

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

Form S-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

BIOMX INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware

82-3364020

(State or other jurisdiction of
incorporation or organization)

(I.R.S. Employer
Identification No.)

708 Quince Orchard Rd, Suite 205
Gaithersburg, MD 20878
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(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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Approximate date of commencement of proposed sale to the public: From time to time after the effective date of this Registration Statement.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 pursuant 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, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission acting pursuant to said Section 8(a) may determine.

The information in this prospectus is not complete and may be changed. The selling stockholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, dated February 9, 2026

PROSPECTUS

BiomX Inc.

**5,310,933 Shares of Common Stock
(and including up to 261,933 Dividend Shares)**

This prospectus relates to the resale by the selling stockholders named in this prospectus from time to time of up to an aggregate of 5,310,933 shares of our common stock, par value \$0.0001 per share (the “Common Stock”), consisting of (i) 1,650,000 shares issuable upon the conversion of shares of our newly designated Series Y convertible preferred stock (the “Preferred Shares”), (ii) 3,399,000 shares issuable upon exercise of certain warrants to purchase shares of Common Stock (the “Warrants”), and (iii) 261,933 shares issuable as dividends (the “Dividend Shares”) to the holders of the Preferred Shares at a rate of 15% per annum on the stated value of the Preferred Shares, compounded each calendar quarter over an assumed term of one year and assuming that the holders of the Preferred Shares elects to receive payment of dividends solely in shares of Common Stock during such period.

The Preferred Shares were acquired by the applicable selling stockholders under the Securities Purchase Agreement (the “Purchase Agreement”), dated December 26, 2025, by and among the Company and the investor party thereto (the “Investor”). The Warrants were acquired by the selling stockholders under the (i) Purchase Agreement (such Warrants issued pursuant to the Purchase Agreement, the “Investor Warrants”), and (ii) an engagement agreement (the “Engagement Agreement”), dated November 26, 2025, between the Company and H.C. Wainwright & Co., LLC (“Wainwright”), as applicable (such Warrants issued pursuant to the Engagement Agreement, the “Placement Agent Warrants” and together with the Investor Warrants, the “Warrants”). The shares of Common Stock issuable upon the conversion of the Preferred Shares are herein referred to as “Conversion Shares,” and the shares of Common Stock issuable upon the exercise of the Warrants are herein referred to as “Warrant Shares.”

The Conversion Shares and the Warrant Shares were issued in reliance upon the exemption from the registration requirements in Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”) and Regulation D promulgated thereunder.

We are registering the resale of the Conversion Shares and Warrant Shares issuable upon exercise of the Investor Warrants covered by this prospectus as required by the Registration Rights Agreement, dated December 26, 2025, by and among the Company and the Investor (the “Registration Rights Agreement”). We are also registering for resale the Warrant Shares issuable upon exercise of the Placement Agent Warrants covered by this prospectus.

The selling stockholders will receive all of the proceeds from any sales of the shares offered hereby. We will not receive any of the proceeds, but we will incur expenses in connection with the offering. To the extent the Warrants are exercised for cash, if at all, we will receive the exercise price of the Warrants. We intend to use those proceeds, if any, for general corporate purposes.

The issuance of the shares of Common Stock covered by this prospectus could cause substantial dilution to our existing stockholders. The actual number of shares of Common Stock that we issue to the selling stockholders may be less than the aggregate number of shares covered by this prospectus. Please refer to risk factor entitled “*The issuance of the shares of Common Stock covered by this prospectus could significantly increase the total number of shares of Common Stock issued and outstanding and thereby cause our existing stockholders to experience substantial dilution*” on page 7 of this prospectus. For additional information on the terms of the Preferred Shares and the Warrants, including those terms which may affect the number of Conversion Shares or Warrant Shares that will be issued to the holders of the Preferred Shares and the Warrants, you should refer to the sections of this prospectus entitled “*Prospectus Summary—Private Placement of Preferred Shares and Warrants*”

Our registration of the shares of Common Stock covered by this prospectus does not mean that the selling stockholders will offer or sell any of such shares of Common Stock. The selling stockholders named in this prospectus, or their donees, pledgees, transferees or other successors-in-interest, may resell the shares of Common Stock covered by this prospectus through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. For additional information on the possible methods of sale that may be used by the selling stockholders, you should refer to the section of this prospectus entitled “*Plan of Distribution.*”

Any shares of Common Stock subject to resale hereunder will have been issued by us and acquired by the selling stockholders prior to any resale of such shares pursuant to this prospectus.

No underwriter or other person has been engaged to facilitate the sale of the Common Stock in this offering. We will bear all costs, expenses and fees in connection with the registration of the Common Stock. The selling stockholders will bear all commissions and discounts, if any, attributable to their respective sales of the Common Stock.

Our Common Stock is listed on the NYSE American under the symbol “PHGE.” On February 6, 2026, the last reported sales price for our Common Stock was \$3.93 per share.

Investment in our Common Stock involves risk. See “Risk Factors” contained in this prospectus, in our periodic reports filed from time to time with the Securities and Exchange Commission, which are incorporated by reference in this prospectus and in any applicable prospectus supplement. You should carefully read this prospectus and any applicable prospectus supplement, together with the documents we incorporate by reference, before you invest in our Common Stock.

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

The date of this prospectus is _____, 2026.

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ABOUT THIS PROSPECTUS

This prospectus is part of the registration statement that we filed with the Securities and Exchange Commission (the “SEC”) pursuant to which the selling stockholders named herein may, from time to time, offer and sell or otherwise dispose of the shares of our Common Stock covered by this prospectus. As permitted by the rules and regulations of the SEC, the registration statement filed by us includes additional information not contained in this prospectus.

This prospectus and the documents incorporated by reference into this prospectus include important information about us, the securities being offered and other information you should know before investing in our securities. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or shares of Common Stock are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the documents incorporated by reference therein, in making your investment decision. A prospectus supplement may add to, update or change the information contained in this prospectus. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus.

You should rely only on this prospectus and the applicable prospectus supplement and the information incorporated or deemed to be incorporated by reference in this prospectus. We have not, and the selling stockholders have not, authorized anyone to give any information or to make any representation to you other than those contained or incorporated by reference in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

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

Unless otherwise indicated, information contained or incorporated by reference in this prospectus concerning our industry, including our general expectations and market opportunity, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. In addition, assumptions and estimates of our and our industry’s future performance are necessarily uncertain due to a variety of factors, including those described in “Risk Factors” beginning on page 7 of this prospectus. These and other factors could cause our future performance to differ materially from our assumptions and estimates.

PROSPECTUS SUMMARY

This summary provides an overview of selected information contained elsewhere or incorporated by reference in this prospectus and does not contain all of the information you should consider before investing in our securities. You should carefully read the prospectus, any applicable prospectus supplement, the information incorporated by reference and the registration statement of which this prospectus is a part in their entirety before investing in our securities, including the information discussed under "Risk Factors" in this prospectus and the documents incorporated by reference and our financial statements and related notes that are incorporated by reference in this prospectus. In this prospectus, unless the context indicates otherwise, "PHGE," the "Company," the "registrant," "we," "us," "our," or "ours" refer to BiomX Inc. and its consolidated subsidiaries.

Overview

We are a clinical stage product discovery company developing products using both natural and engineered phage technologies designed to target and kill specific harmful bacteria associated with chronic diseases, such as diabetic foot infections, or DFI. Bacteriophage or phage are bacterial, species-specific, strain-limited viruses that infect, amplify and kill the target bacteria and are considered inert to mammalian cells. By utilizing proprietary combinations of naturally occurring phage and by creating novel phage using synthetic biology, we develop phage-based therapies intended to address both large-market and orphan diseases.

Based on the urgency of treating the infection (whether acute or chronic), the susceptibility of the target bacteria to phage (e.g. the ability to identify a phage cocktail that would target a broad range of bacterial strains) and other considerations, we offer two phage-based product types:

- (1). Fixed cocktail therapy - in this approach a single product containing a fixed number of selected phage is developed to cover a wide range of bacterial strains, thus allowing treatment of broad patient populations with the same product. Fixed cocktails are developed using our proprietary BOLT platform, in which high throughput screening, directed evolution, and bioinformatic approaches are leveraged to produce an optimal phage cocktail.
- (2). Personalized therapy - in this approach a large library of phage is developed, of which a single optimal phage is personally matched to treat specific patients. Matching optimal phage with patients is carried out using a proprietary phage susceptibility testing, where multiple considerations are analyzed simultaneously - allowing for an efficient screen of the phage library while maintaining short turnaround times.

In our therapeutic programs, we focus on using phage therapy to target specific strains of pathogenic bacteria that are associated with diseases. Our phage-based product candidates are developed utilizing our proprietary research and development platform named BOLT. The BOLT platform is unique, employing cutting edge methodologies and capabilities across disciplines including computational biology, microbiology, synthetic engineering of phage and their production bacterial hosts, bioanalytical assay development, manufacturing and formulation, to allow agile and efficient development of natural or engineered phage combinations, or cocktails. The cocktail contains phage with complementary features and is optimized for multiple characteristics such as broad target host range, ability to prevent resistance, biofilm penetration, stability and ease of manufacturing.

Our goal is to develop multiple products based on the ability of phage to precisely target harmful bacteria and on our ability to screen, identify and combine different phage, both naturally occurring and created using synthetic engineering, to develop these treatments.

Recent Developments

Reverse Stock Split

On November 25, 2025, the Company filed a Certificate of Amendment to the Certificate of Incorporation to effect a 1-for-19 reverse stock split of the shares of the Company's Common Stock, either issued and outstanding or held by the Company as treasury stock, effective as of 12:01 a.m. (New York time) on November 25, 2025 (the "Reverse Stock Split") and began trading on a Reverse Stock Split-adjusted basis on the NYSE American on November 25, 2025. All share amounts have been retroactively adjusted for the Reverse Stock Split.

Discontinuation of Drug Candidate BX004

On December 8, 2025, the Company announced its discontinuation of the Company's Phase 2b clinical trial (the "Study") that is designed to test the Company's drug candidate BX004 in treating Cystic Fibrosis ("CF") associated with chronic *Pseudomonas aeruginosa* infections. After evaluating the projected timelines and resources required to proceed with an alternative dosing strategy as was recommended by the independent Data Monitoring Committee, the Company determined that such requirements were beyond the Company's available resources, leading to the decision to discontinue the program. The Company is also taking cost-cutting measures, including a significant reduction of its workforce. Subject to availability of sufficient financial and other resources, the Company will now focus on advancing its bacteriophage-based therapeutics, particularly BX011 for diabetic foot infections. Simultaneously, the Company is reviewing other strategic alternatives.

Subsidiary Dissolution

On December 11, 2025, following the discontinuation of the Study and in light of the Company's limited financial resources, the board of directors of the Company resolved to approve and authorize the filing of an application to commence insolvency proceedings for the Company's Israeli subsidiary, BiomX Ltd. (the "Israeli Subsidiary") in accordance with the Israeli Insolvency and Financial Regulation law 5778-2018.

On December 16, 2025, the Israeli Subsidiary filed for insolvency proceedings in Israel. On January 25, 2026, the District Court of Tel-Aviv, Israel, appointed a trustee to oversee the administration of the insolvency proceedings of the Israeli Subsidiary. The trustee is responsible for managing the Israeli Subsidiary's assets, evaluating claims from creditors, and overseeing the orderly wind-down or restructuring of the Israeli Subsidiary's operations in accordance with applicable Israeli insolvency law. As a result of these proceedings, the Company no longer maintain operational control over the Israeli Subsidiary.

Private Placement of Preferred Shares and Warrants

On December 26, 2025, we entered into the Securities Purchase Agreement (the "Purchase Agreement") with a certain accredited investor (the "Investor"), pursuant to which we issued and sold on January 13, 2026 (the "Closing Date") in a private placement (i) an aggregate of 3,300 Preferred Shares, initially convertible into up to 1,650,000 shares of the Company's Common Stock at an initial conversion price of \$2.00 per share (subject to customary adjustments, the "Conversion Price") and (ii) Investor Warrants to acquire up to an aggregate of 3,300,000 shares of Common Stock at an initial exercise price of \$2.50 per share (collectively, the "Private Placement").

The terms of the Preferred Shares are as set forth in the Certificate of Designations of the Series Y Convertible Preferred Stock of BiomX Inc. (the "Certificate of Designations"), which was filed and became effective with the Secretary of State of the State of Delaware on January 13, 2026. The Investor Warrants are immediately exercisable and expire five years from the date of issuance.

In connection with the Private Placement, pursuant to the Engagement Agreement, the Company engaged Wainwright to act as non-exclusive placement agent in connection with the Private Placement, pursuant to which, the Company agreed to (i) pay Wainwright a cash fee equal to 7% of the gross proceeds of the Private Placement, (ii) reimbursement and payment of certain expenses, and (iii) issue to Wainwright on the Closing Date, Placement Agent Warrants to purchase up to an aggregate number of shares of Common Stock equal to 2.0% of the aggregate number of shares of Common Stock underlying the securities issued in the Private Placement, including upon exercise of any outstanding warrants of the Company, with terms identical to the Investor Warrants.

Further, pursuant to the Purchase Agreement, the Company agreed to increase the size of the board by one seat and appoint a new director to be designated by the Investor, provided that the Investor beneficially owns at least 9.99% of the Company's outstanding shares of Common Stock. The Investor also has the right to designate a second director after the Company obtains the Stockholder Approval (as defined below), provided that the Investor beneficially owns at least 19.99% of the Company's outstanding shares of Common Stock. On December 19, 2025, the Board increased the size of the Board to nine members and appointed Mr. Reuven Yeganeh to serve as a Class 1 director on the Board, effective as of the Closing Date, for a term ending at the Company's annual meeting of stockholders to be held in 2027.

The Private Placement was exempt from the registration requirements of the Securities Act pursuant to the exemption for transactions by an issuer not involving any public offering under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D of the Securities Act and in reliance on similar exemptions under applicable state laws. The Investor in the Private Placement has represented to us that it is an accredited investor within the meaning of Rule 501(a) of Regulation D and that it is acquiring the securities for investment only and not with a view towards, or for resale in connection with, the public sale or distribution thereof. The Preferred Shares and Investor Warrants were offered without any general solicitation by us or our representatives.

Registration Rights Agreements

In connection with the Private Placement, we entered into the Registration Rights Agreement, pursuant to which we are obligated, among other things, to (A) file a resale registration statement (the "Registration Statement") with the SEC to register for resale promptly following the Closing Date, but in no event later than 30 calendar days after the Closing Date, the sum of (i) 100% of the maximum number of Conversion Shares issuable upon conversion of the Preferred Shares ((x) assuming for purposes hereof that the Preferred Shares are convertible at the initial Conversion Price and (y) any such conversion shall not take into account any limitations on the conversion of the Preferred Shares set forth in the Certificate of Designations) and (ii) 100% of the maximum number of Warrant Shares issuable upon exercise of the Investor Warrants ((x) assuming for purposes hereof that any such exercise shall not take into account any limitations on the exercise of such Investor Warrants as set forth therein), in each case subject to the adjustments set forth in the Certificate of Designations and the Investor Warrants, (B) have such Registration Statement declared effective by the Effectiveness Deadline (as defined in the Registration Rights Agreement and as may be amended from time to time), and (C) maintain the registration until the earlier of (x) the date on which the selling stockholders may sell their Conversion Shares or Warrant Shares without restriction pursuant to Rule 144 under the Securities Act, and (y) the date on which the selling stockholders no longer hold any Conversion Shares or Warrant Shares. The Company will be obligated to pay certain liquidated damages to the Investor if the Company fails to file the Registration Statement when required, fails to cause the Registration Statement to be declared effective by the SEC when required, or fails to maintain the effectiveness of the Registration Statement pursuant to the terms of the Registration Rights Agreement.

Preferred Shares

All shares of capital stock of the Company rank junior to the Preferred Shares, with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding up of the Company. Further to the foregoing, Preferred Shares rank senior to shares of Series X Non-Voting Convertible Preferred Stock, par value \$0.0001 per share, of the Company issued and outstanding pursuant to that certain Certificate of Designations of the Series X Non-Voting Preferred Stock with respect to the preferences as to dividends, distributions and payments upon the liquidation, dissolution and winding up of the Company.

The Preferred Shares are convertible into Common Stock at the election of the holder at any time at an initial Conversion Price of \$2.00 until the Maturity Date (as defined in the Certificate of Designations). The Conversion Price is subject to customary adjustments for stock dividends, stock splits, reclassifications, stock combinations and the like. The Conversion Price may also be voluntarily reduced by the Company to any amount and for any period of time deemed appropriate by the Board at any time with the prior written consent of the holders of at least a majority of the outstanding Preferred Shares, subject to the rules and regulations of the NYSE American.

The holders of the Preferred Shares are entitled to dividends of 15% per annum, compounded each calendar quarter, which are payable in arrears, (A) at the holder's discretion (i) in cash out of funds legally available therefor on each Dividend Date (as defined in the Certificate of Designations), or (ii) in shares of Common Stock, payable by way of inclusion of the dividends in the Conversion Amount (as defined in the Certificate of Designations) on each conversion date, and (B) upon any redemption or any required payment upon any Triggering Event (as defined in the Certificate of Designations). Upon the occurrence and during the continuance of a Triggering Event, the Preferred Shares accrue dividends at the rate of 24% per annum. The holders of the Preferred Shares do not have any voting rights, except as required by law.

The Certificate of Designations includes certain Triggering Events (as defined in the Certificate of Designations), including, among other things, the suspension from trading or the failure of our Common Stock to be trading or listed (as applicable) on an eligible market for a period of five (5) consecutive trading days and our failure to pay any amounts due to the holders of the Preferred Shares when due. Upon the occurrence of a Triggering Event, each holder of Preferred Shares will be able to require us to redeem in cash any or all of the holder's Preferred Shares at a premium set forth in the Certificate of Designations.

Notwithstanding the foregoing, our ability to issue any shares of Common Stock upon conversion of any Preferred Shares or otherwise pursuant to the terms of the Certificate of Designations is subject to certain limitations set forth in the Certificate of Designations. Prior to receiving the Stockholder Approval (as defined herein), such limitations include a limit on the number of shares that may be issued until the time, if any, that our stockholders have approved the issuance of more than 19.99% of our issued and outstanding shares of Common Stock in accordance with Section 713(a) of the NYSE American LLC Company Guide (the "Stockholder Approval"). We agreed to seek stockholder approval of these matters at a meeting to be held no later than 60 calendar days following the Closing Date. Further, the Certificate of Designations contains a certain beneficial ownership limitation after giving effect to the issuance of shares of Common Stock issuable upon conversion of the Preferred Shares under the Certificate of Designations.

Warrants

The Warrants are exercisable for shares of Common Stock immediately, at an exercise price of \$2.50 per share and expire five years from the date of issuance. The exercise price of each Warrant is subject to customary adjustments for stock dividends, stock splits, reclassifications, stock combinations and the like. The exercise price may also be voluntarily reduced by the Company to any amount and for any period of time deemed appropriate by the board of directors of the Company, subject to the rules and regulations of the NYSE American. The Warrants may be exercised for cash, provided that, if there is no effective registration statement available registering the exercise of the Warrants, the Warrants may be exercised on a cashless basis.

Until we receive the Stockholder Approval, we may not issue any Warrant Shares if the issuance of such Warrant Shares (taken together with the issuance of any Conversion Shares or other shares of Common Stock issuable pursuant to the terms of the Certificate of Designations) would exceed 19.99% of our issued and outstanding shares of Common Stock prior to the Private Placement, which amount is the aggregate number of shares of Common Stock which we may issue under the rules or regulations of the NYSE American.

Implications of Being a Smaller Reporting Company

We are a “smaller reporting company” and accordingly may provide less public disclosure than larger public companies. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

Corporate Information

BiomX Inc. is a Delaware corporation. Our corporate headquarters are located at 708 Quince Orchard Rd, Suite 205, Gaithersburg, MD 20878, US. Our phone number is (+972) 54 561 0935. Our website address is www.biomx.com. Through our website, we will make available, free of charge, our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports, as soon as reasonably practicable after such material is electronically filed with, or furnished to, the SEC. Information contained on, or that can be accessed through, our website is not and shall not be deemed to be a part of this prospectus or incorporated by reference hereto.

THE OFFERING

Common Stock to be Offered by the Selling Stockholders	<p>Up to an aggregate of 5,049,000 shares of Common Stock, which are issuable to such selling stockholders pursuant to the terms of the Preferred Shares and Warrants.</p> <p>We are also registering up to 261,933 Dividend Shares in connection with the payments of dividends in the form of shares of Common Stock, if any, to the holders of the Preferred Shares.</p>
Use of Proceeds	<p>We will not receive any proceeds from the sale of the Conversion Shares and Warrant Shares by the selling stockholders. However, we will receive proceeds from the exercise of the Warrants if such Warrants, if any, are exercised for cash. We currently intend to use such proceeds for general corporate purposes.</p>
Plan of Distribution	<p>The selling stockholders named in this prospectus, or their pledgees, donees, transferees, distributees, beneficiaries or other successors-in-interest, may offer or sell the shares of Common Stock from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices. The selling stockholders may also resell the shares of Common Stock to or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions.</p> <p>See “Plan of Distribution” beginning on page 14 of this prospectus for additional information on the methods of sale that may be used by the selling stockholders.</p>
NYSE American Market Symbol	<p>Our Common Stock is listed on the NYSE American under the symbol “PHGE.”</p>
Risk Factors	<p>Investing in our Common Stock involves significant risks. See “Risk Factors” beginning on page 7 of this prospectus and the documents incorporated by reference in this prospectus.</p>

RISK FACTORS

Investing in our securities involves a high degree of risk. In addition to the other information contained in this prospectus and any prospectus supplement and in the documents we incorporate by reference, you should carefully consider the risks discussed below and under the heading “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024, as well as any amendment or update to our risk factors reflected in subsequent filings with the SEC, before making a decision about investing in our securities. The risks and uncertainties discussed below and in the documents incorporated by reference are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of these risks occur, our business, financial condition and operating results could be harmed, the trading price of our Common Stock could decline and you could lose part or all of your investment.

Risks Related to this Offering and Our Common Stock

The issuance of the shares of Common Stock covered by this prospectus could significantly increase the total number of shares of Common Stock issued and outstanding and thereby cause our existing stockholders to experience substantial dilution.

The shares of Common Stock being offered pursuant to this prospectus represent Conversion Shares issuable upon the conversion of our Preferred Shares, Warrant Shares issuable upon the exercise of the Warrants and the issuance of the Dividend Shares, if any. As of February 3, 2026, there were 1,593,516 shares of Common Stock issued and outstanding (prior to any deemed issuance of any Conversion Shares or Warrant Shares). If we are required to issue the maximum number of Conversion Shares and Warrant Shares that are being registered hereunder, the number of shares of Common Stock issued and outstanding after such issuance would represent approximately 333.28% of the number of shares of Common Stock issued and outstanding as of the date of this prospectus. As a result, an existing stockholder’s proportionate interest in us will be substantially diluted. The actual number of shares of Common Stock that we issue to the selling stockholders may be less than the aggregate number of shares covered by this prospectus.

Substantial future sales or other issuances of our Common Stock could depress the market for our Common Stock.

Sales of a substantial number of shares of our Common Stock and any future sales of a substantial number of shares of Common Stock in the public market, including the issuance of shares or any shares issuable upon conversion of the Preferred Shares or exercise of the Warrants and the issuance of the Dividend Shares, or the perception by the market that those sales could occur, could cause the market price of our Common Stock to decline or could make it more difficult for us to raise funds through the sale of equity and equity-related securities in the future at a time and price that our management deems acceptable, or at all. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or Common Stock, which could also depress the market for our Common Stock. We cannot predict the effect, if any, that market sales of those shares of Common Stock or the availability of those shares for sale will have on the market price of our Common Stock.

You may experience future dilution as a result of future equity offerings and other issuances of our securities.

In order to raise additional capital, we may in the future offer additional shares of Common Stock or other securities convertible into or exchangeable for our Common Stock prices that may not be the same as the price per share paid by the investors in this offering. We may not be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by the investor in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of Common Stock or securities convertible into shares of Common Stock in future transactions may be higher or lower than the price per share paid to the applicable selling stockholders. Our stockholders will incur dilution upon exercise of any outstanding stock options, warrants or other convertible securities or upon the issuance of shares of Common Stock under our stock incentive programs.

Any additional capital raised through the sale of equity or equity-backed securities may dilute our stockholders’ ownership percentages and could also result in a decrease in the market value of our equity securities.

The terms of any securities issued by us in future capital transactions may be more favorable to new investors, and may include preferences, superior voting rights and the issuance of warrants or other derivative securities, which may have a further dilutive effect on the holders of any of our securities then outstanding.

In addition, we may incur substantial costs in pursuing future capital financing, including investment banking fees, legal fees, accounting fees, securities law compliance fees, printing and distribution expenses and other costs. We may also be required to recognize non-cash expenses in connection with certain securities we issue, such as convertible notes and warrants, which may adversely impact our financial condition.

Holders of our Preferred Shares are entitled to certain payments under the Certificate of Designations that may be paid in cash, which may require the expenditure of a substantial portion of our cash resources.

The holders of the Preferred Shares are entitled to dividends of 15% per annum, compounded each calendar quarter, which are payable in arrears, (A) at the holder's discretion (i) in cash out of funds legally available therefor on each Dividend Date, or (ii) in shares of Common Stock, payable by way of inclusion of the dividends in the Conversion Amount (as defined in the Certificate of Designations) on each conversion date, and (B) upon any redemption or any required payment upon any Triggering Event (as defined in the Certificate of Designations). Upon the occurrence and during the continuance of a Triggering Event (as defined in the Certificate of Designations), the Preferred Shares accrue dividends at the rate of 24% per annum. In connection with a Triggering Event, each holder of the Preferred Shares will be able to require us to redeem in cash any or all of the holder's Preferred Shares at a premium set forth in the Certificate of Designations. If such Triggering Event occurs, our financial condition and results of operations could be materially affected.

If we do not have sufficient cash resources to make these payments, we may need to raise additional equity or debt capital, and we cannot provide any assurance that we will be successful in doing so. If we are unable to raise sufficient capital to meet our payment obligations, we may need to delay, reduce or eliminate certain research and development programs or other operations, sell some or all of our assets or merge with another entity. Our ability to make payments due to the holders of our Preferred Shares using cash is also limited by the amount of cash we have on hand at the time such payments are due as well as certain provisions of the Delaware General Corporation Law (the "DGCL").

The Certificate of Designations contains restrictive covenants and terms that may make it difficult to procure additional financing and that may affect our financial condition and results of operations.

The Certificate of Designations contains certain restrictive covenants including but not limited to, a Minimum Cash Requirement (as defined in the Certificate of Designations), restrictions on incurring any indebtedness until the date on which no Preferred Shares are outstanding, subject to certain exceptions, restrictions on directly or indirectly, redeeming, repurchasing or declaring or paying any cash dividend or distribution on any of our capital stock (other than as required by the Certificate of Designations), and restrictions on directly or indirectly, permitting any of our indebtedness to mature or accelerate prior to the Maturity Date (as defined in the Certificate of Designations). Additionally, the Preferred Shares also contains certain purchase rights (the "Purchase Rights") permitting the holders of the Preferred Shares to acquire upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which such holder could have acquired if such holder had held the number of shares of Common Stock acquirable upon complete conversion of all of its Preferred Shares. These restrictive covenants may limit our flexibility in raising capital or incurring any indebtedness, which may have an adverse effect on our financial condition.

Under the Purchase Agreement, we are subject to certain restrictive covenants that may make it difficult to procure additional financing.

The Purchase Agreement contains, among others, the following covenants: (A) until 180 days following the date on which this registration statement is declared effective, we may not issue, offer, sell, grant any option or right to purchase, or otherwise dispose of (or announce any issuance, offer, sale, grant of any option or right to purchase or other disposition of) any equity security or any equity-linked or related security, (B) (i) so long as the Investor beneficially owns at least 9.99% of the Company's outstanding shares of Common Stock, the Investor shall have the right to appoint a new director to be designated by the Investor, and (ii) the Investor also has the right to designate a second director after the Company obtains the Stockholder Approval, provided that the Investor beneficially owns at least 19.99% of the Company's outstanding shares of Common Stock, and (C) until 180 days following the Closing Date, the Company must provide the holders of the Preferred Shares the opportunity to participate in any subsequent securities offerings by it.

If we require additional funding while these restrictive covenants remain in effect, we may be unable to effect a financing transaction on terms acceptable to us, or at all, while also remaining in compliance with the terms of the Purchase Agreement, or we may be forced to seek a waiver from the Investor party to the Purchase Agreement, which such Investor is not obligated to grant to us.

There is currently no trading market for the Preferred Shares or the Warrants. If an active trading market does not develop, then preferred stockholders and warrant holders may be unable to sell their Preferred Shares or Warrants, as applicable, at desired times or prices, or at all.

No market for the Preferred Shares or the Warrants currently exists. We do not currently intend to apply to list the Preferred Shares or the Warrants on any securities exchange or for quotation on any inter-dealer quotation system. Accordingly, an active market for the Preferred Shares or the Warrants may never develop, and, even if one develops, it may not be maintained. If an active trading market for the Preferred Shares or the Warrants does not develop or is not maintained, then the market price and liquidity of the Preferred Shares and the Warrants will be adversely affected and holders of the Preferred Shares or the Warrants may not be able to sell their Preferred Shares or Warrants at desired times or prices, or at all.

The liquidity of the trading market, if any, and future value or trading price, if any, of the Preferred Shares or the Warrants will depend on many factors, including, among other things, the trading price and volatility of our common stock, prevailing interest rates, financial condition, results of operations, business, prospects and credit quality relative to our competitors, the market for similar securities and the overall securities market. Many of these factors are beyond our control. Market volatility could significantly harm the market for the Preferred Shares or the Warrants, regardless of our financial condition, results of operations, business, prospects or credit quality.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference in this prospectus contain “forward-looking statements,” which include information relating to future events, future financial performance, strategies, expectations, competitive environment and regulation. Our use of the words “may,” “will,” “would,” “could,” “should,” “believes,” “estimates,” “projects,” “potential,” “expects,” “plans,” “seeks,” “intends,” “evaluates,” “pursues,” “anticipates,” “continues,” “designs,” “impacts,” “forecasts,” “target,” “outlook,” “initiative,” “objective,” “designed,” “priorities,” “goal” or the negative of those words or other similar expressions is intended to identify forward-looking statements that represent our current judgment about possible future events. Forward-looking statements should not be read as a guarantee of future performance or results and will probably not be accurate indications of when such performance or results will be achieved. All statements included or incorporated by reference in this prospectus, and in related comments by our management, other than statements of historical facts, including without limitation, statements about future events or financial performance, are forward-looking statements that involve certain risks and uncertainties.

These statements are based on certain assumptions and analyses made in light of our experience and perception of historical trends, current conditions and expected future developments as well as other factors that we believe are appropriate in the circumstances. While these statements represent our judgment on what the future may hold, and we believe these judgments are reasonable, these statements are not guarantees of any events or financial results. Whether actual future results and developments will conform with our expectations and predictions is subject to a number of risks and uncertainties, including the risks and uncertainties discussed in this prospectus, any applicable prospectus supplement and the documents incorporated by reference under the captions “Risk Factors” and “Special Note Regarding Forward-Looking Statements” and elsewhere in those documents.

Consequently, all of the forward-looking statements made in this prospectus as well as all of the forward-looking statements incorporated by reference to our filings under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), are qualified by these cautionary statements and there can be no assurance that the actual results or developments that we anticipate will be realized or, even if realized, that they will have the expected consequences to or effects on us and our subsidiaries or our businesses or operations. We caution investors not to place undue reliance on forward-looking statements. We undertake no obligation to update publicly or otherwise revise any forward-looking statements, whether as a result of new information, future events, or other such factors that affect the subject of these statements, except where we are expressly required to do so by law.

USE OF PROCEEDS

All shares of our Common Stock offered by this prospectus are being registered for the accounts of the selling stockholders and we will not receive any proceeds from the sale of these shares. However, we will receive proceeds from the exercise of the Warrants if the Warrants are exercised for cash. Unless we inform you otherwise in a prospectus supplement or free writing prospectus, we intend to use those proceeds, if any, for general corporate purposes. The holders of the Warrants are not obligated to exercise their Warrants for cash, and we cannot predict whether holders of the Warrants will choose to exercise all or any of their Warrants for cash.

SELLING STOCKHOLDERS

Unless the context otherwise requires, as used in this prospectus, “selling stockholders” includes the selling stockholders listed below and donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholders as a gift, pledge or other non-sale related transfer.

We have prepared this prospectus to allow the selling stockholders or their successors, assignees or other permitted transferees to sell or otherwise dispose of, from time to time, up to 5,310,933 shares of our Common Stock.

The Common Stock being offered by the selling stockholders are the Dividend Shares and those issuable to the selling stockholders upon conversion of the Preferred Shares and exercise of the Warrants. For additional information regarding the issuance of the Preferred Shares, the Warrants and the Dividend Shares, see “*Private Placement of Preferred Shares and Warrants*” above. We are registering the Conversion Shares, Warrant Shares and Dividend Shares in order to permit the selling stockholders to offer the shares for resale from time to time. The selling stockholders may also sell, transfer or otherwise dispose of all or a portion of their shares in transactions exempt from the registration requirements of the Securities Act, or pursuant to another effective registration statement covering those shares.

Relationships with the Selling Stockholders

Except for the ownership of the Preferred Shares and the Warrants issued pursuant to the Purchase Agreement and the Engagement Agreement, as applicable, and except as described in our periodic reports and current reports filed with the SEC from time to time, the selling stockholders have not had any material relationship with us within the past three years.

Information About Selling Stockholders Offering

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 of Common Stock held by each of the selling stockholders. The second column (titled “Number of Shares of Common Stock Owned Prior to Offering”) lists the number of shares of Common Stock beneficially owned by the selling stockholders, based on their respective ownership of shares of Common Stock, Dividend Shares, Preferred Shares and Warrants as of February 3, 2026, assuming (i) conversion of the Preferred Shares, (ii) the issuance of the Dividend Shares in full at a rate of 15% per annum on the stated value of the Preferred Shares, compounded each calendar quarter over an assumed term of one year and assuming that the holders of the Preferred Shares elects to receive payment of dividends solely in shares of Common Stock during such period, (iii) exercise of the Warrants, and (iv) any other warrants held by each such selling stockholder on that date, but taking account of any limitations on conversion and exercise set forth therein.

The third column (titled “Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus”) lists the shares of Common Stock being offered by this prospectus by the selling stockholders and does not take in account any limitations on (i) conversion of the Preferred Shares set forth therein or (ii) exercise of the Warrants set forth therein.

The fourth and fifth columns (titled “Number of Shares of Common Stock Owned After Offering” and “Percentage of Common Stock Owned After Offering”) assume the conversion of the Preferred Shares at the initial Conversion Price, exercise of the Warrants at the initial exercise price and the issuance of the Dividend Shares in full (assuming a dividend rate of 15% per annum on the stated value of the Preferred Shares, compounded each calendar quarter over an assumed term of one year and assuming that the holders of the Preferred Shares elects to receive payment of dividends solely in shares of Common Stock during such period) and the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

The terms of the Registration Rights Agreement require us to register the number of shares of Common Stock equal to the sum of (i) 100% of the maximum number of Conversion Shares issuable upon conversion of the Preferred Shares ((x) assuming for purposes hereof that the Preferred Shares are convertible at the initial Conversion Price and (y) any such conversion shall not take into account any limitations on the conversion of the Preferred Shares set forth in the Certificate of Designations) and (ii) 100% of the maximum number of Warrant Shares issuable upon exercise of the Investor Warrants ((x) assuming for purposes hereof that such Investor Warrants will be exercised at the initial exercise price as set forth in such Investor Warrants and (y) any such exercise shall not take into account any limitations on the exercise of such Investor Warrants as set forth therein), in each case subject to the adjustments set forth in the Certificate of Designations and Warrants.

Additionally, we are registering 100% of the maximum number of Warrant Shares issuable upon exercise of the Placement Agent Warrants issued to Wainwright (without taking into account any limitations on the exercise of such Placement Agent Warrants set forth therein).

Under the terms of the Certificate of Designations and the Warrants, a selling stockholder may not convert the Preferred Shares or exercise the Investor Warrants to the extent (but only to the extent) such selling stockholder or any of its affiliates would beneficially own a number of shares of our shares of Common Stock which would exceed 19.99% of the outstanding shares of the Company. Under the terms of the Placement Agent Warrants, a selling stockholder may not convert the Placement Agent Warrants to the extent (but only to the extent) such selling stockholder or any of its affiliates would beneficially own a number of shares of our shares of Common Stock which would exceed 4.99%, or, at the election of the selling stockholder, 9.99% of the outstanding shares of the Company. The number of shares in the second column reflects these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

Name of Selling Stockholder	Number of Shares of Common Stock Owned Prior to Offering (1)	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of shares of Common Stock Owned After Offering	Percentage of Common Stock Owned After Offering
Pyu Pyu Capital, LLC (2)	398,177	5,211,933	-	*
Augustus Trading LLC (3)	63,484	63,484	-	*
Noam Rubinstein (4)	31,185	31,185	-	*
Charles Worthman (5)	990	990	-	*
Wilson Drive Holding LLC (6)	3,341	3,341	-	*

* Less than 1%

(1) This table and the information in the notes below are based upon information available to the Company and upon 1,593,516 shares of Common Stock issued and outstanding as of February 3, 2026. Any securities not outstanding which are subject to options, warrants, rights or conversion privileges are deemed to be outstanding for the purpose of computing the percentage of outstanding securities of the class owned by such selling stockholder but are not deemed to be outstanding for the purpose of computing the percentage of the class by any other selling stockholder. Except as expressly noted in the footnotes below, beneficial ownership has been determined in accordance with Rule 13d-3 under the Exchange Act. The amounts set forth in this column reflect the application of various limitations on the issuance of Conversion Shares and Warrant Shares in the Certificate of Designations and the Warrants, respectively, including beneficial ownership limitations and limitations under the rules or regulations of NYSE American.

- (2) The aggregate total amount of shares that may be sold under this prospectus are comprised of (i) 261,933 Dividend Shares, (ii) 1,650,000 Conversion Shares and (iii) 3,300,000 Warrant Shares.

Reuven Yeganeh, a director of the Company, as managing member of Pyu Pyu Capital, LLC, has voting and dispositive control with respect to the securities being offered. As such, Reuven Yeganeh may be deemed to be the beneficial owner (as determined under Section 13(d) of the Exchange Act) of the securities held by Pyu Pyu Capital, LLC. The address of Pyu Pyu Capital, LLC is 48 Hasivim St, Givat Shmuel, Israel.

- (3) Shares of Common Stock to be sold pursuant to this prospectus represent 63,484 shares of Common Stock that may be issued, in the aggregate, upon exercise of any Placement Agent Warrants beneficially owned by the selling stockholder.

The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation. Orsium Capital LLC, the authorized agent to Augustus Trading LLC, has discretionary authority to vote and dispose of the securities held by Augustus Trading LLC and may be deemed to be the beneficial owner (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of these securities. Olivier Morali, in his capacity as managing member of Orsium Capital LLC, may also be deemed to have investment discretion and voting power over the shares held by Augustus Trading LLC. Orsium Capital LLC and Mr. Morali each disclaims any beneficial ownership of these securities. The address for Augustus Trading LLC is 430 Park Ave, 3rd Floor, New York, NY 10022.

- (4) Shares of Common Stock to be sold pursuant to this prospectus represent 31,185 shares of Common Stock that may be issued, in the aggregate, upon exercise of any Placement Agent Warrants beneficially owned by the selling stockholder.

The number of shares beneficially owned prior to this offering consist of shares of common stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation and that are held by Noam Rubinstein. Mr. Rubinstein is affiliated with H.C. Wainwright & Co., LLC, a registered broker-dealer. Mr. Rubinstein is not a broker-dealer. The securities were acquired in the ordinary course of business and, at the time the securities were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities. The business address for Noam Rubinstein is 430 Park Ave, 3rd Floor, New York, NY 10022.

- (5) Shares of Common Stock to be sold pursuant to this prospectus represent 990 shares of Common Stock that may be issued, in the aggregate, upon exercise of any Placement Agent Warrants beneficially owned by the selling stockholder.

The selling stockholder is affiliated with H.C. Wainwright & Co., LLC, a registered broker-dealer with a registered address of H.C. Wainwright & Co., LLC, 430 Park Ave, 3rd Floor, New York, NY 10022, and has the voting and dispositive power over the securities held. The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation and that are held by Charles Worthman. The selling stockholder acquired the Placement Agent Warrants in the ordinary course of business and, at the time the Placement Agent Warrants were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

- (6) Shares of Common Stock to be sold pursuant to this prospectus represent 3,341 shares of Common Stock that may be issued, in the aggregate, upon exercise of any Placement Agent Warrants beneficially owned by the selling stockholder.

The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation. The securities are held by Wilson Drive Holdings LLC with a registered address of 600 Lexington Avenue, 32nd Floor, New York, NY 10022. Craig Schwabe is the managing member Wilson Drive Holdings LLC and has the power to vote and dispose the securities held. Neither Wilson Drive Holdings LLC nor Mr. Schwabe is a broker-dealer. Mr. Schwabe is affiliated with the following registered broker-dealers: H.C. Wainwright & Co., LLC, Rodman & Renshaw LLC and Stockblock Securities LLC. The securities were acquired in the ordinary course of business and, at the time the securities were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

PLAN OF DISTRIBUTION

We are registering the shares of Common Stock issuable upon conversion of the Preferred Shares and exercise of the Warrants to permit the resale of these shares of Common Stock by the holders of the Preferred Shares and Warrants from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of Common Stock, although we will receive the exercise price of any Warrants not exercised by the selling stockholders on a cashless exercise basis. We will bear all fees and expenses incident to our obligation to register the shares of Common Stock.

Each selling stockholder of the securities and any of their pledgees, assignees and successors-in-interest may sell all or a portion of the shares of Common Stock held by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of Common Stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of Common Stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at prices related to prevailing market prices, 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;
- through the writing or settlement of options, 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 securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales made after the date the Registration Statement is declared effective by the SEC;
- broker-dealers may agree with a selling security holder to sell a specified number of such shares at a stipulated price per share;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law

The selling stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

In addition, the selling stockholders may transfer the securities by other means not described in this prospectus. If the selling stockholders effect such transactions by selling securities 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 securities 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). In connection with sales of the securities or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the securities in the course of hedging in positions they assume. The selling stockholders may also sell securities short and deliver securities 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 securities to broker-dealers that in turn may sell such securities.

The selling stockholders may pledge or grant a security interest in some or all of the securities owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the securities from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending, if necessary, the list of selling 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 securities 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.

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 securities 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 securities is made, a prospectus supplement, if required, will be distributed, which will set forth the aggregate amount of securities 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.

Under the securities laws of some states, the securities may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the securities may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

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

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 of securities 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 securities to engage in market-making activities with respect to such securities. All of the foregoing may affect the marketability of the securities and the ability of any person or entity to engage in market-making activities with respect to the securities.

We will pay all expenses of the registration of the securities pursuant to the Registration Rights Agreements, including, without limitation, SEC filing fees and expenses of compliance with state securities or “blue sky” laws; provided, however, a selling stockholder will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling stockholders against liabilities, including some liabilities under the Securities Act in accordance with the Registration Rights Agreements or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act that may arise from any written information furnished to us by the selling stockholder specifically for use in this prospectus, in accordance with the related registration rights agreements or we may be entitled to contribution.

Once sold under the registration statement, of which this prospectus forms a part, the securities will be freely tradable in the hands of persons other than our affiliates.

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Haynes and Boone, LLP, New York, New York.

EXPERTS

The financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2024, have been so incorporated in reliance on the report (which contains an explanatory paragraph relating to the Company's ability to continue as a going concern as described in Note 1C to the financial statements) of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited, 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-3 under the Securities Act with respect to the securities offered by this prospectus. This prospectus, filed as part of the registration statement, does not contain all the information set forth in the registration statement and its exhibits and schedules, portions of which have been omitted as permitted by the rules and regulations of the SEC. For further information about us, we refer you to the registration statement and to its exhibits and schedules.

We file annual, quarterly and current reports and other information with the SEC. The SEC maintains an internet website at www.sec.gov that contains periodic and current reports, proxy and information statements, and other information regarding registrants that are filed electronically with the SEC.

These documents are also available, free of charge, through the Investors section of our website, which is located at www.biomx.com. Information contained on our website is not incorporated by reference into this prospectus and you should not consider information on our website to be part of this prospectus.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus and any accompanying prospectus supplement, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is deemed to be part of this prospectus and any accompanying prospectus supplement, except for any information superseded by information contained directly in this prospectus, any accompanying prospectus supplement, any subsequently filed document deemed incorporated by reference or a free writing prospectus prepared by or on behalf of us. This prospectus and any accompanying prospectus supplement incorporates by reference the documents set forth below that we have previously filed with the SEC (other than information deemed furnished and not filed in accordance with SEC rules, including Items 2.02 and 7.01 of Form 8-K or certain exhibits furnished pursuant to Item 9.01 of Form 8-K). These documents contain important information about us and our finances.

We incorporate by reference in this prospectus the following documents or information filed or to be filed with the SEC:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2024, filed with the SEC on March 25, 2025;
- our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2025, filed with the SEC on May 15, 2025; our Quarterly Report on [Form 10-Q](#) for the quarter ended June 30, 2025, filed with the SEC on August 13, 2025; and our Quarterly Report on [Form 10-Q](#) for the quarter ended September 30, 2025, filed with the SEC on November 12, 2025;
- our Current Reports on Form 8-K and Form 8-K/A filed with the SEC on [February 27, 2025](#), [March 5, 2025](#), [March 31, 2025](#), [April 23, 2025](#), [July 30, 2025](#), [August 19, 2025](#), [October 17, 2025](#), [October 17, 2025](#), [November 17, 2025](#), [November 25, 2025](#), [December 8, 2025](#), [December 11, 2025](#), [December 29, 2025](#), [January 7, 2026](#), [January 14, 2026](#); and
- the description of our Common Stock that is included as [Exhibit 4.1](#) to our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2024, filed with the SEC on March 25, 2025, including any amendments thereto or reports filed for the purposes of updating this description.

We also incorporate by reference into this prospectus all documents that are filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act (i) after the date of the registration statement of which this prospectus forms a part and prior to effectiveness of the registration statement, and (ii) after the date of this prospectus and any accompanying prospectus supplement and before the termination of the offering shall also be deemed to be incorporated herein by reference. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed “filed” with the SEC, including our audit and compensation committee reports and performance graph or any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or certain exhibits furnished pursuant to Item 9.01 of Form 8-K.

You should rely only on the information incorporated by reference or provided in this prospectus. We have not authorized anyone else to provide you with different information. Any statement contained in a document incorporated by reference into this prospectus will be deemed to be modified or superseded for the purposes of this prospectus to the extent that a later statement contained in this prospectus or in any other document incorporated by reference into this prospectus modifies or supersedes the earlier statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of this prospectus or the date of the documents incorporated by reference in this prospectus.

We will provide without charge to each person to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any or all of the reports or documents that have been incorporated by reference in this prospectus but not delivered with this prospectus (other than an exhibit to these filings, unless we have specifically incorporated that exhibit by reference in this prospectus). Any such request should be addressed to us at:

BiomX Inc.
708 Quince Orchard Rd
Suite 205
Gaithersburg, MD 20878, US
(+972) 54 561 0935

You may also access the documents incorporated by reference in this prospectus through our website at www.biomx.com. Except for the specific incorporated documents listed above, no information available on or through our website shall be deemed to be incorporated in this prospectus or the registration statement of which it forms a part.

5,310,933 Shares
(and including up to 261,933 Dividend Shares)

BiomX Inc.

COMMON STOCK
PROSPECTUS

PART II:
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the various costs and expenses payable by us in connection with the sale of the securities being registered. All such costs and expenses shall be borne by us. Except for the Securities and Exchange Commission registration fee, all the amounts shown are estimates.

Securities and Exchange Commission Registration Fee	\$ 3,190.46
Printing and engraving costs	-
Legal fees and expenses	75,000
Accounting fees and expenses	20,000
Miscellaneous Fees and Expenses	1,809.54
Total	<u>\$ 100,000</u>

Item 15. Indemnification of Directors and Officers

Our certificate of incorporation provides that all our directors, officers, employees and agents shall be entitled to be indemnified by us to the fullest extent permitted by Section 145 of the Delaware General Corporation Law.

Section 145 of the Delaware General Corporation Law concerning indemnification of officers, directors, employees and agents is set forth below.

“Section 145. Indemnification of officers, directors, employees and agents; insurance.

- (a) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person’s conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that the person’s conduct was unlawful.
- (b) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys’ fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all 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 shall deem proper.

Item 16. Exhibits

Exhibit	Description
2.1*	<u>Agreement and Plan of Merger, dated March 6, 2024, by and among BiomX Inc., BTX Merger Sub I, Inc., BTX Merger Sub II, LLC and Adaptive Phage Therapeutics, Inc. (Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K filed by the Company on March 6, 2024).</u>
3.1	<u>Composite Copy of Amended and Restated Certificate of Incorporation of the Company, effective on December 11, 2018, as amended to date (Incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-Q filed by the Company on November 14, 2024).</u>
3.2	<u>Amended and Restated Bylaws of the Company, effective as of October 28, 2019, as amended to date (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed by the Company on April 15, 2024).</u>
3.3	<u>Form of Certificate of Designation of Series X Preferred Stock (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed by the Company on March 6, 2024).</u>
3.4	<u>Form of Certificate of Amendment to Certificate of Incorporation of BiomX Inc. (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed by the Company on November 17, 2025).</u>
3.5	<u>Form of Certificate of Designations of Series Y Preferred Stock (Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed by the Company on December 29, 2025).</u>
4.1	<u>Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form S-1 filed by the Company on December 4, 2018).</u>
4.2	<u>Form of Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed by the Company on July 26, 2021).</u>
4.3	<u>Form of Pre-Funded Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2023).</u>
4.4	<u>Form of Merger Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed by the Company on March 6, 2024).</u>
4.5	<u>Form of Private Placement Warrant (Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed by the Company on March 6, 2024).</u>
4.6	<u>Form of Placement Agent Warrant (Incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed by the Company on March 6, 2024).</u>
4.7	<u>Form of Amended and Restated Warrant (Incorporated by reference to Exhibit 4.5 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2025).</u>
4.8	<u>Form of Pre-Funded Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2025).</u>
4.9	<u>Form of Private Pre-Funded Warrant (Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2025).</u>
4.10	<u>Form of Common Warrant (Incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2025).</u>
4.11	<u>Form of New Warrant (Incorporated by reference to Exhibit 4.4 to the Company's Current Report on Form 8-K filed by the Company on February 27, 2025).</u>
4.12	<u>Form of Warrant (Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed by the Company on December 29, 2025).</u>
4.13	<u>Form of Placement Agent Warrant (Incorporated by reference to Exhibit 4.2 to the Company's Current Report on Form 8-K filed by the Company on December 29, 2025).</u>
5.1**	<u>Opinion of Haynes and Boone, LLP.</u>
23.1**	<u>Consent of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited</u>
23.2**	<u>Consent of Haynes and Boone, LLP (included in Exhibit 5.1).</u>
24.1**	<u>Power of Attorney (included on the signature page hereto).</u>
107**	<u>Filing Fee Table.</u>

* Portions of this exhibit have been omitted pursuant to Rule 601(b)(10) of Regulation S-K. The omitted information is not material and would likely cause competitive harm to the Company if publicly disclosed.

** Filed herewith.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) to include any prospectus required by section 10(a)(3) of the Securities Act of 1933;
 - (ii) to reflect in the prospectus any facts or events arising after the effective date of the 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 end 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% change in the maximum aggregate offering price set forth in the "Calculation of Filing Fee Tables" table in the effective registration statement;
 - (iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; *Provided, however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange 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, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.
- (2) That, for the purpose of determining any liability under the Securities Act of 1933, 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 of 1933 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 required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1) (i), (vii), or (x) for the purpose of providing the information required by Section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *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 effective date, 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 effective date.

- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: The undersigned registrant undertakes that 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 section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) 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 of 1933 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Gaithersburg, Maryland, on February 9, 2026.

BIOMX INC.

Dated: February 9, 2026

By: /s/ Jonathan Solomon
Name: Jonathan Solomon
Title: Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below hereby appoints Jonathan Solomon as his or her true and lawful attorney-in-fact, with full power of substitution, and with the authority to execute in the name of each such person, any and all amendments (including without limitation, post-effective amendments) to this registration statement on Form S-3, to sign any and all additional registration statements relating to the same offering of securities as this registration statement that are filed pursuant to Rule 462(b) of the Securities Act of 1933, and to file such registration statements with the Securities and Exchange Commission, together with any exhibits thereto and other documents therewith, necessary or advisable to enable the registrant to comply with the Securities Act of 1933, and any rules, regulations and requirements of the Securities and Exchange Commission in respect thereof, which amendments may make such other changes in the registration statement as the aforesaid attorney-in-fact executing the same deems appropriate.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Jonathan Solomon</u> Jonathan Solomon	Chief Executive Officer (Principal Executive Officer) and Director	February 9, 2026
<u>/s/ Marina Wolfson</u> Marina Wolfson	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 9, 2026
<u>/s/ Russell Greig</u> Dr. Russell Greig	Chairman of the Board of Directors	February 9, 2026
<u>/s/ Susan Bloom</u> Susan Bloom	Director	February 9, 2026
<u>/s/ Jesse Goodman</u> Dr. Jesse Goodman	Director	February 9, 2026
<u>/s/ Jonathan Leff</u> Jonathan Leff	Director	February 9, 2026
<u>/s/ Gregory Merrill</u> Gregory Merrill	Director	February 9, 2026
<u>/s/ Alan Moses</u> Dr. Alan Moses	Director	February 9, 2026
<u>/s/ Reuven Yeganeh</u> Reuven Yeganeh	Director	February 9, 2026
<u>/s/ Edward Williams</u> Edward Williams	Director	February 9, 2026

February 9, 2026

BiomX Inc.
708 Quince Orchard Rd, Suite 205
Gaithersburg, MD 20878

Ladies and Gentlemen:

We have acted as counsel for BiomX Inc., a Delaware corporation (the "Company"), in connection with the filing with the Securities and Exchange Commission (the "Commission") on the date hereof, under the Securities Act of 1933, as amended (the "Securities Act"), of a registration statement on Form S-3 (the "Registration Statement") by the Company which registers the resale by the holders thereof of an aggregate of 5,310,933 shares of common stock of the Company, par value \$0.0001 per share (the "Common Stock") issuable (i) upon the conversion of shares of the Company's newly designated Series Y convertible preferred stock (the "Preferred Shares"), (ii) upon the exercise of certain warrants (the "Warrants"), and (iii) as dividends to the holders of the Preferred Shares, if any (the "Dividend Shares"), herein collectively as the "Securities."

In rendering the opinions expressed herein, we have examined and relied upon the originals, or copies certified to our satisfaction, of (i) the Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws of the Company, as amended, as of the date hereof ("Company Charter Documents"); (ii) the Registration Statement and all exhibits thereto; (iii) Certificate of Designations of Series Y Convertible Preferred Stock of BiomX Inc. (the "Certificate of Designations"); (iv) the Warrants; (v) a specimen of the Company's Common Stock certificate; (vi) a certificate executed by an officer of the Company, dated as of the date hereof; and (vii) such other corporate records of the Company as we have deemed necessary or appropriate for purposes of the opinions hereafter expressed.

As to questions of fact material to the opinions expressed below, we have, without independent verification of their accuracy, relied to the extent we deemed reasonably appropriate upon the representations and warranties of the Company contained in such documents, records, certificates, instruments or representations furnished or made available to us by the Company.

In making the foregoing examinations, we have assumed (i) the genuineness of all signatures, (ii) the authenticity of all documents submitted to us as originals, (iii) the conformity to original documents of all documents submitted to us as certified or photostatic copies, (iv) that all agreements or instruments we have examined are the valid, binding and enforceable obligations of the parties thereto, and (v) that all factual information on which we have relied was accurate and complete.

We have also assumed that (i) the Company will continue to be incorporated and in existence and good standing in its jurisdiction of organization; (ii) the Registration Statement, and any amendments thereto (including post-effective amendments), will have become effective; (iii) no stop order of the Commission preventing or suspending the use of the prospectus contained in the Registration Statement or any prospectus supplement will have been issued; (iv) a prospectus properly describing the Securities offered thereby will have been delivered to the purchaser(s) of the Securities as required in accordance with applicable law; (v) all Securities will be offered, issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the prospectus and any prospectus supplement; (vi) any definitive purchase, underwriting or similar agreement with respect to any Securities offered will have been duly authorized and validly executed and delivered by the Company and the other parties thereto and will be an enforceable obligation of the parties thereto; (vii) upon effectiveness of the Registration Statement, there will be sufficient shares of Common Stock authorized under the Company Charter Documents and not otherwise reserved for issuance; and (viii) there will not have occurred any change in law or in the Company Charter Documents of the Company adversely affecting the Securities or the rights of the holders thereof.

Based upon the foregoing and subject to the assumptions and qualifications stated herein, we are of the opinion that (i) the Common Stock issuable upon conversion of the Preferred Shares, when issued in accordance with the terms of the Certificate of Designations, will be validly issued, fully paid and non-assessable, (ii) the Common Stock underlying the Warrants, when issued in accordance with the terms of the Warrants, will be validly issued, fully paid and non-assessable, and (iii) the Dividend Shares, when issued in accordance with the terms of the Certificate of Designations, will be validly issued, fully paid and non-assessable.

The opinions expressed herein are limited exclusively to the General Corporation Law of the State of Delaware (the “DGCL”) and applicable provisions of the Delaware Constitution and reported judicial decisions interpreting the DGCL and such provisions of the Delaware Constitution and we have not considered, and express no opinion on, any other laws or the laws of any other jurisdiction.

We hereby consent to the filing of this opinion with the Commission as Exhibit 5.1 to the Registration Statement and to the reference to our firm under the heading “Legal Matters” in the prospectus constituting part of such 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 Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Haynes and Boone, LLP

Haynes and Boone, LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of BiomX Inc. of our report dated March 25, 2025 relating to the financial statements, which appears in BiomX Inc.'s Annual Report on Form 10-K for the year ended December 31, 2024. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

Tel-Aviv, Israel
February 9, 2026

/s/ Kesselman & Kesselman
Certified Public Accountants (Isr.)
A member firm of PricewaterhouseCoopers International
Limited

CALCULATION OF FILING FEE TABLES

S-3

BiomX Inc.

Table 1: Newly Registered and Carry Forward Securities

Line Item Type	Security Type	Security Class Title	Notes	Fee Calculation Rule	Amount Registered	Proposed Maximum Offering Price Per Unit	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
<i>Newly Registered Securities</i>									
Fees to be Paid	Equity	Common Stock, par value \$0.0001 per share	(1)	Other	5,310,933	\$ 4.35	\$23,102,558.55	0.0001381	\$ 3,190.46
						Total Offering Amounts:	<u>\$23,102,558.55</u>		<u>3,190.46</u>
						Total Fees Previously Paid:			
						Total Fee Offsets:			<u>0.00</u>
						Net Fee Due:			<u><u>\$ 3,190.46</u></u>

Offering Note(s)

- (1) Pursuant to Rule 416 under the Securities Act of 1933 (the "Securities Act"), the shares being registered hereunder include such indeterminate number of shares of common stock, par value \$0.0001 per share (the "Common Stock"), as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.

Represents an aggregate of 5,310,933 shares of Common Stock issuable upon the conversion of shares of Series Y convertible preferred stock, upon exercise of certain warrants or upon issuance of certain dividends.

Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) under the Securities Act, based on the average of the high and low prices of the Common Stock as reported on The Nasdaq Capital Market on February 6, 2026, which such date is within five business days of the filing of this registration statement, of \$4.35 per share.