All of the summaries are qualified in their entirety by the actual documents. In making an investment decision, you must rely on your own examination of our company and the terms of the offering and the shares of common stock, including the merits and risks involved.

We are not making any representation to any purchasers of shares of common stock regarding the legality of an investment in the shares of common stock by such purchasers. You should not consider any information in this prospectus to be legal, business or tax advice. You should consult your own attorney, business advisor or tax advisor for legal, business and tax advice regarding an investment in our common stock.

The industry and market data and certain other statistical information used throughout this prospectus are from our own research, surveys or studies conducted by third parties and industry or general publications. Industry publications and third-party research, surveys, and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We are responsible for all of the disclosures contained in this prospectus, and we believe that these sources are reliable; however, we have not independently verified the information contained in such publications. While we are not aware of any misstatements regarding any third-party information presented in this prospectus, their estimates, in particular, as they relate to projections, involve numerous assumptions, are subject to risks and uncertainties, and are subject to change based on various factors, including those discussed under the section entitled "Risk Factors" and elsewhere in this prospectus, as well as documents incorporated by reference herein. Some data are also based on our good faith estimates.

SiLinkers™, CAPs™ and other common law trade names, trademarks or service marks of our company appearing in this prospectus and the documents incorporated by reference herein are the property of OS Therapies Incorporated. This prospectus contains additional trade names, trademarks and service marks of other companies that are the property of their respective owners. Solely for convenience, trademarks and trade names referred to in this prospectus and the documents incorporated by reference herein appear without ™ symbol, but those references are not intended to indicate that we will not assert, to the fullest extent under applicable law, our rights, or that the applicable owners will not assert their rights, to these trademarks and trade names. We do not intend our use or display of other companies' trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship by us of, these other companies.

PROSPECTUS SUMMARY

This summary highlights information contained in greater detail elsewhere inthis prospectus or incorporated by reference into this prospectus. This summary is not complete and does not contain all of the information you should consider in making your investment decision. You should read the entire prospectus and the documents incorporated by reference herein carefully before making an investment in our common stock. You should carefully consider, among other things, our financial statements and the related notes and the section entitled "Risk Factors" included elsewhere in this prospectus. Unless the context otherwise requires, the terms "OS Therapies," "OST," the "Company," "we," "us" and "our" refer to OS Therapies Incorporated.

Our Company and Mission

OS Therapies Incorporated is a clinical stage biopharmaceutical company focused on the identification, development and commercialization of treatments for Osteosarcoma (OS) and other solid tumors. Our mission is to address the significant need for new treatments in cancers of the bone in children and young adults. Osteosarcoma is an extremely challenging and often aggressive cancer that has particular treatment challenges due to its location, changing genotypes and high metastases rates. We are currently seeking to answer the call for new treatments that will prevent metastasis and the recurrence of metastases with our lead core product candidate OST-HER2 (also known as OST31-164), a cancer immunotherapy product candidate that produces a cellular immune response against the cancer antigen HER2. In 2021, we opened a clinical study to produce data for the FDA to evaluate the safety and efficacy of OST-HER2 in patients after resection of recurrent Osteosarcoma, which achieved full enrollment of 41 patients in October 2023. In the first quarter of 2025, we announced that our Phase IIb clinical trial achieved its primary endpoint with statistical significance. We believe the efficacy results, combined with the favorable safety profile and the unmet clinical need, support the potential for regulatory approval. We plan to request a Type B or Type C FDA meeting in the second quarter of 2025 to discuss the data and the path to a Biologics License Application (BLA). Subject to positive FDA feedback, we plan to submit a BLA with the FDA for approval to market the drug candidate shortly thereafter. Upon success in gaining regulatory approval from the FDA with OST-HER2 in Osteosarcoma, we intend to evaluate OST-HER2's potential use, both alone and in combination with HER2 targeting antibodies such as Herceptin®, in other solid tumors including breast, esophageal and lung cancers. OST-HER2 has potential uses in both the prevention of metastases in solid tumors, and therapeutically against HER2-expressing solid tumors treated with HER targeting antibodies.

We also own rights to OST-Tunable Drug Conjugate (OST-tADC) platform, a next generation antibody-drug conjugate (ADC) silicone dioxide linker technology. "Tunable" is a term used in drug development that refers to the properties that can be influenced by chemical modifications, and "antibody-drug conjugate" or ADC is a term used to describe a drug made up of a monoclonal antibody attached to a cytotoxic payload, or a highly active and toxic pharmaceutical molecule, through chemical linkers. The ADC links an antibody that can home in on a targeted tumor to deploy the cytotoxic payload or toxic agent against the tumor. Furthering our founding mission, we intend to investigate clinical indications for OST-tADC in Osteosarcoma and other solid tumors

No new treatments have been approved by the U.S. Food and Drug Administration (FDA) for human Osteosarcoma for more than 40 years. In humans, Osteosarcoma is an extremely rare cancer that primarily affects children, teenagers and young adults generally under 40 years of age. We are not aware of any competing adjuvant therapy for Osteosarcoma to be tested in children that is further along in the development process than OST-HER2. This disease is difficult to diagnose. The standard of care following first line therapies is simply to screen and wait for possible recurrence/metastasis, or the development of secondary malignant growths at a distance from a primary site of cancer. Studies published in the Journal of Clinical Oncology, "Osteosarcoma Relapse After Combined Modality Therapy: An Analysis of Unselected Patients in the Cooperative Osteosarcoma Study Group (COSS)," by Kempf-Bielack B., et al. (January 2005), and "Second and Subsequent Recurrences of Osteosarcoma: Presentation, Treatment, and Outcomes of 249 Consecutive Cooperative Osteosarcoma Study Group Patients," by Bielack S., et al. (February 2009), reported that recurrence/metastasis happens in approximately half of all patients within 12 to 18 months following initial remittance. For those patients that experience recurrence, metastasis is typically to the lungs and brain, with survival rates of approximately 13% over the next year, according to these studies.

We completed our initial public offering on August 2, 2024, raising $6,400,000 in gross offering proceeds.

Our Recent Transactions

The Private Placement

On December 24, 2024, we entered into a Securities Purchase Agreement (the "Purchase Agreement") with certain institutional and accredited investors (collectively, the "Purchasers"), substantially all of whom were our existing stockholders, pursuant to which we agreed to issue and sell to the Purchasers immediately separable units (the "Units"), with each Unit being comprised of (i) one share of Series A Preferred Stock, and (ii) a warrant to purchase one share of common stock (each, a "Series A Warrant" and such shares, the "Warrant Shares"), at a price per Unit of $4.00, for aggregate gross proceeds of not less than $6 million and not more than $10 million (the "Private Placement"). At two closings occurring on December 31, 2024 and January 14, 2025, we issued to the Purchasers an aggregate of (i) 1,775,750 shares of Series A Preferred Stock and (ii) Series A Warrants initially exercisable into 1,775,750 shares of common stock. The gross proceeds from the Private Placement, before deducting transaction fees and other estimated Private Placement expenses, were approximately $7,103,000. The Purchase Agreement required us to seek stockholder approval for any transactions contemplated by the Purchase Agreement and the related documents for which the rules of the NYSE American require stockholder approval (the "PIPE Stockholder Approval") and to hold a special meeting of stockholders for the purpose of obtaining the PIPE Stockholder Approval not later than April 9, 2025.

On April 9, 2025, we convened a Special Meeting of Stockholders (the "Special Meeting") for the PIPE Stockholder Approval, in accordance with NYSE American LLC Company Guide Section 713(a), of the issuance of shares of our common stock upon (i) the conversion of 1,775,750 shares of Series A Preferred Stock, (ii) the exercise of the Series A Warrants, and (iii) the exercise of the Agent Warrants in connection with our Private Placement, in each case without regard to any limits on conversion or exercise therein and in amounts collectively equal to or exceeding 20% of our common stock outstanding as of December 24, 2024 (including upon the operation of applicable price reset and anti-dilution provisions and/or the reduction of conversion prices and exercise prices) (the "Issuance Proposal"). The Issuance Proposal was approved by the affirmative vote of a majority of the votes cast by our stockholders at the Special Meeting.

The Purchase Agreement restricts us from issuing additional shares of common stock, or securities convertible into or exercisable or exchangeable for shares of common stock during the period beginning from the closing until the later of (x) six months from the closing and (y) April 9, 2025, and restricts us from entering into variable rate transactions at any time the Purchasers hold Series A Warrants, subject to certain exceptions.

In connection with the Private Placement, we entered into a Registration Rights Agreement, dated December 31, 2024 (the "PIPE RRA"), with the Purchasers, pursuant to which we agreed to use reasonable best efforts to, by no later than January 31, 2025, submit to the U.S. Securities and Exchange Commission (the "SEC") a registration statement covering the resale of a number of shares of common stock underlying the Series A Preferred Stock and the Series A Warrants issued pursuant to the Purchase Agreement equal to 300% of the shares of common stock initially issuable thereunder, and to use commercially reasonable efforts to cause such registration statement to be declared effective by the SEC within 45 days thereafter. Our registration statement registering a number of shares equal to 300% of the shares of common stock initially issuable upon conversion of the Series A Preferred Stock and the exercise of the Series A Warrants that were sold and issued at the closings was declared effective by the SEC on February 13, 2025.

Brookline Capital Markets, a division of Arcadia Securities, LLC ("Brookline"), acted as exclusive placement agent for the issuance and sale of the securities in the Private Placement. Pursuant to the terms of a letter agreement, dated December 27, 2024, between the Company and Brookline (the "Placement Agency Agreement"), the Company agreed to pay Brookline an aggregate cash fee (the "Cash Fee") equal to (i) 7% of the gross proceeds received by us from the sale of the securities in the Private Placement to the Purchasers other than certain Purchasers identified on a schedule thereto ("Reduced Fee Purchasers"), plus (ii) 3% of the gross proceeds received by us from the sale of the securities in the Private Placement to Reduced Fee Purchasers, plus expenses; provided that Ceros Financial Services, Inc., Brookline's selected dealer for the Private Placement ("Ceros"), is entitled to 33.3% of the Cash Fee.

In addition, we agreed to pay Brookline or its designees a fee in the form of warrants to purchase shares of common stock (the "Agent Warrants"). The Agent Warrants are initially exercisable into a number of shares of common stock equal to (i) 7% of the number of shares of common stock initially issuable pursuant to the shares of Series A Preferred Stock issued to the Purchasers, other than Reduced Fee Purchasers in the Private Placement, plus (ii) 3% of the number of shares of common stock initially issuable pursuant to the shares of Series A Preferred Stock issued to Reduced Fee Purchasers in the Private Placement; provided that Ceros or its designee is entitled to 33.3% of the Agent Warrants. The terms of the Agent Warrants are substantially similar to the terms of the Series A Warrants.

At two closings occurring on December 31, 2024 and January 14, 2025, (i) Brookline received an aggregate cash fee of $159,685 and the right to receive Agent Warrants initially exercisable for an aggregate of 39,918 shares of common stock, and (ii) Ceros received an aggregate cash fee of $79,723 and the right to receive Agent Warrants initially exercisable for an aggregate of 19,930 shares of common stock. Shortly following the second closing, we issued Brookline's Agent Warrants and Ceros' Agent Warrants to their respective designees in accordance with their instructions. Each of the holders of the Agent Warrants is affiliated with a broker-dealer regulated by the Financial Industry Regulatory Authority, Inc. ("FINRA"). These selling stockholders acquired their respective securities in the ordinary course of such selling stockholder's business and, at the time of the acquisition of the shares to be resold pursuant to this prospectus, the selling stockholders had no agreements or understandings, directly or indirectly, with any person to distribute them.

On April 23, 2025, as a result of the approval of the Issuance Proposal on April 9, 2025, the conversion price of the Series A Preferred Stock and the exercise prices of the Series A Warrants and Agent Warrants were automatically reset to $1.12 per share (the "PIPE Automatic Reset"). Under the terms of the PIPE RRA, we agreed to register for resale any additional shares of common stock underlying the Series A Preferred Stock, Series A Warrants and Agent Warrants that were not previously registered. As a result of the PIPE Automatic Reset, the shares offered for resale under this registration statement include (i) 1,014,728 shares of common stock issuable upon conversion of the Series A Preferred Stock, (ii) 1,648,931 shares of common stock issuable upon exercise of the Series A Warrants and (iii) 55,578 shares of common stock issuable upon exercise of the Agent Warrants. For more information on the PIPE Automatic Reset, see "Description of Capital Stock — Series A Preferred Stock — Resets and Anti -Dilution Adjustments" and Description of Capital Stock — Series A Warrants — Resets and Anti-Dilution Adjustments."

Our Acquisition of HER2 and Lm-Related Assets

On April 9, 2025, pursuant to the terms of an Asset Purchase Agreement, dated as of January 28, 2025 (the "HER2 Purchase Agreement"), between us and Ayala, we completed the previously announced acquisition of the *Lm*-based immune-oncology programs and related intellectual property assets (the "HER2 Assets") from Ayala. The HER2 Assets include, among other things, two investigational new drug (IND) filings with the FDA: (i) ADXS-503 for non-small cell lung cancer; and (ii) ADXS-504 for prostate cancer.

In consideration for the purchase of the HER2 Assets, we agreed to assume certain specified liabilities and to pay an aggregate purchase price of $8,000,000, which was paid as follows: (i) $400,000 to Ayala ($150,000 of which was transferred upon signing of the HER2 Purchase Agreement and the remainder on the closing date); (ii) $100,000 to a third party on behalf of Ayala on the closing date; and (iii) $7,500,000 worth of shares of the our common stock, or 4,774,637 shares based on the volume-weighted average price of the Company's common stock over the 30 trading days immediately preceding the closing date (the "Ayala Consideration Shares").

Because the issuance of the Ayala Consideration Shares would require us to issue more than 19.99% of our outstanding common stock immediately prior to such issuance (the "NYSE Ownership Limitation"), we issued to Ayala (i) 2,164,215 shares of common stock (the "Ayala Initial Shares"), and (ii) a warrant to purchase 2,166,381 shares of common stock (the "Ayala Warrant" and the shares of common stock issuable thereunder, the "Ayala Warrant Shares"). Once we obtain stockholder approval in accordance with NYSE American LLC Company Guide Section 713 (the "Ayala Stockholder Approval"), we will subsequently issue to Ayala the remaining 444,041 shares of common stock (the "Ayala Additional Consideration Shares"), except that, if at that time, the number of shares of common stock beneficially owned by Ayala would exceed 9.99% of the number of shares of our common stock then outstanding, Ayala has the right to require us to issue, in lieu of such shares, a warrant to purchase 444,041 on substantially the same terms of the Ayala Warrant.

In connection with the issuance of the Ayala Consideration Shares (including the Ayala Warrant Shares and the Ayala Additional Consideration Shares), we entered into a registration rights agreement with Ayala (the "Ayala RRA"), requiring us to file one or more registration statements, as necessary, to register under the Securities Act the resale of such shares no later than 75 days after the closing of the transaction. The shares offered for resale under this registration statement include Ayala Consideration Shares.

Ayala entered into a lock-up agreement, pursuant to which, and subject to the terms and conditions set forth therein, Ayala has agreed not to trade or transfer, subject to certain customary exceptions, any of the Ayala Consideration Shares (including the Ayala Warrant Shares) for a period of 180 days following the closing of the transaction.

Our Pipeline of Product Candidates

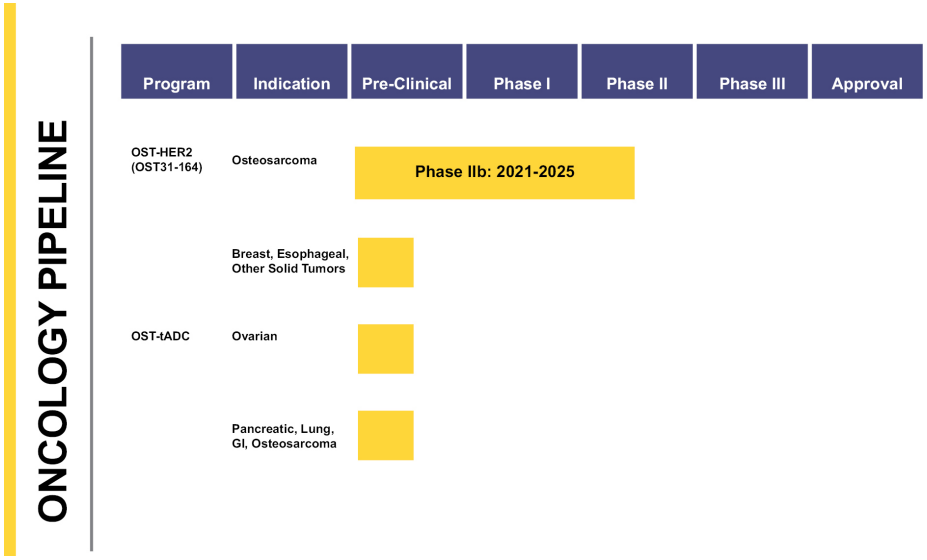
We have built a pipeline of product candidates targeting multiple indications for solid cancers. Our pipeline includes two drug technologies: (i) OST-HER2, an off-the-shelf immunotherapy, which is a type of cancer treatment that helps one's immune system fight cancer, comprised of a genetically weakened and modified strain of *Listeria monocytogenes*, a species of bacteria that causes the infection listeriosis, that expresses HER2 peptides, and (ii) OST-tADC, a next generation tunable ADC with a plug-and-play platform that features tunable pH sensitive silicone linkers (SiLinkers™). The payloads may include antibodies, chemotherapeutics, cytotoxins and potentially mRNA treatments directly into and in the vicinity of solid tumors.

OST-HER2 (OST31-164) . Our most advanced product candidate, OST-HER2, is a genetically engineered strain of *Listeria monocytogenes*, attenuated for reduced virulence, increased antibiotic susceptibility and the expression of three HER2 protein epitopes fused to immune-enhancing peptides on the membrane of the bacteria.

OST-HER2 has received an orphan drug designation in the United States. The FDA may designate a biologic product as an orphan product if it is intended to treat a rare disease or condition, which generally is defined as having a patient population of fewer than 200,000 individuals in the United States. Osteosarcoma has an incidence rate of approximately 1,000 individuals affected per year in the United States. Orphan product designation, subject to limited exceptions, can provide a period of market exclusivity for a product that is the first to receive marketing approval for the designated indication. Other potential indications may include breast, esophageal, lung and other solid tumors. In August 2021, OST-HER2 was awarded rare pediatric disease designation and previously received fast track designation by the FDA. Such designations by the FDA do not convey any advantages in, or shorten the duration of, the regulatory review or approval process.

OST-tADC. Our tunable drug conjugate (tADC) platform is currently in preclinical development. Each tADC contains four main components: ligand, payload cassette adaptor, linker and payload. In addition, tADCs contain units to optimize physicochemical properties. The ligands are selected to bind to receptors overexpressed on cancer cells. Upon binding, the tADC construct gets internalized into the cancer cell, where the payload is released, to cause cell death. The payload cassette adaptors enable the stoichiometrical attachments of linkers and payloads. The SiLinkers represent a novel and pH-sensitive linker system. The SiLinker release profile can be tuned with proximal functional groups, resulting in payload release in the endosome, lysosome or the slightly acidic tumor microenvironment. The SiLinker system is compatible with a variety of payloads and not limited to the employment of cytotoxic drug delivery. The first set of internal programs focus on the use of SiLinker and conditionally active payloads (CAPs™) drug products. CAPs are cytotoxic drugs which on their own, due to their functional groups, cannot readily permeate cells at physiological pH; however, at the slightly acidic pH of the tumor-microenvironment, after some linker cleavage, these payloads readily permeate into cancer cells, resulting in an enhanced bystander effect. Our lead program targets folate receptor alpha, a protein expressed on the surface of cells that participates in cell signaling, as well as cellular replication and division, and is overexpressed in multiple cancers such as ovarian and endometrial cancers. The lead compound employs folic acid, a small molecule, as the targeting ligands and contains six exatecan-silanols, which is a type of silanol-based cytotoxic payload. This discovery work is being carried out at Syngene International Limited, an integrated contract research organization (CRO) based in Bangalore, India.

From time to time, we may evaluate collaboration opportunities for our product candidates. We expect to work opportunistically with pharmaceutical and biotechnology companies, as we have done with BlinkBio, Inc. by in-licensing the OST-tADC technology, seeking to utilize our technology and know-how for developing additional oncologic drug products. The following table summarizes information regarding our product candidates and development programs.



In addition to our development of OST-HER2 for multiple indications of solid cancers in humans, OST-HER2 is a product candidate for veterinary use in canines. As part of our growth strategies, we intend to consider potentially out-licensing OST-HER2 to animal health companies for such use. See "*OS-Focused Clinical Trials and Studies — Preclinical Animal Study*" for more information.

Our OS-Focused Clinical Trials and Studies

We and our former licensors have conducted a number of clinical trials and studies in the field of Osteosarcoma and Tunable Drug Conjugates to date.

Phase IIb Clinical Trial. In July 2021, a Phase IIb clinical trial to treat Osteosarcoma in humans was commenced and sponsored by us and conducted by George Clinical, Inc., our clinical research services provider, utilizing our OST-HER2 product candidate. The course of the trial involved a regimen of 16 infusions of OST-HER2 administered over 48 weeks to 41 eligible patients from ages 12 to 39 years. As of September 30, 2024, the treatment phase of the trial has been completed, and patients are now being followed for long-term survival. This Phase IIb trial was conducted at major hospitals across 21 sites in 18 states.

On January 15, 2025, we announced that our Phase IIb clinical trial achieved its primary endpoint with statistical significance. The primary outcome measures were the relative proportion of patients experiencing event-free (recurrence-free) survival at 12 months ("Responders") compared to the best available historical control group from U.S. published literature (the "Published Control") by evaluating the patients for recurrence every 3 months, consistent with the standard of care. Trial results showed that 33% of OST-HER2 treated patients were Responders compared to 20% in the Published Control.

The secondary outcome measures were overall survival of patients for three years compared to the three year overall survival of the Published Control, which will be evaluated by assessing patients every three months over the course of three years, and the incidence of treatment-emergent adverse events as assessed by Common Terminology Criteria for Adverse Events (CTCAE) Grade 5, the safety of which will be assessed throughout the treatment period of 48 weeks with assessments of potential persistence of the vector every three months and continuing for three years after treatment. CTCAE is a method to categorize adverse events across all clinical trials of five grades, with Grade 5 being death. Trial results showed a higher proportion of OST-HER2 treated patients were alive at the 12-month (91% vs. 80%) and 24-month (61% vs. 40%) post-resection timepoints relative to the Published Control. Notably, 100% of patients who were disease-free at 12 months remained alive at 12, 18, 24, and 30 months at their last follow-up. OST-HER2 was well tolerated with a safety profile supportive of regulatory approval; no treatment-emergent adverse events classified as CTCAE Grade 5 (death) were observed.

We believe the efficacy results, combined with the favorable safety profile and the unmet clinical need, support the potential for regulatory approval. We plan to request a Type B or Type C FDA meeting in the second quarter of 2025 to discuss the data and the path to a BLA. Subject to positive FDA feedback, we plan to submit a BLA with the FDA CBER for approval to market the drug candidate shortly thereafter. The FDA generally takes six to ten months to complete its review of a BLA, subject to any FDA request for additional information. We believe that it remains uncertain whether a Phase III clinical trial will be necessary for the advancement of OST-HER2 through the regulatory approval process. We will not know whether a Phase III trial will be required until we receive a determination from the FDA following the filing of a BLA for marketing approval as to whether the results of our ongoing Phase IIb trial provided sufficiently positive endpoint data.

Phase Ib Clinical Trial. From September 2015 to May 2017, a Phase Ib trial to treat Osteosarcoma in humans was sponsored and conducted by Advaxis, Inc. (now Ayala Pharmaceuticals, Inc.) ("Advaxis") utilizing ADXS-HER2 (also known as ADXS31-164), the patents of which we acquired from Ayala to develop and commercialize our lead core product candidate, OST-HER2. The trial was conducted at hospitals in Colorado, Michigan, North Carolina, Pennsylvania and Texas. The course of the trial involved injecting 12 adult patients with HER2 expressing solid tumors with escalating doses of ADXS-HER2 every three weeks during a 12-week treatment cycle. Following the last dose of study treatment, all 12 patients participated in a three-year *Listeria monocytogenes* surveillance period. The primary outcome measures were the number of patients with dose-limiting toxicities for each dose level as assessed by the CTCAE Grade 4 (time frame: four months), with Grade 4 being life threatening, and the frequency and severity of adverse effects as assessed by CTCAE Grade 4 (time frame: three years). The secondary outcome measures were (i) proportion of patients who have objective tumor response (complete or partial) evaluated by the Response Evaluation Criteria in Solid Tumors (RECIST) 1.1 and RECIST-based immune criteria (ir-RECIST) and (ii) changes in clinical immunology based upon serum, which were measured and evaluated by collection of peripheral blood for preparation of peripheral blood mononuclear cells and serum at baseline, prior to each treatment and post-treatment in the first treatment cycle only. No objective tumor responses (complete or partial) were observed in this late stage, heavily pre-treated patient cohort. The data presented from the Phase Ib trial demonstrated that ADXS-HER2 IV infusion at the dose of 1×10^9 CFU was well tolerated. See "*Business — Our OS-Focused Clinical Trials and Studies — Phase Ib Clinical Trial*" for more information.

Preclinical Animal Study. From July 2012 to September 2015, a preclinical study to treat Osteosarcoma in 18 companion canines (sometimes referred to as a Phase I animal trial) was sponsored and conducted by a previous licensee of Advaxis utilizing ADXS-HER2, the product candidate of Advaxis, from whom we acquired patents for ADXS-HER2 constructs that enable us to develop OST-HER2. The results showed, in the setting of minimal residual disease where there is a very small number of cancer cells remaining in the body during or after initial treatment, significant improvements in overall survival and metastatic disease progression when compared to an historical control group with Human Epidermal Growth Factor Receptor 2-positive (HER2) appendicular Osteosarcoma, a well-recognized spontaneous model for pediatric Osteosarcoma, treated with amputation and chemotherapy alone.

In September 2016, the study results, published in the journal, Clinical Cancer Research, "Immunotherapy with a HER2-Targeting Listeria Induces HER2-Specific Immunity and Demonstrates Potential Therapeutic Effects in a Phase I Trial in Canine Osteosarcoma," by Mason, N. et al. (*https://pubmed.ncbi.nlm.nih.gov/26994144/*), indicated that ADXS-HER2 significantly increased the duration of survival time and one-, two- and three-year survival rates and significantly reduced the incidence of metastatic disease (the spread of cancer cells from an initial or primary site to a different or secondary site within the host's body) when compared with the historical control group. The overall survival rates at one, two and three years for dogs treated with ADXS-HER2 were 77.8%, 67% and 56%, respectively,

compared to 55%, 28% and 22%, respectively, for the historical control group. The median survival time (MST) for the historical control group was 423 days, which was significantly shorter than the 956 days for ADXS-HER2 — treated dogs (p=0.014, HR 0.33; 95% confidence intervals; CI, 0.136 – 0.802). The study also noted the important translational relevance of the findings for children with Osteosarcoma. This study for canine Osteosarcoma indications constituted preclinical work as it relates to our development of OST-HER2 to treat Osteosarcoma in humans.

In analyzing preclinical study results, a p-value is used to determine the probability as to whether the difference between two data sets is due to chance. The smaller the p-value, the more likely the differences are not due to chance alone. In general, if the p-value is less than or equal to 0.05, the outcome is considered statistically significant. The FDA's evidentiary standard of efficacy generally relies on a p-value of less than or equal to 0.05. A p-value greater than 0.05 is considered statistically non-significant. As shown above, the results of this preclinical study were statistically significant compared to the historical control group.

Following the study, an application for the use of ADXS-HER2, our OST-HER2, in the treatment of canine Osteosarcoma was submitted to the USDA. In December 2017, ADXS-HER2 was granted a conditional license by the USDA. Because we acquired ADXS-HER2 constructs, we held the conditional license previously granted to ADXS-HER2 for OST-HER2. The conditional license allowed for commercialization but limited the use of OST-HER2 to treat dogs, one year of age and older, diagnosed with Osteosarcoma. We allowed such conditional license to lapse as a result of improvements made in our manufacturing process that would improve the performance in canines, and we plan to request from USDA a new conditional license for the product once we have contracted for manufacture with a suitable USDA licensed contract manufacturer. To receive full licensure, the USDA requires the submission of additional data that further describes the effects of OST-HER2 on metabolism and shedding in canines and provides substantial evidence of the safety, purity, potency and effectiveness of OST-HER2. We are currently evaluating the best path to development.

Preclinical Development. Our OST-HER2 product candidate for breast, esophageal, lung and other solid tumor indications is currently in preclinical development. Whether additional preclinical trials will be required will depend on several factors, including the outcome of our ongoing Phase IIb clinical trial, the inclusion or exclusion of breast, esophageal, lung or other solid tumor indications in any follow-on study, or master protocol, to the Phase IIb clinical trial and the FDA's determination of whether the preclinical data is sufficient to support the safety and efficacy of the drug. Although we cannot be certain, we believe that OST-HER2 may not require additional preclinical development before progressing to human clinical trials for breast, esophageal, lung and other solid tumor indications if the results of our ongoing Phase IIb clinical trial have sufficiently positive endpoint data as determined by the FDA.

Our OST-tADC product candidate for all indications is also currently in preclinical development. We will need to conduct further preclinical trials for OST-tADC prior to the submission of an IND in order to pursue clinical trials with these candidates. Such preclinical trials are expected to include pharmacokinetics and pharmacodynamics, two-week dose finding toxicology studies *in vivo* (on living cell lines or in living animals), as well as good laboratory practice (GLP) trials ensuring stability, potency and purity of the IND product candidate.

Our Platform Technology

We are in the process of building a fully integrated platform technology to accelerate the development of a range of product candidates across multiple therapeutic areas. Our platform technology is intended to leverage our management's in-depth experience in immunotherapy research, development and manufacturing to enable us to pursue multiple therapeutic targets. Our scientists and scientific advisors have accumulated decades of collective experience in the field of immunotherapy, oncology and small-molecule drug production, contributing key insights and significant achievement in our clinical development process.

Our Management Team

We have assembled a management team of biopharmaceutical industry professionals with extensive experience in developing novel products and therapies from initial research through commercialization. Our team is led by our Chairman, President and Chief Executive Officer, Paul A. Romness, MPH, who has more than 25 years of experience in the biopharmaceutical industry, and our Chief Financial Officer, Christopher P. Acevedo. Our Chief Medical and Scientific Officer, Robert G. Petit, Ph.D., is an accomplished biopharmaceutical executive and medical scientist, and our Chief Business Officer, Gerald Commissiong, has led two public companies in commercializing novel therapeutics.

Our Growth Strategies

Our goal is to enrich and lengthen the lives of patients by being a leading, fully integrated biotechnology company. We are seeking to develop, manufacture and commercialize multiple product candidates targeting orphan and non-orphan oncologic diseases across multiple tissue types and therapeutic areas. To achieve our goal, we are pursuing the following growth strategies:

- Consider potentially out-licensing OST-HER2 to animal health companies for veterinary use to treat dogs diagnosed with Osteosarcoma, one year of age or older.
- Obtain marketing approval for OST-HER2 in Osteosarcoma, then quickly pivot to a master protocol within breast, esophageal, lung and other solid tumors where metastases express HER2 that could be targeted by immune cells.
- Conclude pre-clinical and toxicology trials with the lead drug candidate for OST-tADC (OST-tADC-A, Exatecan-silanol-FRa), and file for an IND to initiate a Phase I trial in ovarian cancer and other folate receptor alpha overexpressing cancers like endometrial cancer and some osteosarcomas. We believe that positive results from preclinical two-week and good laboratory practice (GLP) toxicology studies may also stimulate potential out-licensing activity of SiLinker and CAPs drug products, while not limiting therapeutic development.
- Establish global commercial and medical affairs capabilities for OST-HER2 based therapies.

Expansion Opportunities

We believe opportunities may exist from time to time to expand our current business through acquisitions or in-licenses of complementary products or technologies or acquisitions of companies with complementary products or technologies. While we have current collaborative agreements in place, we believe in an opportunistic approach to collaboration and licensing; thus, we expect to operate in a manner that is customary in the pharmaceutical industry, including potential acquisitions and partnerships.

We are also aware of increased acquisition and licensing interest from large pharmaceutical firms in biotechnology companies developing ADC technology as a relatively new kind of cancer therapy. In the article, “Seagen Cancer Therapy Draws Suitors” (March 7, 2023), The Wall Street Journal reported that driving this interest, according to analysts, is the potential for ADCs to capture a chunk of the worldwide cancer market. Technical advances by combining the ADCs with widely used cancer agents like immunotherapies have also opened up exploring various potential cancer applications, according to the article.

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

We qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). For as long as we remain an emerging growth company, we may take advantage of specified reduced reporting requirements and other burdens that are otherwise applicable generally to other public companies. These provisions include, but are not limited to:

- reduced obligations with respect to financial data, including presenting only two years of audited financial statements and selected financial data, and only two years of related Management’s Discussion and Analysis of Financial Condition and Results of Operations disclosure in our initial registration statement;
- an exemption from the auditor attestation requirement in the assessment of our internal control over financial reporting pursuant to the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure about executive compensation arrangements in our periodic reports, registration statements and proxy statements; and
- exemptions from the requirements to seek non-binding advisory votes on executive compensation or stockholder approval of any golden parachute arrangements.

We may take advantage of some or all of these provisions until we are no longer an emerging growth company. We will remain an emerging growth company until the earliest of (i) the last day the fiscal year following the fifth anniversary of the completion of our initial public offering, (ii) the last day of the first fiscal year in which our annual

gross revenues exceed $1.235 billion, (iii) the date on which we have, during the immediately preceding three-year period, issued more than $1.0 billion in non-convertible debt securities and (iv) the date on which we are deemed to be a large accelerated filer under the rules of the SEC. We may choose to take advantage of some but not all of these reduced burdens. For example, we have taken advantage of the reduced reporting requirements with respect to disclosure regarding our executive compensation arrangements, have presented only two years of audited financial statements and only two years of related "Management's Discussion and Analysis of Financial Condition and Results of Operations" disclosure incorporated by reference in this prospectus, and have taken advantage of the exemption from auditor attestation on the effectiveness of our internal control over financial reporting. To the extent that we take advantage of these reduced burdens, the information that we provide stockholders may be different than you might obtain from other public companies in which you hold shares.

In addition, the JOBS Act permits emerging growth companies to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies. We have elected to use this extended transition period. As a result of this election, our timeline to comply with new or revised accounting standards will in many cases be delayed as compared to other public companies that are not eligible to take advantage of this election or have not made this election. Therefore, our financial statements may not be comparable to those of companies that comply with the public company effective dates for these accounting standards.

We are also a "smaller reporting company" as defined in the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and have elected to take advantage of certain of the scaled disclosures available to smaller reporting companies. To the extent that we continue to qualify as a "smaller reporting company" as such term is defined in Rule 12b-2 under the Exchange Act, after we cease to qualify as an emerging growth company, certain of the exemptions available to us as an "emerging growth company" may continue to be available to us, including exemption from compliance with the auditor attestation requirements pursuant to the Sarbanes-Oxley Act and reduced disclosure about our executive compensation arrangements. We will continue to be a "smaller reporting company" until we have $250 million or more in public float (based on our common stock) measured as of the last business day of our most recently completed second fiscal quarter or, in the event we have no public float (based on our common stock) or a public float (based on our common stock) that is less than $700 million, annual revenues of $100 million or more during the most recently completed fiscal year.

Corporate History and Information

We were formed as a Delaware limited liability company on April 12, 2018 under the name OS Therapies, LLC. On June 24, 2019, we converted from a limited liability company to a Delaware corporation and changed our name to OS Therapies Incorporated.

We presently conduct all of our operations remotely. Our registered corporate address is 115 Pullman Crossing Road, Suite #103, Grasonville, Maryland 21638, and our telephone number is (410) 297-7793. Our website address is *www.ostherapies.com*. The information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider any information contained on, or that can be accessed through, our website as part of this prospectus or in deciding whether to purchase our common stock.

Summary of the Offering

Securities being offered by the selling stockholders	Up to 7,493,874 shares of our common stock.
Use of proceeds	We will not receive any proceeds from any sale of the shares being offered for sale by the selling stockholders, except upon the exercise of the Series A Warrants and Agent Warrants currently outstanding that are not exercised on a cashless basis. For more information on the use of proceeds, see "*Use of Proceeds*" on page 13.
Risk factors	You should carefully read the "Risk Factors" section of this prospectus for a discussion of factors that you should consider before deciding to invest in our common stock.
Trading symbol	Our common stock trades on the NYSE American under the symbol "OSTX."

RISK FACTORS

You should carefully review and consider the risk factors described under the heading "Risk Factors" in our most recent Annual Report on Form 10-K, our most recent Quarterly Report on Form 10-Q and in other documents which are incorporated by reference into this prospectus, including all future filings we make with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), as well as the risk factors and other information contained in or incorporated by reference into any accompanying prospectus supplement before investing in any of our common stock. The occurrence of one or more of the events or circumstances described in these risk factors, alone or in combination with other events or circumstances, may have an adverse effect on our business, cash flows, financial condition and results of operations. We may face additional risks and uncertainties that are not presently known to us, or, or that we currently deem immaterial, which may also harm our business, financial condition, results of operations and prospects.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Information set forth in this prospectus, including the information incorporated by reference herein. may contain various "forward-looking statements." All information relative to future markets for our product candidates and trends in, and anticipated levels of, revenue, and expenses, as well as other statements containing words such as "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "project," "target," "should" and "will" and other similar expressions constitute forward-looking statements. These forward-looking statements are subject to business, economic and other risks and uncertainties, both known and unknown, and actual results may differ materially from those contained in the forward-looking statements. Examples of risks and uncertainties that could cause actual results to differ materially from historical performance and any forward-looking statements include, but are not limited to, the risks described or incorporated by reference under the section below titled "Risk Factors," as well as any subsequent filings with the SEC.

Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should read carefully this prospectus and any related free writing prospectuses that we have authorized for use in connection with this offering, together with the information incorporated herein or therein by reference as described under the heading "Where You Can Find More Information," completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify all of our forward-looking statements by these cautionary statements. Except as required by U.S. federal law, we assume no obligation to update these forward-looking statements publicly or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

USE OF PROCEEDS

All shares of our common stock offered by this prospectus are being registered for resale by the selling stockholders identified herein. We will not receive any of the proceeds from the sale of the shares of our common stock being offered for sale by the selling stockholders.

1,704,509 of the shares of common stock covered by this registration statement of which this prospectus is a part are issuable upon exercise of the Series A Warrants and the Agent Warrants at their exercise price of $1.12 per share (due to the PIPE Automatic Reset). If all such warrants for the purchase of shares of our common stock covered by this registration statement are exercised in cash, then we will receive gross proceeds of approximately $1,909,050. Proceeds to us from the exercise of the warrants will be used for general corporate purposes.

We will bear all costs, expenses and fees in connection with the registration of shares of our common stock for resale by the selling stockholders. The selling stockholders will each bear their respective discounts, commissions, fees of underwriters, selling brokers or dealer managers and similar expenses, if any, attributable to the sale or disposition of the shares of our common stock, or interests therein, held by such selling stockholder.

DESCRIPTION OF THE TRANSACTIONS

The Private Placement

The shares offered for resale under this registration statement include (i) 1,014,728 shares of common stock issuable upon conversion of the Series A Preferred Stock, (ii) 1,648,931 shares of common stock issuable upon exercise of the Series A Warrants and (iii) 55,578 shares of common stock issuable upon exercise of the Agent Warrants. The selling stockholders (i) acquired their Series A Preferred Stock and Series A Warrants from us in Private Placement that closed on December 31, 2024 and January 14, 2025 and/or (ii) acquired their Agent Warrants in connection therewith, as applicable.

Purchase Agreement

The Purchase Agreement restricts us from issuing additional shares of common stock, or securities convertible into or exercisable or exchangeable for shares of common stock during the period beginning from the closing until the later of (x) six months from the closing and (y) April 9, 2025, and restricts us from entering into variable rate transactions at any time the selling stockholders hold Series A Warrants, subject to certain exceptions.

Series A Preferred Stock and Warrants

The Certificate of Designation sets forth the rights, preferences and limitations of the Series A Preferred Stock, which include, without limitation, (a) the right of the holder to convert such shares of Series A Preferred Stock into shares of our common stock, with mandatory conversion upon (i) a qualified firm commitment underwritten public offering of common stock raising gross proceeds in excess of $10.0 million, with a per share price not less than $12.00, (ii) a qualified PIPE financing raising gross proceeds in excess of $20.0 million, with a per share price not less than $12.00, (iii) upon a closing of a third-party acquisition where all outstanding shares of common stock (including the shares of common stock issued pursuant to the mandatory conversion of the Series A Preferred Stock) are purchased or exchanged by an unaffiliated third party and in which the consideration paid to all holders of outstanding shares of common stock for such purchase or exchange consists solely of cash at a purchase price per share of common stock not less than $12.00, or (iv) such time as the daily VWAP for the common stock is greater than 300% of the then applicable conversion price for a period of 20 consecutive trading days with minimum average daily trading volume of $2.0 million, (b) a liquidation preference of 150% of the original issue price, (c) the right to one vote per share and vote together with the common stock on an as-converted basis (subject to a voting price floor equal to the closing price of the common stock on the trading day immediately preceding the execution of the Purchase Agreement), except that holders of Series A Preferred Stock shall have the right to vote as a separate class with respect to certain specified matters, and (d) such other terms and provisions as are set forth in the Certificate of Designation.

Each share of Series A Preferred Stock is convertible into a number of shares of our common stock at a conversion ratio equal to (A) the original issue price of the Series A Preferred Stock divided by (B) the conversion price of the Series A Preferred Stock. The original issue price and the conversion price of the Series A Preferred Stock is initially $4.00 (resulting in an initial conversion ratio of 1:1) and are subject to adjustment as set forth in the Certificate of Designation.

Each of the Series A Warrants to be issued at the closing will be exercisable into shares of our common stock, at an initial exercise price of $4.40 per share, subject to adjustment as set forth therein. The Series A Warrants will be exercisable by the holder for a period beginning from the initial issuance date until five years from April 9, 2025.

Both the conversion price of the Series A Preferred Stock and the exercise price of the Series A Warrants are subject to (a) adjustment upon the occurrence of certain events, including the sale of equity securities by the Company at an effective price per share less than the then conversion price or exercise price, as applicable, during the two-year period beginning from the initial issuance date, subject to certain exceptions (“Dilutive Issuances”) (provided that, if any such Dilutive Issuance occurs prior to the Applicable Reset Date (as defined below), the number of Warrant Shares issuable upon exercise of the Series A Warrants shall be proportionately adjusted such that the aggregate exercise price of the Series A Warrants on the issuance date for the Warrant Shares then outstanding shall remain unchanged), and (b) a one-time automatic reset on (x) March 15, 2025, provided that any applicable PIPE Stockholder Approval shall have been obtained on or prior to March 15, 2025 or (y) if such PIPE Stockholder Approval shall not have been

obtained on or prior to March 15, 2025, the date that is 10 business days following the date such PIPE Stockholder Approval is obtained (the "Applicable Reset Date"), to the lower of (A) the 10-trading day average VWAP of our common stock immediately prior to the Applicable Reset Date or (B) the lowest closing price of our common stock on any of 10 trading days immediately preceding the Applicable Reset Date, subject to a floor of no less than $1.00 and ceiling no greater than $4.00.

In connection with the closing of the Private Placement, pursuant to the Placement Agency Agreement between the Company and Brookline, (i) Brookline received an aggregate cash fee of $159,685 and 39,918 Agent Warrants, and (ii) Ceros received an aggregate cash fee of $79,723 and 19,930 Agent Warrants. The terms of the Agent Warrants are substantially similar to the terms of the Series A Warrants.

On April 23, 2025, as a result of the approval of the Issuance Proposal on April 9, 2025, the conversion price of the Series A Preferred Stock and the exercise prices of the Series A Warrants and Agent Warrants were automatically reset to $1.12 per share.

PIPE RRA

In connection with the Private Placement, we entered into the PIPE RRA with the selling stockholders, pursuant to which we agreed to use reasonable best efforts to, by no later than January 31, 2025, submit to the SEC a registration statement covering the resale of a number of shares of common stock underlying the Series A Preferred Stock and the Series A Warrants issued pursuant to the Purchase Agreement equal to 300% of the shares of common stock initially issuable thereunder, and to use commercially reasonable efforts to cause such registration statement to be declared effective by the SEC within 45 days thereafter. We also agreed to register for resale any increase in shares of common stock underlying the Series A Preferred Stock, Series A Warrants and Agent Warrants.

The Acquisition of HER2 and *Lm*-Related Assets

The shares offered for resale under this registration statement include (i) 2,164,215 Ayala Initial Shares, (ii) 2,166,381 Ayala Warrant Shares underlying the Ayala Warrant and (iii) 444,041 Ayala Additional Consideration Shares issuable upon receipt of the Ayala Stockholder Approval, which may, in lieu thereof, be issued in the form of the Ayala Warrant to purchase an equal number of shares of common stock. Ayala acquired the Ayala Consideration Shares (including the Ayala Warrant Shares and the Ayala Additional Consideration Shares) from us in connection with our acquisition of the HER2 Assets.

HER2 Purchase Agreement

On April 9, 2025, pursuant to the terms of the HER2 Purchase Agreement, we completed the previously announced acquisition of the HER2 Assets from Ayala. The HER2 Assets include, among other things, two investigational new drug (IND) filings with the FDA: (i) ADXS-503 for non-small cell lung cancer; and (ii) ADXS-504 for prostate cancer.

In consideration for the purchase of the HER2 Assets, we agreed to assume certain specified liabilities and to pay an aggregate purchase price of $8,000,000, which was paid as follows: (i) $400,000 to Ayala ($150,000 of which was transferred upon signing of the HER2 Purchase Agreement and the remainder on the closing date); (ii) $100,000 to a third party on behalf of Ayala on the closing date; and (iii) $7,500,000 worth of shares of the our common stock, or 4,774,637 shares based on the volume-weighted average price of the Company's common stock over the 30 trading days immediately preceding the closing date.

Because the issuance of the Ayala Consideration Shares would require us to issue more than the NYSE Ownership Limitation, we issued to Ayala (i) 2,164,215 shares of common stock, and (ii) a warrant to purchase 2,166,381 shares of common stock. Once we obtain the Ayala Stockholder Approval, we will subsequently issue to Ayala the remaining 444,041 shares of common stock, except that, if at that time, the number of shares of common stock beneficially owned by Ayala would exceed 9.99% of the number of shares of our common stock then outstanding, Ayala has the right to require us to issue, in lieu of such shares, a warrant to purchase 444,041 on substantially the same terms of the Ayala Warrant.

Ayala RRA and Lock-Up Agreement

In connection with the issuance of the Ayala Consideration Shares (including the Ayala Warrant Shares and the Ayala Additional Consideration Shares), we entered into the Ayala RRA, requiring us to file one or more registration statements, as necessary, to register under the Securities Act the resale of such shares no later than 75 days after the closing of the transaction.

In addition, Ayala entered into a lock-up agreement, pursuant to which, and subject to the terms and conditions set forth therein, Ayala has agreed not to trade or transfer, subject to certain customary exceptions, any of the Ayala Consideration Shares (including the Ayala Warrant Shares) for a period of 180 days following the closing of the transaction.

The securities described above were issued to the selling stockholders pursuant to the exemption under Rule 506(b) of Regulation D based, in part, on the representations made by the selling stockholders.

SELLING STOCKHOLDERS

This prospectus relates to the possible resale from time to time by the selling stockholders of any or all of the shares of common stock that have been issued by us or may be issued by us to the selling stockholders upon the conversion of the Series A Preferred Stock, the exercise of the Warrants and the receipt of the Ayala Stockholder Approval. For additional information regarding the issuance of shares covered by this prospectus, see the section titled "*Description of the Transactions*" above. We are registering the shares pursuant to the provisions of the PIPE RRA and the Ayala RRA, as applicable, in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the transactions contemplated by the Purchase Agreement, the PIPE RRA, the HER2 Purchase Agreement, the Ayala RRA, the Advaxis Agreement and/or their investment in our initial public offering in August 2024, the selling stockholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act and the rules and regulations thereunder) of the shares held by each of the selling stockholders. This table is prepared based on information supplied to us by the selling stockholders and reflects holdings as of May 13, 2025. The number of shares in the column "Maximum No. of Common Shares offered hereby" represents all of the shares that the selling stockholders may offer under this prospectus. The number of shares in the column "Common Shares Beneficially Owned After Offering" assumes that the selling stockholders will sell all of the shares offered for sale hereby. The selling stockholders, however, are under no obligation to sell any shares pursuant to this prospectus.

In accordance with the terms of the PIPE RRA and the Ayala RRA with the selling stockholders, as applicable, this prospectus generally covers the resale of (i) additional shares issuable pursuant to the conversion of the Series A Preferred Stock and the exercise of the Series A Warrants and the Agent Warrants (without regard to any limitations on conversion or exercise contained therein solely for the purpose of such calculation) at the conversion price or exercise price (as the case may be) as a result of the PIPE Automatic Reset (to the extent such shares have not been previously registered) and (ii) shares issued or issuable pursuant to the exercise of the Ayala Warrant and upon receipt of the Ayala Stockholder Approval. Because the conversion price of the Series A Preferred Stock and the exercise price of the Series A Warrants and Agent Warrants may be further adjusted, the number of shares that will actually be issued may be more or less than the number of shares being offered by this prospectus.

Unless otherwise indicated below, to our knowledge, each selling stockholder named in the table has sole voting and investment power with respect to the shares of common stock beneficially owned by it, except to the extent authority is shared by spouses under applicable law. Unless otherwise indicated below, the address of each beneficial owner listed below is c/o OS Therapies Incorporated, 115 Pullman Crossing Road, Suite 103, Grasonville, Maryland 21638. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for any selling stockholder named below.

	Common Shares Beneficially Owned Before Offering		No. of Common Shares issuable upon conversion of Series A Preferred Stock	No. of Common Shares issuable upon exercise of Warrants	Maximum No. of Common Shares offered hereby[1]	Common Shares Beneficially Owned After Offering	
Name of Stockholder	No.[2]	%[2]				No.[2]	%[2]
BAI1 LLC[3]	250,000	*	347,858	565,268	913,126	250,000	*
Einodmilip, LLC[4]	—	—	71,429	116,072	187,501	—	—
Clayton A. Struve	—	—	7,143	11,608	18,751	—	—
Cotswold Group LLC[5]	44,642	*	7,143	11,608	18,751	44,642	*
David Dent	44,642	*	7,143	11,608	18,751	44,642	*
David I Lubetkin Revocable Trust dated 8/31/2017[6]	22,321	*	3,572	5,804	9,376	22,321	*
David S. Nagelberg 2003 Revocable Trust dated 7/2/2003[7]	—	—	14,286	23,215	37,501	—	—
Deschutes I LP[8]	44,462	*	7,143	11,608	18,751	44,462	*
Donald P. Sesterhenn	8,928	*	1,429	2,322	3,751	8,928	*
Dyke Rogers	12,500	*	7,143	11,608	18,751	12,500	*

Name of Stockholder	Common Shares Beneficially Owned Before Offering		No. of Common Shares issuable upon conversion of Series A Preferred Stock	No. of Common Shares issuable upon exercise of Warrants	Maximum No. of Common Shares offered hereby[1]	Common Shares Beneficially Owned After Offering	
	No.[2]	%[2]				No.[2]	%[2]
Ernest W. Moody Revocable Trust[9]	—	—	42,858	69,643	112,501	—	—
Hackett Family Trust[10]	—	—	14,286	23,215	37,501	—	—
John Hughes	8,928	*	1,429	2,322	3,751	8,928	*
Kassandra Hendricks Gift Trust[11]	178,571	*	28,572	46,429	75,001	178,571	*
Kathleen M. Hendricks Trust[12]	89,286	*	14,286	23,215	37,501	89,286	*
Kevin J. Hendricks	21,658	*	46,429	75,447	121,876	21,658	*
Larry Pickett	63,569	*	7,143	11,608	18,751	63,569	*
Larry Tubbs	328,592	1.2%	35,715	58,036	93,751	328,592	1.2%
Lars Bader	186,250	*	106,429	172,947	279,376	186,250	*
LTD III LLC[13]	46,742	*	7,143	11,608	18,751	46,742	*
Peter Hegel	46,742	*	2,858	4,643	7,501	46,742	*
Rohlinger Family Living Trust[14]	12,500	*	7,143	11,608	18,751	12,500	*
Scott C. Rooney	—	—	14,286	23,215	37,501	—	—
Steven D. Ward	6,250	*	3,572	5,804	9,376	6,250	*
A.G. Family L.P.[15]	81,250	*	46,429	75,447	121,876	81,250	*
Thomas A. Satterfield 2021 Revocable Trust[16]	25,000	*	14,286	23,215	37,501	25,000	*
Tomsat Investment & Trading Co., Inc.[17]	50,000	*	28,572	46,429	75,001	50,000	*
George Pontikes	18,750	*	10,715	17,411	28,126	18,750	*
Shoup Revocable Trust[18]	14,500	*	8,286	13,465	21,751	14,500	*
John Sabey	12,500	*	7,143	11,608	18,751	12,500	*
Ahmed Gheith[19][23]	—	—	57,143	92,858	150,001	—	—
Edgar D. Jannotta, Jr. Revocable Trust[20]	100,000	*	17,858	29,018	46,876	100,000	*
Tichenor Ventures, LLC[21]	31,250	*	14,286	23,215	37,501	31,250	*
Stephen D'Antonio	—	—	3,572	12,282	15,854	—	—
Michael Fontaine[23]	—	—	—	2,703	2,703	—	—
Madockawando Holdings, LLC[22][23]	—	—	—	13,605	13,605	—	—
Harris Lydon[23]	—	—	—	4,317	4,317	—	—
Scott Katzmann[23]	—	—	—	2,460	2,460	—	—
Graham Powis[23]	—	—	—	2,007	2,007	—	—
Patrick Sturgeon[23]	—	—	—	1,133	1,133	—	—
Samuel Wertheimer[23]	—	—	—	3,416	3,416	—	—
Charles Mather[23]	—	—	—	4,643	4,643	—	—
Hayden Edwards[23]	—	—	—	2,786	2,786	—	—
Joseph Hain[23][24]	50,496	*	—	6,477	6,477	50,496	*
Mark Goldwasser[23]	—	—	—	2,777	2,777	—	—
Christopher Dewey[23]	—	—	—	2,776	2,776	—	—
Ayala Pharmaceuticals, Inc.[25]	2,164,215	7.7%	—	2,166,381	4,774,637[25]	—	—

* Represents less than 1% of outstanding shares of common stock.

(1) Represents (i) the additional shares issuable pursuant to the conversion of Series A Preferred Stock and exercise of Series A Warrants and Agent Warrants as a result of the PIPE Automatic Reset (to the extent such shares have not been previously registered), which are reflected respectively in the two columns to the left of the "Maximum No. of Common Shares offered hereby" column, and (ii) solely with respect to Ayala, the Ayala Consideration Shares (including the Ayala Warrant Shares and Ayala Additional Consideration Shares).

(2) Assumes that (i) the Series A Preferred Stock held by the selling stockholders will be converted for the maximum number of shares of our common stock reflected in the "No. of Common Shares issuable upon conversion of Series A Preferred Stock" column, (ii) the Warrants held by the selling stockholders will be exercised for the maximum number of shares of our common stock reflected in the "No. of Common Shares issuable upon exercise of Warrants" column, (iii) solely with respect to Ayala, the Ayala Stockholder Approval will be obtained and the Ayala Additional Consideration Shares will be issued to Ayala, and (iv) the selling stockholders will sell all of the common stock offered hereby.

(3) The sole member and manager of BAI1 LLC is Sam Schwed, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(4) The sole member and manager of Einodmilip LLC is Steven Zakharyayev, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(5) The managing member of Cotswold Group LLC is Ingram Tynes, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(6) The trustee of David I. Lubetkin Revocable Trust dated 8/31/2017 is David Lubetkin, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(7) The trustee of David S. Nagelberg 2003 Revocable Trust dated 7/2/2003 is David Nagelberg, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(8) Deschutes I LP is a partnership managed by a general partner of which the President is Robert J. Levitt, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such partnership.

(9) The trustee of Ernest W. Moody Revocable Trust is Ernest Moody, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(10) The trustee of Hackett Family Trust is Terry Hackett, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(11) The trustee of Kassandra Hendricks Gift Trust is Kassandra Hendricks Hoff, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(12) The trustee of Kathleen M. Hendricks Trust is Kathleen Hendricks, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(13) The President of LTD III LLC is Nathan Snyder, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(14) The trustee of Rohlinger Family Living Trust is George Rohlinger, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(15) A.G. Family L.P. is a partnership managed by a general partner controlled by Thomas A. Satterfield, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such partnership.

(16) The trustee of Thomas A. Satterfield 2021 Revocable Trust is Thomas A. Satterfield, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(17) The President of Tomsat Investment & Trading Co., Inc. is Thomas A. Satterfield, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(18) The trustee of Shoup Revocable Trust is Stefan Shoup, who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(19) Includes Agent Warrants to purchase 6,478 shares of common stock received by Ahmed Gheith.

(20) The trustee of Edgar D. Jannotta, Jr. Revocable Trust is Edgar D. Jannotta, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such trust.

(21) The President of Tichenor Ventures, LLC is McHenry T. Tichenor, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(22) The managing partner of Madockawando Holdings, LLC is William B. Buchanan, Jr., who has sole voting and investment power with respect to the shares of common stock issuable upon conversion of the Series A Preferred Stock and exercise of the Series A Warrants held by such company.

(23) The Warrants held by such persons represent Agent Warrants issued in connection with the Private Placement. Each of the holders of the Agent Warrants is affiliated with a broker-dealer regulated by FINRA. These selling stockholders acquired their respective securities in the ordinary course of such selling stockholder's business and, at the time of the acquisition of the shares to be resold pursuant to this prospectus, the selling stockholders had no agreements or understandings, directly or indirectly, with any person to distribute them.

(24) Includes Agent Warrants to purchase 6,478 shares of common stock received by Joseph Hain.

(25) Includes the Ayala Additional Consideration Shares, which are issuable upon receipt of the Ayala Stockholder Approval. The address of Ayala Pharmaceuticals, Inc. is 21 Brownlee Place, P.O. Box 327, Basking Ridge, New Jersey 07920.

PLAN OF DISTRIBUTION

We are registering the shares of our common stock that have been issued by us or are issuable by us upon conversion of the Series A Preferred Stock, exercise of the Warrants and receipt of the Ayala Stockholder Approval to permit the resale of these shares by the selling stockholders from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares, although we will receive the exercise price of any Series A Warrants and Agent Warrants not exercised by the selling stockholders on a cashless exercise basis. The selling stockholders will bear all fees, commissions and discounts, if any, attributable to the sales of shares and any transfer taxes. We will bear all other costs, expenses and fees in connection with the registration of shares of our common stock to be sold by the selling stockholders pursuant to this prospectus.

The term "selling stockholder" includes donees, pledgees, transferees or other successors in interest selling securities received after the date of this prospectus from the selling stockholder as a gift, pledge, partnership distribution or other transfer. Each selling stockholder will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on the principal trading market for our common stock or any other stock exchange, market or trading facility on which our common stock is traded or in private transactions. The selling stockholders may sell all or a portion of the shares held by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions, pursuant to one or more of the following methods:

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- an exchange distribution in accordance with the rules of the applicable exchange;
- directly to one or more purchasers;
- distribution to employees, members, limited partners or stockholders of the selling stockholder;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- privately negotiated transactions;
- broker-dealers may agree with a selling security holder to sell a specified number of such shares at a stipulated price per share;
- by pledge to secured debts and other obligations;
- delayed delivery arrangements;
- to or through underwriters, broker-dealers or agents; provided that in no event shall any resales by the selling stockholder take the form of an underwritten offering (as the term "underwritten public offering" is commonly understood, which for clarity does not include a transaction that does not involve the purchase by such broker-dealer of securities with a view to public resale thereby, but which transaction may be treated similarly to an underwritten public offering in terms of the procedures to be followed thereby as a matter of law or customary practice) without our prior consent;

- in "at the market" offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- in options transactions;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 promulgated under the Securities Act or any other exemption from registration under the Securities Act, if available, rather than under this prospectus. In addition, a selling stockholder that is an entity may elect to make a pro rata in-kind distribution of securities to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus with a plan of distribution. Such members, partners or stockholders would thereby receive freely tradeable securities pursuant to the distribution through a registration statement. To the extent a distributee is our affiliate (or to the extent otherwise required by law), we may, at our option, file a prospectus supplement in order to permit the distributees to use the prospectus to resell the securities acquired in the distribution.

In addition, the selling stockholders may transfer the shares by other means not described in this prospectus. If the selling stockholders effect such transactions by selling shares to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). The selling stockholders may sell shares short and deliver shares covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares to broker-dealers that in turn may sell such shares.

The selling stockholders may pledge or grant a security interest in some or all of the shares owned by them and, if it defaults in the performance of its secured obligations, the pledgees or secured parties may offer and sell the shares from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

There can be no assurance that the selling stockholders will sell any or all of the shares registered pursuant to the registration statement, of which this prospectus forms a part.

Broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchase of shares, from the purchaser) in amounts to be negotiated but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 5110; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

To the extent required by the Securities Act and the rules and regulations thereunder, the selling stockholders and any broker-dealer participating in the distribution of the shares may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of shares being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or re-allowed or paid to broker-dealers.

To the extent required, the shares of our common stock to be sold, the names of the selling stockholders, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in an accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

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

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including, without limitation, to the extent applicable, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares by the selling stockholders and any other participating person. To the extent applicable, Regulation M may also restrict the ability of any person engaged in the distribution of the shares to engage in market-making activities with respect to the shares. All of the foregoing may affect the marketability of the shares and the ability of any person or entity to engage in market-making activities with respect to the shares.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus has been passed upon for us by our counsel Olshan Frome Wolosky LLP, New York, New York.

EXPERTS

The financial statements of OS Therapies Incorporated incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December31, 2024 have been so incorporated in reliance on the report, which contains an explanatory paragraph regarding the Company's ability to continue as a going concern, of MaloneBailey, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the common stock we are offering by this prospectus. For further information pertaining to us and our common stock, you should refer to the registration statement and to its exhibits. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

We are subject to the informational requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, at the SEC's website at *www.sec.gov*. We also maintain a website at *www.ostherapies.com*. You may access, free of charge, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendment to those reported filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The rules of the SEC allow us to "incorporate by reference" information into this prospectus. This means that we can disclose important information about us and our financial condition to you by referring you to other documents filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus.

This prospectus incorporates by reference the documents listed below that we have previously filed with the SEC and any future filings made by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (in each case, other than documents and information furnished to, and not filed with, the SEC) in accordance with SEC rules, unless expressly stated otherwise therein:

- Our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on March 31, 2025;
- Our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2025, filed with the SEC on May 15, 2025;
- Our Current Reports on Form 8-K (only to the extent "filed" and not "furnished") filed with the SEC on January 3, 2025, January 14, 2025, January 15, 2025, January 29, 2025, April 2, 2025, April 9, 2025 and April 15, 2025; and
- The description of our registered securities contained in Exhibit 4.9 to our Annual Report on Form 10-K for the year ended December 31, 2024, filed with the SEC on March 31, 2025.

Any statement made in this prospectus or contained in a document all or a portion of which is incorporated by reference herein will be deemed to be modified or superseded to the extent that a statement contained herein or in any subsequent prospectus supplement to this prospectus or, if appropriate, post-effective amendment to the registration statement that includes this prospectus, modifies or supersedes such statement. Any statement so modified will not be deemed to constitute a part hereof, except as so modified, and any statement so superseded will not be deemed to constitute a part hereof.

You may read and copy any materials we file with the SEC at the SEC's website mentioned under the heading "Where You Can Find More Information." The information on the SEC's website is not incorporated by reference in this prospectus.

A copy of any document incorporated by reference in this prospectus may be obtained at no cost by writing or telephoning us at the following address and telephone number:

OS Therapies Incorporated
115 Pullman Crossing Road, Suite 103
Grasonville, Maryland 21638
Attention: Chief Financial Officer
(410) 297-7793

We maintain a website at *www.ostherapies.com*. Information about us, including our reports filed with the SEC, is available through that site. Such reports are accessible at no charge through our website and are made available as soon as reasonably practicable after such material is filed with or furnished to the SEC. Our website and the information contained on that website, or connected to that website, are not incorporated by reference in this prospectus.

7,493,874 Shares of Common Stock

OS THERAPIES INCORPORATED

Common Stock

Prospectus

___, 2025

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 13. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the fees and expenses, other than underwriting discounts and commissions, payable in connection with the registration of the common stock hereunder. All amounts are estimates except the SEC registration fee.

Item	Amount to be Paid
SEC registration fee	$ 1,743.91
Printing and mailing expenses	*
Legal fees and expenses	*
Accounting fees and expenses	*
Transfer agent and registrar fees and expenses	*
Miscellaneous expenses	*
Total	$ *

* Estimated expenses are not presently known. To the extent required, any applicable prospectus supplement will set forth the estimated aggregate amount of expenses payable in respect of any offering of securities.

ITEM 14. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Section 145 of the Delaware General Corporation Law (the "DGCL"), authorizes a corporation to indemnify its directors and officers against liabilities arising out of actions, suits and proceedings to which they are made or threatened to be made a party by reason of the fact that they have served or are currently serving as a director or officer to a corporation. The indemnity may cover expenses (including attorneys' fees) judgments, fines and amounts paid in settlement actually and reasonably incurred by the director or officer in connection with any such action, suit or proceeding. Section 145 permits corporations to pay expenses (including attorneys' fees) incurred by directors and officers in advance of the final disposition of such action, suit or proceeding. In addition, Section 145 provides that a corporation has the power to purchase and maintain insurance on behalf of its directors and officers against any liability asserted against them and incurred by them in their capacity as a director or officer, or arising out of their status as such, whether or not the corporation would have the power to indemnify the director or officer against such liability under Section 145.

We have adopted provisions in our certificate of incorporation and bylaws that limit or eliminate the personal liability of our directors to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended. Consequently, a director will not be personally liable to us or our stockholders for monetary damages or breach of fiduciary duty as a director, except for liability for:

- any breach of the director's duty of loyalty to us or our stockholders;
- any act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- any unlawful payments related to dividends or unlawful stock purchases, redemptions or other distributions; or
- any transaction from which the director derived an improper personal benefit.

These limitations of liability do not alter director liability under the federal securities laws and do not affect the availability of equitable remedies such as an injunction or rescission.

In addition, our bylaws provide that:

- we will indemnify our directors, officers and, in the discretion of our board of directors, certain employees to the fullest extent permitted by the DGCL, as it now exists or may in the future be amended; and
- we will advance reasonable expenses, including attorneys' fees, to our directors and, in the discretion of our board of directors, to our officers and certain employees, in connection with legal proceedings relating to their service for or on behalf of us, subject to limited exceptions.

We intend to enter into separate indemnification agreements with each of our directors and executive officers. These agreements provide that we will indemnify each of our directors, our executive officers and, at times, their affiliates to the fullest extent permitted by Delaware law. We will advance expenses, including attorneys' fees (but excluding judgments, fines and settlement amounts), to each indemnified director, executive officer or affiliate in connection with any proceeding in which indemnification is available and we will indemnify our directors and officers for any action or proceeding arising out of that person's services as a director or officer brought on behalf of us or in furtherance of our rights. Additionally, certain of our directors or officers may have certain rights to indemnification, advancement of expenses or insurance provided by their affiliates or other third parties, which indemnification relates to and might apply to the same proceedings arising out of such director's or officer's services as a director referenced herein. Nonetheless, we will agree in the indemnification agreements that our obligations to those same directors or officers are primary and any obligation of such affiliates or other third parties to advance expenses or to provide indemnification for the expenses or liabilities incurred by those directors are secondary.

We also maintain general liability insurance which covers certain liabilities of our directors and officers arising out of claims based on acts or omissions in their capacities as directors or officers, including liabilities under the Securities Act.

Delaware Law

Section 102 of the DGCL permits a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee, or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he was or is a party or is threatened to be made a party to any threatened, ending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification will be made with respect to any claim, issue or matter as to which such person will have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court will deem proper.

Third Amended and Restated Certificate of Incorporation

Our third amended and restated certificate of incorporation provides that we are authorized to provide indemnification and advancement of expenses to our directors, officers and certain other covered persons to the fullest extent permitted by the DGCL. Our certificate of incorporation limits the personal liability of directors for breach of fiduciary duty to the maximum extent permitted by the DGCL and provides that no director will have personal liability to us or to our stockholders for monetary damages for breach of fiduciary duty or other duty as a director. However, these provisions will not eliminate or limit the liability of any of our directors for:

- for any breach of the director's duty of loyalty to us or our stockholders;
- for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law;
- for voting for or assenting to unlawful payments of dividends, stock repurchases or other distributions; or
- for any transaction from which the director derived an improper personal benefit.

In addition, our third amended and restated certificate of incorporation provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding, other than an action by or in the right of us, by reason of the fact that such person is or was a director or officer of the Company or is or was serving at the request of the Company as a director, officer, employee, general partner, agent or fiduciary of another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), against all expenses, including attorneys' fees, judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful.

Indemnification Agreements

We have entered into separate indemnification agreements with each of our directors and executive officers. These indemnification agreements require us, among other things, to indemnify our directors and officers for some expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or officer in any action or proceeding arising out of his or her service as one of our directors or officers, or any of our subsidiaries or any other company or enterprise to which the person provides services at our request.

We maintain general liability insurance policy that covers certain liabilities of our directors and officers arising out of claims based on their acts or omissions committed in their capacities as directors or officers.

ITEM 15. RECENT SALES OF UNREGISTERED SECURITIES.

In the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

From July 2018 through November 2021, we issued convertible notes in an aggregate principal amount of $1,154,000 (the "Group A Convertible Notes") to accredited investors, including related parties, in exchange for cash in an aggregate amount of $1,154,000. The Group A Convertible Notes automatically converted into shares of our common stock upon the consummation of our initial public offering. The number of shares of our common stock issued upon the automatic conversion was equal to the quotient obtained by dividing the outstanding principal and unpaid accrued interest due on the Group A Convertible Note on the date of conversion by a percentage between 80% to 87.5%, as applicable, of the initial public offering price per share in such offering. The Group A Convertible Notes had conversion capitalization ceilings that ranged from $5 million to $25 million, which limited the price a noteholder must pay in a convertible note-to-common stock conversion occurrence. The Group A Convertible Notes had a conversion price that ranged from $0.39 to $1.97 per share, depending on the applicable valuation ceiling of each note (based on the initial public offering price of $4.00 per share).

From April 2020 through June 2021, we issued convertible notes in an aggregate principal amount of $5,154,000 (the "Group B Convertible Notes") to accredited investors in exchange for cash in an aggregate amount of $5,154,000. The Group B Convertible Notes automatically converted into shares of our common stock upon the consummation of our initial public offering. The number of shares of our common stock issued upon the automatic conversion was equal to the quotient obtained by dividing the outstanding principal and unpaid accrued interest due on the Group B Convertible Note on the date of conversion by 80% of the initial public offering price per share in such offering. The Group B Convertible Notes had a conversion capitalization ceiling of $19 million, which limited the price a noteholder must pay in a convertible note-to-common stock conversion occurrence. As a result of the valuation ceiling, the Group B Convertible Notes had a conversion price of $1.31 per share (based on the initial public offering price of $4.00 per share).

In connection with the private placement of Group B Convertible Notes, we issued to Noble Life Science Partners, a division of Noble Capital Markets, Inc., the placement agent for the offering, warrants to purchase 431,603 shares of common stock at an exercise price of $1.31 per share (the "Group B Warrants"), based on the initial public offering price of $4.00 per share. The Group B Warrants may, at the option of the holder, be exercised in whole or part on a cashless basis. The Group B Warrants expire five years after the effective date of our initial public offering.

On August 19, 2020, we issued a convertible note with a principal amount of $2,400,000 (the "BlinkBio Convertible Note") to BlinkBio, Inc., which was a related party because our former Chairman, Dr. Goddard, is the Chairman and Chief Executive Officer of BlinkBio, in exchange for the entry into the license agreement to utilize a group of patents described as silicon based drug conjugates and methods, along with silanol based therapeutic payloads. The BlinkBio Convertible Note bears interest at a rate of 10% per annum. On March 15, 2021, we issued 1,302,082 shares of Series A preferred stock to BlinkBio in exchange for the BlinkBio Convertible Note. On February 9, 2024, these shares were converted into an aggregate of 1,302,082 shares of our common stock upon the filing of our third amended and restated certificate of incorporation.

From June 2021 through January 2023, we issued convertible notes in an aggregate principal amount of $3,945,020 (the "Group C Convertible Notes") to accredited investors in exchange for cash in an aggregate amount of $3,945,020. The Group C Convertible Notes automatically converted into shares of our common stock upon the consummation of our initial public offering. The number of shares of our common stock issued upon the automatic conversion was equal to the quotient obtained by dividing the outstanding principal and unpaid accrued interest due on the Group C Convertible Note on the date of conversion by 80% of the initial public offering price per share in such offering. The Group C Convertible Notes had a conversion capitalization ceiling of $50 million, except that one note was subject to a valuation ceiling of $19 million, which limited the price a noteholder must pay in a convertible note-to-common stock conversion occurrence. As a result of the applicable valuation ceiling, the Group C Convertible Notes had a conversion price of $1.31 or $2.59 per share, as applicable (based on the initial public offering price of $4.00 per share).

In connection with the private placement of Group C Convertible Notes, we issued to Noble Life Science Partners, a division of Noble Capital Markets, Inc., the placement agent for the offering, warrants to purchase 94,039 shares of common stock at an exercise price of $2.60 per share (the "Group C Warrants"), based on the initial public offering price of $4.00 per share. The Group C Warrants may, at the option of the holder, be exercised in whole or part on a cashless basis. The Group C Warrants expire five years after the effective date of our initial public offering.

In November 2022, we issued convertible notes in an aggregate principal amount of $2,000,000 (the "Group D Convertible Notes") to accredited investors in exchange for cash in an aggregate amount of $2,000,000. From February to June 2023, we issued convertible notes in the aggregate principal amount of $1,100,000 (the "Group E Convertible Notes") to accredited investors in exchange for cash in an aggregate amount of $1,100,000. From June 2023 to April 2024, we issued convertible notes in an aggregate principal amount of $3,433,500 (the "Group F Convertible Notes" and, collectively with the Group D Convertible Notes and Group E Convertible Notes, the "Bridge Notes") to accredited investors in exchange for cash in an aggregate amount of $3,433,500, of which $750,000 was raised in April 2024. The Bridge Notes automatically converted into shares of our common stock upon the consummation of our initial public offering. The number of shares of our common stock issued upon the automatic conversion was equal to the quotient obtained by dividing the outstanding principal and unpaid accrued interest due on a Bridge Note on the date of conversion by 50% of the initial public offering price per share in such offering. The Bridge Notes had a conversion capitalization ceiling of $50 million, which limited the price a noteholder must pay in a convertible note-to-common stock conversion occurrence. As a result of the valuation ceiling, the Bridge Notes had a conversion price of $2.00 per share (based on the initial public offering price of $4.00 per share).

In connection with the Bridge Notes, we agreed to issue an additional 653,350shares of common stock (on a post-split basis) to the bridge investors, prorated based on such investor's investment amount, as an inducement for their investment in the Bridge Notes. Prior to us effectuating the reverse stock split, we issued such shares to the bridge investors. Additionally, we issued to Noble Life Science Partners, a division of Noble Capital Markets, Inc., the placement agent for the Group D placement, warrants to purchase 100,000 shares of common stock at an exercise price of $2.00 per share (the "Group D Warrants"), based on the initial public offering price of $4.00 per share. The Group D Warrants may, at the option of the holder, be exercised in whole or part on a cashless basis. The Group D Warrants expire five years after the effective date of our initial public offering.

On October 31, 2024, we issued 165,746shares of our common stock as the Initial Commitment Shares to Square Gate Capital Master Fund, LLC — Series 3 (the "Investor") as consideration for its entry into the Equity Purchase Agreement, dated as of October 31, 2024, between our company and the Investor.

On December 24, 2024, we entered into a Securities Purchase Agreement (the "Purchase Agreement") with certain institutional and accredited investors (collectively, the "selling stockholders"), substantially all of whom were existing stockholders of the Company, pursuant to which we agreed to issue and sell to the selling stockholders immediately separable units (the "Units"), with each Unit being comprised of (i) one share of Series A Senior Convertible Preferred Stock, par value $0.001 per share (the "Series A Preferred Stock"), and (ii) a warrant to purchase one share of common stock (each, a "Series A Warrant" and such shares, the "Warrant Shares"), at a price per Unit of $4.00, for aggregate gross proceeds of not less than $6 million and not more than $10 million (the "Private Placement"). The Private Placement closed on December 31, 2024. At two closings occurring on December 31, 2024 and January 14, 2025, we issued to the selling stockholders an aggregate of (i) 1,775,750 shares of Series A Preferred Stock and (ii) Series A Warrants initially exercisable into 1,775,750 shares of common stock. The gross proceeds from the closing of the Private Placement, before deducting transaction fees and other estimated Private Placement expenses, were approximately $7,103,000.

Brookline Capital Markets, a division of Arcadia Securities, LLC ("Brookline"), acted as exclusive placement agent for the issuance and sale of the securities in the Private Placement. In connection with the Private Placement, we paid Brookline or its designees a fee in the form of warrants to purchase shares of our common stock (the "Agent Warrants"). The Agent Warrants are initially exercisable into a number of shares of common stock equal to (i) 7% of the number of shares of common stock initially issuable pursuant to the shares of Series A Preferred Stock issued to selling stockholders other than Reduced Fee Purchasers in the Private Placement plus (ii) 3% of the number of shares of common stock initially issuable pursuant to the shares of Series A Preferred Stock issued Reduced Fee Purchasers in the Private Placement; provided that Ceros Financial Services, Inc., Brookline's selected dealer for the Private Placement, is entitled to 33.3% of the Agent Warrants. The terms of the Agent Warrants are substantially similar to the terms of the Series A Warrants. At two closings occurring on December 31, 2024 and January 14, 2025, (i) Brookline received 39,918 Agent Warrants and (ii) Ceros received 19,930 Agent Warrants.

During the quarter ended December 31, 2024, we issued 25,000 shares of our common stock in exchange for marketing services. Additionally, we issued 6,506 shares of our common stock to a former convertible noteholder to settle an outstanding interest obligation following the conversion of our outstanding convertible notes upon consummation of our initial public offering.

In consideration for the purchase of the HER2 Assets, we agreed to, among other things, issue 4,774,637 shares based on the volume-weighted average price of the Company's common stock over the 30 trading days immediately preceding April 9, 2025.

Because the issuance of the Ayala Consideration Shares would require us to issue more than the NYSE Ownership Limitation, we issued to Ayala (i) 2,164,215 shares of common stock, and (ii) a warrant to purchase 2,166,381 shares of common stock. Once we obtain stockholder approval in accordance with NYSE American LLC Company Guide Section 713, we will subsequently issue to Ayala the remaining 444,041 shares of common stock, except that, if at that time, the number of shares of common stock beneficially owned by Ayala would exceed 9.99% of the number of shares of our common stock then outstanding, Ayala has the right to require us to issue, in lieu of such shares, a warrant to purchase 444,041 on substantially the same terms of the Ayala Warrant.

During the three months ended March 31, 2025, we issued 300,000 shares of common stock to a scientific and technical advisor in exchange for scientific and technical services, which will be amortized over a 12-month period with the remaining balance in prepaid expenses, and 20,000 shares of common stock to an advisor in exchange for services.

The issuances described in Item 15 were not registered under the Securities Act in reliance upon the exemption from registration provided by Section 4(a)(2) thereof and Regulation D promulgated thereunder, which exempts transactions by an issuer not involving any public offering. The recipients of securities in each such transaction represented their intention to acquire the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the share certificates and other instruments issued in such transactions. All recipients either received adequate information about the registrant or had access, through employment or other relationships, to such information.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a) Exhibits

Exhibit number	Description
3.1	Third Amended and Restated Certificate of Incorporation of OS Therapies Incorporated.(1)
3.2	Certificate of Amendment to the Third Amended and Restated Certificate of Incorporation of OS Therapies Incorporated.(2)
3.3	Amended and Restated Bylaws of OS Therapies Incorporated.(1)
3.4	Certificate of Designation of Rights, Preferences and Limitations of Series A Senior Convertible Preferred Stock of OS Therapies Incorporated.(6)
4.1	Specimen Common Stock Certificate.(1)
4.2	Form of Representative's Warrant.(3)
4.3	Form of Placement Agent Warrant (Group B Convertible Notes placement).(1)
4.4	Form of Placement Agent Warrant (Group C Convertible Notes placement).(1)
4.5	Form of Placement Agent Warrant (Group D Convertible Notes placement).(1)
4.6	Form of Common Stock Purchase Warrant.(6)
4.7	Form of Agent Warrant.(6)
4.8	Form of Warrant.(8)
5.1*	Opinion of Olshan Frome Wolosky LLP, as to the legality of the common stock.
10.1†	Form of Group A Convertible Note.(1)
10.2†+	Form of Group B Convertible Note.(1)
10.3†+	Form of Group C Convertible Note.(1)
10.4†+	Form of Groups D, E and F Convertible Note.(1)
10.5+¥	Amended and Restated Development, License and Supply Agreement, dated as of November 13, 2020, by and between OS Therapies Incorporated and Advaxis, Inc. (now Ayala Pharmaceuticals, Inc.).(1)
10.5.1	First Amendment to Amended and Restated Development, License and Supply Agreement, dated as of April 23, 2021, between OS Therapies Incorporated and Advaxis, Inc. (now Ayala Pharmaceuticals, Inc.).(1)
10.6+	License Agreement, dated as of August 19, 2020, by and between OS Therapies Incorporated and BlinkBio, Inc.(1)
10.7#	Employment Agreement, dated as of February 21, 2023, between OS Therapies Incorporated and Paul A. Romness, MPH.(1)
10.8#	Employment Letter, dated June 23, 2020, between OS Therapies Incorporated and Robert G. Petit, Ph.D.(1)
10.9#	Form of Indemnification Agreement between OS Therapies Incorporated and each of its directors.(1)
10.10#	OS Therapies Incorporated 2023 Incentive Compensation Plan.(1)
10.10.1#	Form of First Amendment to the OS Therapies Incorporated 2023 Incentive Compensation Plan.(1)
10.11#	Employment Letter, dated January 1, 2023, between OS Therapies Incorporated and Christopher P. Acevedo.(1)
10.12	Equity Purchase Agreement between the registrant and Square Gate Capital Master Fund, LCC — Series 3, dated as of October 31, 2024.(4)
10.13	Registration Rights Agreement between the registrant and Square Gate Capital Master Fund, LCC — Series 3, dated as of October 31, 2024 (incorporated herein by reference to Exhibit 10.2 to the Current Report on Form 8-K filed on November 1, 2024).(4)
10.14+	Securities Purchase Agreement, dated December 24, 2024, by and among OS Therapies Incorporated and the purchasers party thereto.(6)
10.15	Form of Registration Rights Agreement by and among OS Therapies Incorporated and the purchasers party thereto.(6)
10.16	Form of Voting Agreement by and among OS Therapies Incorporated, the stockholders party thereto and the purchasers party thereto.(6)

Exhibit number	Description
10.17	Letter Agreement, dated December 27, 2024, by and between OS Therapies Incorporated and Brookline Capital Markets, a division of Arcadia Securities, LLC.(6)
10.18	Amendment No. 1 to Securities Purchase Agreement and Amendment to Registration Rights Agreement.(7)
10.19+	Asset Purchase Agreement, dated as of January 28, 2025, between OS Therapies Incorporated and Ayala Pharmaceuticals, Inc.(8)
10.20	Form of Registration Rights Agreement between OS Therapies Incorporated and Ayala Pharmaceuticals, Inc.(8)
23.1*	Consent of MaloneBailey, LLP, independent registered public accounting firm.
23.2*	Consent of Olshan Frome Wolosky LLP (included in the opinion filed as Exhibit 5.1).
24	Power of Attorney (set forth on signature page of the Registration Statement).
107*	Calculation of Filing Fee Table.

(1) Incorporated herein by reference to the Registrant's Registration Statement on Form S-1 filed May 30, 2024 (File No. 333-279839).
(2) Incorporated herein by reference to Amendment No. 1 to the Registrant's Registration Statement on Form S-1 filed June 7, 2024 (File No. 333-279839).
(3) Incorporated herein by reference to Amendment No. 2 to the Registrant's Registration Statement on Form S-1 filed June 13, 2024 (File No. 333-279839).
(4) Incorporated by reference to Exhibit 3.3 of the Registrant's Registration Statement on Form S-1 filed May 30, 2024 (File No. 333-279839).
(5) Incorporated herein by reference to the Registrant's Current Report on Form 8-K filed on November 1, 2024.
(6) Incorporated herein by reference to the Registrant's Current Report on Form 8-K filed on December 30, 2024.
(7) Incorporated herein by reference to the Registrant's Current Report on Form 8-K filed on January 14, 2025.
(8) Incorporated herein by reference to the Registrant's Current Report on Form 8-K filed on January 29, 2025.
* Filed herewith.
† Pursuant to Instruction 2 to Item 601 of Regulation S-K, the convertible notes are identical for all noteholders in the particular group except for face or principal amount, issuance date and the name of the payee.
+ Pursuant to Item 601(a)(5) of Regulation S-K, certain schedules and exhibits have been omitted. The registrant agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon its request.
¥ Pursuant to Item 601(b)(10)(iv) of Regulation S-K, certain portions of this exhibit have been redacted. Redacted information is indicated by [***].
# Indicates a management contract or any compensatory plan, contract or arrangement.

Unless otherwise indicated, exhibit has been previously filed.

(b) Financial statements schedules

The financial statements filed as part of this registration statement are listed in the index to the financial statements immediately preceding such financial statements, which index to the financial statements is incorporated herein by reference.

ITEM 17. UNDERTAKINGS

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which it offers or sells securities, a post-effective amendment to this registration statement to:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high and of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement.

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) above do not apply if the registration statement is on Form S-1 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act, as amended, may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(d) The undersigned registrant hereby undertakes that:

(i) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (I) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective; and

(ii) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in Grasonville, Maryland, on the 23rd day of May 2025.

OS THERAPIES INCORPORATED

By: /s/ Paul A. Romness, MPH
Name: Paul A. Romness, MPH
Title: Chairman, President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Paul A. Romness and Christopher P. Acevedo, and each of them, his or her true and lawful attorney in fact and agent, with full power of substitution and re-substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments, including post-effective amendments, to this registration statement and any registration statement relating to the offering covered by this registration statement and filed pursuant to Rule 462(b) under the Securities Act of 1933 and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and conforming all that said attorney in fact and agent or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement on Form S-1 has been signed by the following persons in the capacities and on the dates indicated.

Name	Position	Date
/s/ Paul A. Romness, MPH Paul A. Romness, MPH	Chairman, President, Chief Executive Officer and Director (principal executive officer)	May 23, 2025
/s/ Christopher P. Acevedo Christopher P. Acevedo	Chief Financial Officer (principal financial officer and principal accounting officer)	May 23, 2025
/s/ John Ciccio John Ciccio	Director	May 23, 2025
/s/ Avril McKean Dieser Avril McKean Dieser	Director	May 23, 2025
/s/ Karim Galzahr Karim Galzahr	Director	May 23, 2025
/s/ Olivier R. Jarry Olivier R. Jarry	Director	May 23, 2025
/s/ Theodore F. Search, Pharm.D. Theodore F. Search, Pharm.D.	Director	May 23, 2025

OLSHAN

1325 AVENUE OF THE AMERICAS • NEW YORK, NEW YORK 10019
TELEPHONE: 212.451.2300 • FACSIMILE: 212.451.2222

May 23, 2025

OS Therapies Incorporated
115 Pullman Crossing Road, Suite #103
Grasonville, Maryland 21638

Re: Registration Statement on Form S-1

Ladies and Gentlemen:

We are acting as counsel to OS Therapies Incorporated, a Delaware corporation (the "Company"), in connection with the Registration Statement on Form S-1 filed by the Company on May 23, 2025 (as it may be amended, the "Registration Statement") with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Act"), relating to the offer and resale from time to time by the selling stockholders (the "Selling Stockholders") identified in the prospectus constituting a part of the Registration Statement (the "Prospectus") of up to 7,493,874 shares (the "Shares") of the Company's common stock, par value $0.001 per share (the "Common Stock"), consisting of (i) 2,164,215 shares of Common Stock issued and outstanding (the "Initial Shares"), (ii) 1,014,728 shares of Common Stock (the "Series A Conversion Shares") issuable upon the conversion of outstanding shares of the Company's Series A Senior Convertible Preferred Stock, par value $0.001 per share (the "Series A Preferred Stock"), (iii) 3,870,890 shares of Common Stock (the "Warrant Shares") issuable upon the exercise of outstanding warrants (the "Warrants"), and (iv) 444,041 shares of Common Stock (the "Additional Shares") issuable upon receipt of the Purchaser Stockholders Approval (as defined in the Asset Purchase Agreement (as defined below)), which may, in lieu thereof, be issued in the form of a warrant to purchase an equal number of shares of Common Stock (the "Ayala Warrant"). The Shares were issued or will be issued to the Selling Stockholders pursuant to either (i) that certain Asset Purchase Agreement, dated as of January 28, 2025 (the "Asset Purchase Agreement"), by and between the Company and Ayala Pharmaceuticals, Inc. or (ii) that certain Securities Purchase Agreement, dated as of December 24, 2024 (as amended, the "Purchase Agreement" and, collectively with the Asset Purchase Agreement and the Warrants, the "Transaction Documents"), by and among the Company and the purchasers party thereto.

We advise you that we have examined executed originals or copies certified or otherwise identified to our satisfaction of the following documents: (a) the Registration Statement, (b) the Prospectus, (c) the Asset Purchase Agreement, (d) the Purchase Agreement, (e) Warrants, (f) the Company's Third Amended and Restated Certificate of Incorporation, as amended to date, (g) the Company's Amended and Restated Bylaws, as amended to date, (h) the Company's Certificate of Designation of Rights, Preferences and Limitations of Series A Senior Convertible Preferred Stock (the "Series A Certificate of Designation"), and (i) certain resolutions adopted by the Board of Directors of the Company. In addition, we have examined and relied upon such corporate records and other documents, instruments and certificates of officers and representatives of the Company and of public officials, and we have made such examination of law, as we have deemed necessary or appropriate for purposes of the opinions expressed below. As to certain factual matters, unless otherwise indicated, we have relied, to the extent we have deemed proper, on certificates of certain officers of the Company.

We have assumed for purposes of rendering the opinions set forth herein, without any verification by us:

(i) the genuineness of all signatures, the legal capacity of all natural persons to execute and deliver documents, the authenticity and completeness of documents submitted to us as originals and the completeness and conformity with authentic original documents of all documents submitted to us as copies, that all documents, books and records made available to us by the Company are accurate and complete;

(ii) that the Purchaser Stockholders Approval will be obtained pursuant to the terms of the Asset Purchase Agreement; and

(iii) that each of the Asset Purchase Agreement and the Purchase Agreement has been duly authorized, executed and delivered by each party thereto, that each such party is duly organized, validly existing and in good standing under the laws of its jurisdiction of organization and all jurisdictions where it is conducting business or otherwise required to be so qualified, that each such party has full power, authority and legal right to enter into and perform the terms and conditions of the Asset Purchase Agreement or the Purchase Agreement, as applicable, to be performed by it, that the representations and warranties of each such party as set forth in the Asset Purchase Agreement or the Purchase Agreement, as applicable, when made were, and on the date hereof are, true and complete, and that each of the Asset Purchase Agreement and the Purchase Agreement constitutes a legal, valid and binding obligation of each such party, enforceable against it in accordance with its terms.

Based upon the foregoing and subject to the qualifications, assumptions and limitations contained herein, we are of the opinion that:

1. The Initial Shares have been duly authorized and are validly issued, fully paid and nonassessable.

2. The Series A Conversion Shares have been duly authorized and, when delivered upon the conversion of the Series A Preferred Stock, in accordance with the terms of the Series A Certificate of Designation, will be validly issued, fully paid and nonassessable.

3. The Warrant Shares have been duly authorized and, when issued, delivered and paid for upon valid exercise in accordance with the terms of the applicable Warrant, will be validly issued, fully paid, nonassessable and binding obligations of the Company.

4. The Additional Shares have been duly authorized and, when issued, and, if applicable, delivered and paid for upon valid exercise in accordance with the terms of the Ayala Warrant, following receipt of the Purchaser Stockholders Approval and in accordance with the terms of the Asset Purchase Agreement, will be validly issued, fully paid and nonassessable.

We are members of the Bar of the State of New York. We do not express any opinion as to the effect of any laws other than the laws of the State of New York and the

General Corporation Law of the State of Delaware, and the federal laws of the United States of America, as in effect on the date hereof.

This opinion letter is limited to the matters set forth herein, and no opinion may be inferred or implied beyond the matters expressly set forth herein. This opinion letter is not a guaranty nor may one be inferred or implied. This opinion letter speaks as of the date hereof and we assume no obligation to update or supplement this opinion letter to reflect any facts or circumstances that may hereafter come to our attention or any changes in fact or law that may hereafter occur.

We hereby consent to the filing of this opinion in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Act with the Commission as an exhibit to the Registration Statement and to the reference made to this firm under the caption "Legal Matters" in the Prospectus constituting a part of the Registration Statement. In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission.

Very truly yours,

/s/ OLSHAN FROME WOLOSKY LLP

OLSHAN FROME WOLOSKY LLP

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-1 of our report dated March 31, 2025 with respect to the audited financial statements of OS Therapies Incorporated for the years ended December 31, 2024 and 2023.

We also consent to the references to us under the heading “Experts” in such Registration Statement.

/s/ MaloneBailey, LLP
www.malonebailey.com
Houston, Texas
May 23, 2025

Exhibit 107

Calculation of Filing Fee Tables
Form S-1
(Form Type)
OS Therapies Incorporated
(Exact Name of Registrant as Specified in its Charter)
Table 1: Newly Registered Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount Registered[1]	Proposed Maximum Offering Price Per Share[2]	Maximum Aggregate Offering Price[2]	Fee Rate	Amount of Registration Fee
Fees to Be Paid	Equity	Common stock, par value $0.001 per share	Rule 457(c)	2,164,215	$ 1.52	$ 3,289,606.89	0.00015310	$ 503.64
Fees to Be Paid	Equity	Common stock, par value $0.001 per share	Rule 457(c)	1,014,728[3]	$ 1.52	$ 1,542,386.56	0.00015310	$ 236.14
Fees to Be Paid	Equity	Common stock, par value $0.001 per share	Rule 457(c)	3,870,890[4]	$ 1.52	$ 5,883,752.80	0.00015310	$ 900.80
Fees to Be Paid	Equity	Common stock, par value $0.001 per share	Rule 457(c)	444,041[5]	$ 1.52	$ 674,942.32	0.00015310	$ 103.33
		Total Offering Amounts				$ 11,390,688.57		$ 1,743.91
		Total Fee Offsets						—
		Net Fee Due						$ 1,743.91

(1) Pursuant to Rule 416 under the Securities Act of 1933, as amended (the "Securities Act"), the shares of common stock, par value $0.001 per share ("Common Stock"), of OS Therapies Incorporated (the "Registrant") being registered hereunder include such indeterminate number of shares of Common Stock as may be issuable as a result of stock splits, stock dividends, or other distribution, recapitalization or similar events.

(2) This estimate is made pursuant to Rule 457(c) of the Securities Act solely for purposes of calculating the registration fee. The maximum offering price per share and maximum aggregate offering price are based upon the average of the high and low sales prices of the Registrant's Common Stock on May 20, 2025, as reported on NYSE American.

(3) Represents the estimated maximum number of shares of Common Stock issuable upon the conversion of shares of the Registrant's Series A Senior Convertible Preferred Stock to be offered for resale from time to time by certain of the selling stockholders named in the prospectus that forms a part of the registration statement to which this exhibit is attached (the "Selling Stockholders").

(4) Represents the estimated maximum number of shares of Common Stock issuable upon the exercise of certain outstanding warrants to be offered for resale from time to time by certain of the Selling Stockholders.

(5) Represents the estimated maximum number of shares of Common Stock issuable upon receipt of the Ayala Stockholder Approval (as defined in the registration statement to which this exhibit is attached) to be offered for resale from time to time by certain of the Selling Stockholders.