

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

AMENDMENT NO. 1 TO
FORM S-3
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

BIOMX INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

82-3364020

(I.R.S. Employer
Identification Number)

**22 Einstein St., Floor 4
Ness Ziona, Israel 7414003
Telephone: (+972) 72-394-2377**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Jonathan Solomon
Chief Executive Officer
22 Einstein St., Floor 4
Ness Ziona, Israel 7414003
Telephone: (+972) 72-394-2377**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Alla Digilova, Esq.
Haynes and Boone, LLP
30 Rockefeller Plaza, 26th Floor
New York, NY 10112 Tel: (212) 659-7300**

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

Non-accelerated filer

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of 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 preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission 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 jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JULY 9, 2024

PROSPECTUS

BIOMX INC.



**Warrants to Purchase up to 120,148,806 Shares of Common Stock
147,735 Shares of Series X Preferred Stock**

386,200,774 Shares of Common Stock Consisting of:

Up to 120,148,806 Shares of Common Stock Issuable Upon Exercise of Warrants

Up to 147,735,000 Shares of Common Stock Issuable Upon Conversion of the Series X Preferred Stock

Up to 118,316,968 Outstanding Shares of Common Stock, which includes 109,152,000 shares of Common Stock that will be issued upon the automatic conversion of 109,152 shares of Series X Preferred Stock at 5:00 p.m. ET on July 15, 2024

Offered by the Selling Securityholders Named Herein

This prospectus relates to the resale by the selling securityholders named in this prospectus or their permitted transferees (the “Selling Securityholders”) of (i) Warrants (as defined below) to purchase up to 120,148,806 shares of Common Stock (as defined below), (ii) up to 147,735 shares of our series X non-voting convertible preferred stock, par value \$0.0001 per share (the “Series X Preferred Stock”) and (iii) up to 386,200,774 shares of common stock, par value \$0.0001 per share (“Common Stock”), which consists of:

- (a) up to 120,148,806 shares of Common Stock issuable upon the exercise of (w) warrants to purchase up to 108,208,500 shares of Common Stock with an exercise price of \$0.2311 issued pursuant to the securities purchase agreement dated March 6, 2024 (the “Securities Purchase Agreement,” and the transactions entered into pursuant to the Securities Purchase Agreement, the “PIPE”) by and among BiomX Inc., a Delaware corporation (the “Company”) and the purchasers identified therein (the “PIPE Warrants”), (x) warrants to purchase up to 2,166,497 shares of Common Stock with an exercise price of \$5.00 issued pursuant to the merger agreement dated March 6, 2024 (the “Merger Agreement” and the transactions entered into pursuant to the Merger Agreement, the “Merger”) by and among the Company, BTX Merger Sub I, Inc., a Delaware corporation, BTX Merger Sub II, LLC, a Delaware limited liability company and Adaptive Phage Therapeutics, Inc. (“APT”), a Delaware corporation (the “Merger Consideration Warrants”), (y) warrants to purchase up to 9,523,809 shares of Common Stock with an exercise price of \$0.2311 issued to Laidlaw & Co. (UK) Ltd. and RBC Capital Markets, LLC (the “Placement Agent Warrants”) and (z) warrants to purchase up to 250,000 shares of Common Stock with an exercise price of \$5.00 issued pursuant to the Sixth Amendment to the Lease Agreement dated March 5, 2024 (the “Sixth Amendment to the Lease Agreement”) by and between the APT and Are-708 Quince Orchard, LLC, a Delaware limited liability company (the “Landlord Warrants,” together with the Placement Agent Warrants, the PIPE Warrants and the Merger Consideration Warrants, the “Warrants”);
- (b) up to 147,735,000 shares of Common Stock issuable upon the conversion of the Series X Preferred Stock issued pursuant to the Securities Purchase Agreement and the Merger Agreement;
- (c) up to 9,164,968 shares of Common Stock issued pursuant to the Merger Agreement; and
- (d) Up to 109,152,000 shares of Common Stock that will be issued upon the automatic conversion of 109,152 shares of Series X Preferred Stock at 5:00 PM ET on July 15, 2024.

The securities that may be sold by the Selling Securityholders are referred to in this prospectus as the “Offered Securities.” We will not receive any of the proceeds from the sale by the Selling Securityholders of the Offered Securities; however, we will receive the exercise price of the Warrants upon any exercise of the Warrants by payment of cash, with an exercise price of \$0.2311, \$5.00, \$0.2311 and \$5.00 per share for the PIPE Warrants, Merger Consideration Warrants, Placement Agent Warrants, and Landlord Warrants respectively. We will bear all costs, expenses and fees in connection with the registration of the Offered Securities, including with regard to compliance with state securities or “blue sky” laws. The Selling Securityholders will bear all commissions and discounts, if any, attributable to their sale of the Offered Securities, except as otherwise expressly set forth under “Plan of Distribution” beginning on page 15 of this prospectus.

This prospectus describes the general manner in which the Offered Securities may be offered and sold. If necessary, the specific manner in which the Offered Securities may be offered and sold will be described in one or more supplements to this prospectus. Any prospectus supplement may add, update or change information contained in this prospectus. You should carefully read this prospectus, and any applicable prospectus supplement, as well as the documents incorporated by reference herein or therein before you invest in any of our securities.

The Selling Securityholders may offer, sell or distribute Offered Securities publicly or through private transactions. If the Selling Securityholders use underwriters, dealers or agents to sell Offered Securities, we will name them and describe their compensation in a prospectus supplement. The price to the public of those securities and the net proceeds the Selling Securityholders expect to receive from that sale will also be set forth in a prospectus supplement.

Our Common Stock is currently quoted on the NYSE American Stock Market (“NYSE American”) under the symbol “PHGE.” On July 8, 2024, the last reported sale price of our Common Stock on NYSE American was \$0.33 per share.

See “Risk Factors” on page 3 for a discussion of information that should be considered in connection with the ownership of our securities.

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

The date of the prospectus is , 2024.

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You should rely only on the information contained in this prospectus or a supplement to this prospectus, including the information incorporated herein by reference. Neither we nor the Selling Securityholders have authorized anyone to provide you with different information. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus or any supplement to this prospectus, whether or not incorporated herein by reference, is accurate as of any date other than the date indicated in those documents.

For investors outside of the United States: Neither we nor any of the Selling Securityholders have done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. You are required to inform yourselves about and to observe any restrictions relating to this offering and the distribution of this prospectus.

As used in this prospectus, the terms “we,” “us,” and “our” mean BiomX Inc. and our wholly-owned subsidiaries, unless otherwise indicated.

PROSPECTUS SUMMARY

This summary only highlights the more detailed information appearing elsewhere in this prospectus. As this is a summary, it does not contain all of the information that you should consider in making an investment decision. You should read this entire prospectus carefully, as well as any information incorporated herein by reference, including the information under “Risk Factors” and our financial statements and the related notes, before investing.

This prospectus describes the general manner in which the Selling Securityholders identified in this prospectus, or any of their transferees, may offer from time to time (i) Warrants to purchase up to 120,148,806 shares of Common Stock, (ii) up to 147,735 shares of Series X Preferred Stock, and (iii) up to 386,200,774 shares of Common Stock, of which 120,148,806 are issuable upon exercise of the Warrants, 147,735,000 are issuable upon conversion of the Series X Preferred Stock, 9,164,968 are currently outstanding and 109,152,000 will be issued upon the automatic conversion of 109,152 shares of Series X Preferred Stock at 5:00 PM ET on July 15, 2024 (the “Automatic Conversion”). If necessary, the specific manner in which the Offered Securities may be offered and sold will be described in a supplement to this prospectus, which supplement may also add, update or change any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and any applicable prospectus supplement, you should rely on the information in the prospectus supplement, provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus or any prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement.

Our Company

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 cystic fibrosis, or CF, and diabetic foot osteomyelitis, or DFO. 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 phages 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.

Corporate Information

The mailing address of our principal executive office is 22 Einstein St., Floor 4, Ness Ziona, Israel 7414003 and our telephone number is (+972) 72-394-2377. Our website address is www.biomx.com. The information found on the website is not part of, and is not incorporated into, this prospectus.

The Selling Securityholders identified in this prospectus are offering on a resale basis a total of (i) Warrants to purchase up to 120,148,806 shares of Common Stock, (ii) up to 147,735 shares of Series X Preferred Stock, and (iii) up to 386,200,774 shares of Common Stock.

Common Stock offered by the Selling Securityholders	Up to 386,200,774 shares.
Warrants offered by the Selling Securityholders	Warrants to purchase up to 120,148,806 shares of Common Stock.
Series X Preferred Stock offered by the Selling Securityholders	Up to 147,735 shares.
Risk factors	Before investing in our securities, you should carefully read and consider the information set forth in “Risk Factors” on page 3.
Use of proceeds	We will not receive any proceeds from the offering of the Offered Securities by the Selling Securityholders, except for the Warrants’ exercise price paid for the Common Stock offered hereby and issuable upon the exercise of the Warrants for an exercise price of \$0.2311, \$5.00, \$0.2311 and \$5.00 per share for the PIPE Warrants, Merger Consideration Warrants, Placement Agent Warrants, and Landlord Warrants, respectively. See “Use of Proceeds” on page 6.
Trading market and symbol	The Company’s Common Stock trades on the NYSE American under the symbol “PHGE.”

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RISK FACTORS

An investment in our securities carries a significant degree of risk. In addition to the Risk Factor set forth below, You should carefully consider before you decide to purchase our securities the risks, uncertainties and assumptions discussed under the heading “Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, which is incorporated herein by reference, as updated or superseded by the risks and uncertainties described under similar headings in other documents that are filed after the date thereof and incorporated by reference into this prospectus. Any one of these risks and uncertainties has the potential to cause material adverse effects on our business, prospects, financial condition and operating results, which could cause actual results to differ materially from any forward-looking statements expressed by us and a significant decrease in the value of our securities. Refer to “Cautionary Statement Regarding Forward-Looking Statements.”

We may not be successful in preventing the material adverse effects that any of these risks and uncertainties may cause. These potential risks and uncertainties may not be a complete list of the risks and uncertainties facing us. There may be additional risks and uncertainties that we are presently unaware of, or presently consider immaterial, that may become material in the future and have a material adverse effect on us. You could lose all or a significant portion of your investment due to any of these risks and uncertainties.

Risks Relating to the Series X Preferred Stock and the Warrants

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

No market for the Series X Preferred Stock or the Warrants currently exists. We do not currently intend to apply to list the Series X Preferred Stock or the Warrants on any securities exchange or for quotation on any inter-dealer quotation system. Accordingly, an active market for the Series X Preferred Stock or the Warrants may never develop, and, even if one develops, it may not be maintained. If an active trading market for the Series X Preferred Stock or the Warrants does not develop or is not maintained, then the market price and liquidity of the Series X Preferred Stock and the Warrants will be adversely affected and holders of the Series X Preferred Stock or the Warrants may not be able to sell their Series X Preferred Stock 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 Series X Preferred Stock 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 Series X Preferred Stock or the Warrants, regardless of our financial condition, results of operations, business, prospects or credit quality.

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

The statements contained in this prospectus and the documents we incorporate by reference herein or therein that are not historical facts are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. Such forward-looking statements may be identified by, among other things, the use of forward-looking terminology such as “believes,” “intends,” “plans,” “expects,” “may,” “will,” “should,” “estimates,” or “anticipates” or the negative thereof or other variations thereon or comparable terminology, and similar expressions are intended to identify forward-looking statements.

We remind readers that forward-looking statements are merely predictions and therefore inherently subject to uncertainties and other factors and involve known and unknown risks that could cause the actual results, performance, levels of activity, or our achievements, or industry results, to be materially different from any future results, performance, levels of activity, achievements or industry results, expressed or implied by such forward-looking statements. Such uncertainties and other factors include, but are not limited to:

- the ability to generate revenues, and raise sufficient financing to meet working capital requirements;
- the integration of the operations of APT into the Company;
- the unpredictable timing and cost associated with our approach to developing product candidates using phage technology;
- political and economic instability, including, without limitation, due to natural disasters or other catastrophic events, such as the Russian invasion of Ukraine and world sanctions on Russia, Belarus, and related parties, terrorist attacks, hurricanes, fire, floods, pollution and earthquakes;

- obtaining U.S. Food and Drug Administration, or FDA, acceptance of any non-U.S. clinical trials of product candidates;
- our ability to enroll patients in clinical trials and achieve anticipated development milestones when expected;
- the ability to pursue and effectively develop new product opportunities and acquisitions and to obtain value from such product opportunities and acquisitions;
- penalties and market withdrawal associated with any unanticipated problems with product candidates and failure to comply with labeling and other restrictions;
- general economic conditions, our current low stock price and other factors on our operations, the continuity of our business, including our preclinical and clinical trials, and our ability to raise additional capital;
- expenses associated with compliance with ongoing regulatory obligations and successful continuing regulatory review;

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- market acceptance of our product candidates and ability to identify or discover additional product candidates;
- our ability to obtain high titers for specific phage cocktails necessary for preclinical and clinical testing;
- the availability of specialty raw materials and global supply chain challenges;
- the ability of our product candidates to demonstrate requisite, safety and efficacy for drug products, or safety, purity and potency for biologics without causing adverse effects;
- the success of expected future advanced clinical trials of our product candidates;
- our ability to obtain required regulatory approvals;
- delays in developing manufacturing processes for our product candidates;
- competition from similar technologies, products that are more effective, safer or more affordable than our product candidates or products that obtain marketing approval before our product candidates;
- the impact of unfavorable pricing regulations, third-party reimbursement practices or healthcare reform initiatives on our ability to sell product candidates or therapies profitably;
- protection of our intellectual property rights and compliance with the terms and conditions of current and future licenses with third parties;
- infringement on the intellectual property rights of third parties and claims for remuneration or royalties for assigned service invention rights;
- our ability to acquire, in-license or use proprietary rights held by third parties necessary to our product candidates or future development candidates;
- ethical, legal and social concerns about synthetic biology and genetic engineering that may adversely affect market acceptance of our product candidates;
- reliance on third-party collaborators;
- political, economic and military instability in the State of Israel, and in particular, the war in Gaza following the October 7 attack, additional potential conflicts with other middle eastern countries and the continuation of the proposed judicial and other legislation reform by the Israeli government;
- our ability to attract and retain key employees or to enforce the terms of noncompetition agreements with employees;
- the failure to comply with applicable laws and regulations other than drug manufacturing compliance;
- potential security breaches, including cybersecurity incidents; and
- other factors described in the documents incorporated by reference in this prospectus.

The factors discussed herein, including those risks described under the heading “Risk Factors” herein and in the documents we incorporate by reference could cause actual results and developments to be materially different from those expressed in or implied by such statements. In addition, historic results of scientific research, clinical and preclinical trials do not guarantee that the conclusions of future research or trials would not suggest different conclusions. Also, historic results referred to this prospectus and the documents we incorporate by reference may be interpreted differently in light of additional research, clinical and preclinical trials results. Except as required by law we undertake no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.

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USE OF PROCEEDS

All of the Offered Securities offered by the Selling Securityholders pursuant to this prospectus will be sold by the Selling Securityholders for their account. We will not receive any of the proceeds from these sales except with respect to amounts received by us upon the exercise of the Warrants for cash. Out of the 386,200,774 shares of Common Stock offered hereby, 120,148,806 shares of Common Stock are issuable upon the exercise of the Warrants. Upon exercise of such Warrants, we will receive the applicable cash exercise price paid by the holders of the Warrants.

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SELLING SECURITYHOLDERS

(i) Warrants to purchase up to 120,148,806 shares of Common Stock, (ii) up to 147,735 shares of Series X Preferred Stock, and (iii) up to 386,200,774 shares of Common Stock may be offered for resale, from time to time, by the Selling Securityholders identified in the table below.

On March 5, 2024, APT entered into the Sixth Amendment to the Lease Agreement. Under the terms of the Sixth Amendment to the Lease Agreement, the Company issued warrants exercisable for an aggregate of 250,000 shares of Common Stock at an exercise price of \$5.00 per share of Common Stock.

On March 6, 2024, we entered into the Securities Purchase Agreement. Under the terms of the agreement, we sold an aggregate of 216,417 shares of Series X Preferred Stock, each share of which is convertible into 1,000 shares of Common Stock, and warrants exercisable for an aggregate of 108,208,500 shares of Common Stock at an exercise price of \$0.2311 per share of Common Stock, for aggregate gross proceeds of approximately \$50.0 million. RBC Capital Markets, LLC and Laidlaw & Company (UK) Ltd. acted as placement agents and received warrants exercisable for up to 9,523,809 shares of Common Stock at an exercise price of \$0.2311 per share of Common Stock. Pursuant to the Securities Purchase Agreement and the Merger Agreement, we agreed to prepare and file, at our sole expense, the registration statement of which this prospectus forms a part and to use our commercially reasonable efforts to cause such registration statement to be declared effective under the Securities Act after the filing thereof.

On March 6, 2024, we entered into the Merger Agreement. Under the terms of the Merger Agreement, the Company issued an aggregate of 9,164,968 shares of Common Stock, 40,470 shares of Series X Preferred Stock, each share of which is convertible into 1,000 shares of Common Stock, and warrants exercisable for an aggregate of 2,166,497 shares of Common Stock at an exercise price of \$5.00 per share of Common Stock.

Effective as of 5:00 p.m. Eastern time on July 15, 2024, each share of Series X Preferred Stock then outstanding will automatically convert into 1,000 shares of Common Stock, subject to the beneficial ownership limitations. 109,152 shares of Series X Preferred Stock will convert into an aggregate of 109,152,000 shares of Common Stock in the Automatic Conversion.

On March 6, 2024, in connection with the Securities Purchase Agreement and the Merger Agreement, we entered into a Registration Rights Agreement (the "Registration Rights Agreement") pursuant to which we agreed to prepare and file a resale registration statement with respect to the Offered Securities and to use our commercially reasonable efforts to cause the registration statement to be declared effective by the SEC within a specified time frame.

To our knowledge, within the past three years, none of the Selling Securityholders has held a position as an officer or a director of ours, nor had any other material relationship of any kind with us or any of our affiliates, except to the extent set forth in the footnotes to the table below.

A Selling Securityholder who is an affiliate of a broker-dealer and any participating broker-dealer may be deemed to be an "underwriter" within the meaning of the Securities Act of 1933, as amended (the "Securities Act"), and any commissions or discounts given to any such Selling Securityholder or broker-dealer may be regarded as underwriting commissions or discounts under the Securities Act. To our knowledge, except to the extent set forth in the footnotes to the table below, none of the Selling Securityholders are affiliates of broker-dealers and there are no participating broker-dealers.

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The term "Selling Securityholder" also includes any transferees, pledgees, donees, or other successors in interest to the Selling Securityholder named in the table below.

The following table sets forth the number of Offered Securities (i) known to us to be beneficially owned by each of the Selling Securityholders as of July 8, 2024, (ii) being offered hereby by each of the Selling Securityholders and (iii) beneficially owned by each of the Selling Securityholders after giving effect to the sale by a Selling Securityholder of all of its Offered Securities, in each case after giving effect to the Automatic Conversion. The following table also sets forth the percentage of Common Stock and Series X Preferred Stock beneficially owned by each of the Selling Securityholders after giving effect to (a) the Automatic Conversion and (b) the sale by a Selling Securityholder of all Offered Securities, based on 147,735 shares of Series X Preferred Stock outstanding after the Automatic Conversion and 178,958,447 shares of Common Stock anticipated to be outstanding as of July 15, 2024 following the Automatic Conversion, based on 69,806,447 shares of Common Stock outstanding as of July 8, 2024 and 109,152,000 shares of Common Stock issued in the Automatic Conversion. For purposes of the table below, we have assumed, upon termination of this offering, none of the Offered Securities will be beneficially owned by any of the Selling Securityholders, and we have further assumed that a Selling Securityholder will not acquire beneficial ownership of any additional securities during the offering.

The Selling Securityholders are not making any representation that any of the Offered Securities covered by this prospectus will be offered for sale. Because we do not know how long each of the Selling Securityholders will hold the Offered Securities, whether any will exercise the Warrants and, upon such exercise, how long each such Selling Securityholders will hold the shares of Common Stock before selling them, whether any will convert the Series X Preferred Stock, and upon such conversion, how long each such Selling Securityholder will hold the shares of Common Stock underlying the Series X Preferred Stock before selling them, and because each of the Selling Securityholders may dispose of all, none or some portion of its securities, no estimate can be given as to the number of securities that will be beneficially owned by a Selling Securityholder upon completion of this offering. In addition, each Selling Securityholder may have sold, transferred or otherwise disposed of its securities in transactions exempt from the registration requirements of the Securities Act after the date on which the information in the table is presented.

We may amend or supplement this prospectus from time to time in the future to update or change this Selling Securityholders list and the securities that may be resold.

Name	Warrants			Shares of Series X Preferred Stock				Shares of Common Stock			
	Warrants with the following number of underlying shares beneficially owned prior to offering ⁽¹⁾	Warrants with the following number of underlying shares registered for sale hereby ⁽¹⁾	Warrants with the following number of underlying shares owned after this offering ⁽²⁾	Number of shares of preferred stock beneficially owned prior to offering	Maximum number of shares of preferred stock registered hereby	Number of shares of preferred stock owned after this offering ⁽³⁾	Percentage of preferred stock beneficially owned after offering ⁽³⁾	Number of shares of common stock beneficially owned prior to offering ⁽⁴⁾	Maximum Number of shares of common stock registered for sale hereby	Number of shares of common stock beneficially owned after offering ⁽⁵⁾	Percentage of common stock beneficially owned after offering ⁽⁶⁾
Dafna Lifescience LP. ⁽⁷⁾	1,557,500	1,557,500	0	3,115	3,115	0	0%	4,672,500	4,672,500	0	0%
Dafna Lifescience Select LP. ⁽⁸⁾	605,500	605,500	0	1,211	1,211	0	0%	1,816,500	1,816,500	0	0%
Deerfield Private Design Fund V, L.P. ⁽⁹⁾	20,897,175	20,897,175	0	53,840	53,840	0	0%	8,939,077	77,792,224	0	0%

Deerfield Healthcare Innovations Fund II, L.P. ⁽¹⁰⁾	20,897,175	20,897,175	0	53,840	53,840	0	0%	8,939,077	77,792,224	0	0%
AMR Action Fund, SCSp ⁽¹¹⁾	3,901,521	3,901,521	0	10,906	10,906	0	0%	2,258,932	15,594,428	0	0%

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Name	Warrants			Shares of Series X Preferred Stock				Shares of Common Stock			
	Warrants with the following number of underlying shares beneficially owned prior to offering ⁽¹⁾	Warrants with the following number of underlying shares registered for sale hereby ⁽¹⁾	Warrants with the following number of underlying shares owned after this offering ⁽²⁾	Number of shares of preferred stock beneficially owned prior to offering	Maximum number of shares of preferred stock registered for sale hereby	Number of shares of preferred stock owned after this offering ⁽³⁾	Percentage of preferred stock beneficially owned after offering ⁽³⁾	Number of shares of common stock beneficially owned prior to offering ⁽⁴⁾	Maximum Number of shares of common stock registered for sale hereby	Number of shares of common stock beneficially owned after offering ⁽⁵⁾	Percentage of common stock beneficially owned after offering ⁽⁶⁾
AMR Action Fund, L.P. ⁽¹²⁾	11,244,126	11,244,126	0	31,431	31,431	0	0%	6,510,036	44,943,089	0	0%
Telmina Limited ⁽¹³⁾ OrbiMed Israel Partners Limited Partnership ⁽¹⁴⁾	1,298,000	1,298,000	0	2,596	2,596	0	0%	6,733,714 ⁽⁴¹⁾	3,894,000	2,839,714 ⁽⁴¹⁾	1.6%
Cystic Fibrosis Foundation ⁽¹⁵⁾	10,817,500	10,817,500	0	21,635	21,635	0	0%	17,877,989 ⁽⁴³⁾	32,452,500	9,330,580 ⁽⁴³⁾	4.9%
CVI Investments, Inc. ⁽¹⁶⁾	4,327,000	4,327,000	0	8,654	8,654	0	0%	8,944,523	12,981,000	0	0%
Alyeska Master Fund, LP ⁽¹⁷⁾	4,327,000	4,327,000	0	8,654	8,654	0	0%	12,981,000	12,981,000	0	0%
Abraham Sofaer ⁽¹⁸⁾ ADARI Partners, LP ⁽¹⁹⁾	216,000	216,000	0	432	432	0	0%	2,393,764 ⁽⁴⁴⁾	648,000	1,745,764 ⁽⁴⁴⁾	*%
AIGH Investment Partners, LP ⁽²⁰⁾	3,249,000	3,249,000	0	6,498	6,498	0	0%	6,716,144	9,747,000	0	0%
WVP Emerging Manager Onshore Fund, LLC – AIGH Series ⁽²¹⁾	833,500	833,500	0	1,667	1,667	0	0%	1,722,963	2,500,500	0	0%
WVP Emerging Manager Onshore Fund, LLC – Optimized Equity Series ⁽²²⁾	244,500	244,500	0	489	489	0	0%	505,416	733,500	0	0%
Allostery Master Fund LP ⁽²³⁾	2,163,500	2,163,500	0	4,327	4,327	0	0%	6,899,589 ⁽⁴⁹⁾	6,490,500	409,089 ⁽⁴⁹⁾	*%
Stichting Administratiekantoor The Invisible Hand at Work ⁽²⁴⁾	324,500	324,500	0	649	649	0	0%	1,676,017 ⁽⁴⁵⁾	973,500	702,517 ⁽⁴⁵⁾	*%
Ikarian Healthcare Master Fund, LP ⁽²⁵⁾	3,970,500	3,970,500	0	7,941	7,941	0	0%	6,556,020	11,911,500	0	0%

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Name	Warrants			Shares of Series X Preferred Stock				Shares of Common Stock			
	Warrants with the following number of underlying shares beneficially owned prior to offering ⁽¹⁾	Warrants with the following number of underlying shares registered for sale hereby ⁽¹⁾	Warrants with the following number of underlying shares owned after this offering ⁽²⁾	Number of shares of preferred stock beneficially owned prior to offering	Maximum number of shares of preferred stock registered for sale hereby	Number of shares of preferred stock owned after this offering ⁽³⁾	Percentage of preferred stock beneficially owned after offering ⁽³⁾	Number of shares of common stock beneficially owned prior to offering ⁽⁴⁾	Maximum Number of shares of common stock registered for sale hereby	Number of shares of common stock beneficially owned after offering ⁽⁵⁾	Percentage of common stock beneficially owned after offering ⁽⁶⁾
Boothbay Absolute Return Strategies, LP ⁽²⁶⁾	1,269,500	1,269,500	0	2,539	2,539	0	0%	2,504,505	3,808,500	0	0%
Boothbay Diversified Alpha Master Fund LP ⁽²⁷⁾	600,500	600,500	0	1,201	1,201	0	0%	1,165,502	1,801,500	0	0%

Iroquois Capital Investment Group, LLC ⁽²⁸⁾	703,000	703,000	0	1,406	1,406	0	0%	1,885,198	2,109,000	0	0%
Iroquois Master Fund, Ltd. ⁽²⁹⁾	378,500	378,500	0	757	757	0	0%	1,015,003	1,135,500	0	0%
Kingsbrook Opportunities Master Fund LP ⁽³⁰⁾	649,000	649,000	0	1,298	1,298	0	0%	1,947,000	1,947,000	0	0%
Blackwell Partners LLC – Series A ⁽³¹⁾	4,676,000	4,676,000	0	9,352	9,352	0	0%	9,695,379	14,028,000	0	0%
Nantahala Capital Partners Limited Partnership ⁽³²⁾	1,565,000	1,565,000	0	3,130	3,130	0	0%	3,244,925	4,695,000	0	0%
Pinehurst Partners, L.P. ⁽³³⁾	1,081,500	1,081,500	0	2,163	2,163	0	0%	2,242,419	3,244,500	0	0%
NCP RFM LP ⁽³⁴⁾	1,330,500	1,330,500	0	2,661	2,661	0	0%	2,758,705	3,991,500	0	0%
Norm Gitis ⁽³⁵⁾	108,000	108,000	0	216	216	0	0%	1,344,408 ⁽⁴⁶⁾	324,000	1,020,408 ⁽⁴⁶⁾	*0%
Revach Fund LP ⁽³⁶⁾	649,000	649,000	0	1,298	1,298	0	0%	1,947,000	1,947,000	0	0%
Lytton-Kambara Foundation ⁽³⁷⁾	2,163,500	2,163,500	0	4,327	4,327	0	0%	6,128,747	6,490,500	0	0%
RBC Capital Markets, LLC ⁽³⁸⁾	6,666,667 ⁽⁴⁰⁾	6,666,667 ⁽⁴⁰⁾	0	0	0	0	0%	2,900,201	6,666,667	0	0%
Laidlaw & Co. (UK) Ltd. ⁽³⁹⁾	2,857,142 ⁽⁴⁰⁾	2,857,142 ⁽⁴⁰⁾	0	0	0	0	0%	2,857,142	2,857,142	0	0%
Alexandria Venture Investments, LLC ⁽⁴⁷⁾	250,000 ⁽⁴⁸⁾	250,000 ⁽⁴⁸⁾	0	0	0	0	0	250,000	250,000	0	0%

(1) Unless otherwise specified, warrants consist of the PIPE Warrants and the Merger Consideration Warrants, as applicable.

(2) Assumes the sale of all Warrants that are registered pursuant to this prospectus.

(3) Assumes the sale of all shares of Series X Preferred Stock that are registered pursuant to this prospectus.

(4) Consists of shares of common stock (i) underlying the Warrants as exercised on a 1:1 basis, (ii) to be issued in the Automatic Conversion of the Series X Preferred Stock on a 1:1,000 basis, (iii) underlying the Series X Preferred Stock remaining outstanding following the Automatic Conversion converted on a 1:1000 basis, (iii) issued as merger consideration under the Merger Agreement and (iv) beneficially owned prior to the Merger, in each case of (i)-(iv) subject to the beneficial ownership limitations contained in the Securities Purchase Agreement and the Warrants.

(5) Assumes the sale of all shares of common stock underlying the Warrants, underlying the Series X Preferred Stock and issued as merger consideration under the Merger Agreement, all of which are registered pursuant to this prospectus.

(6) Such percentage reflects the beneficial ownership limitations contained in the Securities Purchase Agreement.

(7) Registered shares consist of shares 3,115,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 1,557,500 shares of common stock underlying the Warrants. DAFNA Capital Management LLC is the sole general partner of DAFNA LifeScience, LP and DAFNA LifeScience Select, LP. The Chief Executive Officer and Chief Investment Officer of DAFNA Capital Management LLC are Dr. Nathan Fischel and Dr. Fariba Ghodsian, respectively. These individuals may be deemed to have shared voting and investment power of the shares held by DAFNA LifeScience, LP and DAFNA LifeScience Select, LP. Each of Dr. Fischel and Dr. Ghodsian disclaim beneficial ownership of such shares, except to the extent of his or her pecuniary interest therein.

(8) Registered shares consist of 1,211,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 605,500 shares of common stock underlying the Warrants. Capital Management LLC is the sole general partner of DAFNA LifeScience, LP and DAFNA LifeScience Select, LP. The Chief Executive Officer and Chief Investment Officer of DAFNA Capital Management LLC are Dr. Nathan Fischel and Dr. Fariba Ghodsian, respectively. These individuals may be deemed to have shared voting and investment power of the shares held by DAFNA LifeScience, LP and DAFNA LifeScience Select, LP. Each of Dr. Fischel and Dr. Ghodsian disclaim beneficial ownership of such shares, except to the extent of his or her pecuniary interest therein.

(9) Registered shares consist of 3,055,049 shares of common stock currently owned, 5,883,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 47,957,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 20,897,175 shares of common stock underlying the Warrants. Deerfield Mgmt V, L.P. is the general partner of Deerfield Private Design Fund V, L.P. Deerfield Management Company, L.P. is the investment manager of Deerfield Private Design Fund V, L.P. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt V, L.P. and Deerfield Management Company, L.P. Jonathan Leff, an employee of Deerfield Management Company, L.P. (the investment manager of Deerfield Private Design Fund V, L.P.), became a director of the Company prior to (or contemporaneously with) the closing of the PIPE.

(10) Registered shares consist of 3,055,049 shares of common stock currently owned, 5,883,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 47,957,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 20,897,175 shares of common stock underlying the Warrants. Deerfield Mgmt HIF II, L.P. is the general partner of Deerfield Healthcare Innovations Fund II, L.P. Deerfield Management Company, L.P. is the investment manager of Deerfield Healthcare Innovations Fund II, L.P. James E. Flynn is the sole member of the general partner of each of Deerfield Mgmt HIF II, L.P. and Deerfield Management Company, L.P. Jonathan Leff, an employee of Deerfield Management Company, L.P. (the investment manager of Deerfield Healthcare Innovations Fund II, L.P.), became a director of the Company prior to (or contemporaneously with) the closing of the PIPE.

- (11) Registered shares consist of 786,907 shares of common stock currently owned, 1,472,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 9,434,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 3,901,521 shares of common stock underlying the Warrants. AMR Action Fund GP, LLC (“AMR US GP”) is the general partner of AMR Action Fund, L.P. As a result, AMR US GP may be deemed to have shared voting and investment power over the securities held by AMR Action Fund, L.P., and AMR US GP may be deemed to directly or indirectly be the beneficial owner of the securities held by AMR Action Fund, L.P. AMR US GP exercises its voting and dispositive power through an investment committee consisting of three or more members. Each member has one vote, and the approval of a majority is required to approve an action. Under the so-called “rule of three,” if voting and dispositive decisions regarding an entity’s securities are made by three or more individuals, and voting or dispositive decisions require the approval of a majority of those individuals, then none of the individuals is deemed a beneficial owner of the entity’s securities. Martin Heidecker, Chief Investment Officer of the AMR Action Fund, served as a director of Adaptive Phage Therapeutics, Inc. until the consummation of the Merger.
- (12) Registered shares consist of 2,267,963 shares of common stock currently owned, 4,242,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 27,189,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 11,244,126 shares of common stock underlying the Warrants. AMR Action Fund GP, S.a r.l. (“AMR Lux GP”) is the general partner of AMR Action Fund, SCSp. As a result, AMR Lux GP may be deemed to have shared voting and investment power over the securities held by AMR Action Fund, SCSp, and AMR Lux GP may be deemed to directly or indirectly be the beneficial owner of the securities held by AMR Action Fund, SCSp. AMR US GP serves as the investment advisor of AMR Action Fund, SCSp. AMR Lux GP exercises its voting and dispositive power with respect to such securities through an investment committee consisting of three or more members. Each member has one vote, and the approval of a majority is required to approve an action. Under the so-called “rule of three,” if voting and dispositive decisions regarding an entity’s securities are made by three or more individuals, and voting or dispositive decisions require the approval of a majority of those individuals, then none of the individuals is deemed a beneficial owner of the entity’s securities. Martin Heidecker, Chief Investment Officer of the AMR Action Fund, served as a director of Adaptive Phage Therapeutics, Inc. until the consummation of the Merger.

- (13) Registered shares consist of 2,596,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 1,298,000 shares of common stock underlying the Warrants. Rodney Hodges has sole voting and investment power over these securities. Centaurus Investments Limited is the registered holder through which the securities are held.
- (14) Registered shares consist of 4,104,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 223,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 2,163,500 shares of common stock underlying the Warrants. Securities are owned directly by OrbiMed Israel Partners Limited Partnership (“OIP LP”). OrbiMed Israel BioFund GP Limited Partnership (“BioFund GP LP”) is the general partner of OIP LP, and OrbiMed Israel GP Ltd. (“Israel GP”) is the general partner of BioFund GP LP. As a result, Israel GP and BioFund GP LP may be deemed to have shared voting and investment power over the securities held by OIP LP, and both Israel GP and BioFund GP LP may be deemed to directly or indirectly, including by reason of their mutual affiliation, to be the beneficial owners of the shares held by OIP LP. Israel GP exercises this investment power through an investment committee comprised of Carl L. Gordon and Erez Chimovits, each of whom disclaims beneficial ownership of the shares held by OIP. Erez Chimovits, an employee at OrbiMed, previously served as a Company director.
- (15) Registered shares consist of 8,547,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 13,088,000 shares of common stock underlying shares of Series X Preferred Stock not converted in the Automatic Conversion and 10,817,500 shares of common stock underlying the Warrants.
- (16) Registered shares consist of 8,654,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 4,327,000 shares of common stock underlying the Warrants. Heights Capital Management, Inc., the authorized agent of CVI Investments, Inc. (“CVI”), has discretionary authority to vote and dispose of the shares held by CVI and may be deemed to be the beneficial owner of these shares. Martin Kobinger, in his capacity as Investment Manager of Heights Capital Management, Inc., may also be deemed to have investment discretion and voting power over the shares held by CVI. Mr. Kobinger disclaims any such beneficial ownership of the shares. CVI Investments, Inc. is affiliated with one or more FINRA members, none of whom are currently expected to participate in the sale pursuant to the prospectus contained in the Registration Statement of Shares purchased by the Investor in this offering. CVI is a broker-dealer affiliate and has certified that CVI bought the Offered Securities in the ordinary course of business, and at the time of the purchase of the Offered Securities to be resold, CVI had no agreements or understandings, directly or indirectly, with any person to distribute the Offered Securities.
- (17) Registered shares consist of 8,654,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 4,327,000 shares of common stock underlying the Warrants.
- (18) Registered shares consist of 432,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 216,000 shares of common stock underlying the Warrants. Abraham Sofaer has sole voting and investment power over these securities.
- (19) Registered shares consist of 4,327,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 2,163,500 shares of common stock underlying the Warrants. Daniel Pawel Schneeberger has sole voting and investment power over these securities.
- (20) Registered shares consist of 6,498,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 3,249,000 shares of common stock underlying the Warrants. Orin Hirschman has sole voting and investment power over these securities.

- (21) Registered shares consist of 1,667,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 833,500 shares of common stock underlying the Warrants. Orin Hirschman has sole voting and investment power over these securities.
- (22) Registered shares consist of 489,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 244,500 shares of common stock underlying the Warrants. Orin Hirschman has sole voting and investment power over these securities.
- (23) Registered shares consist of 4,327,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 2,163,500 shares of common stock underlying the Warrants. David Modest has sole voting and investment power over these securities.
- (24) Registered shares consist of 649,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 324,500 shares of common stock underlying the Warrants. Hendrik Brulleman has sole voting and investment power over these securities.
- (25) Registered shares consist of 6,556,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 1,385,000 shares of common stock underlying the shares of Series X Preferred Stock not converted in the Automatic Conversion and 3,970,500 shares of common stock underlying the Warrants. Neil Shahrestani has sole voting and investment power over these securities.

- (26) Registered shares consist of 2,202,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 337,000 shares of common stock underlying the shares of Series X Preferred Stock not converted in the Automatic Conversion and 1,269,500 shares of common stock underlying the Warrants.
- (27) Registered shares consist of 1,036,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock, 165,000 shares of common stock underlying the shares of Series X Preferred Stock not converted in the Automatic Conversion and 600,500 shares of common stock underlying the Warrants.
- (28) Registered shares consist of 1,406,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 703,000 shares of common stock underlying the Warrants. Richard Abbe is the managing member of Iroquois Capital Investment Group LLC. Mr. Abbe has voting control and investment discretion over securities held by Iroquois Capital Investment Group LLC. As such, Mr. Abbe may be deemed to be the beneficial owner (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities held by Iroquois Capital Investment Group LLC.
- (29) Registered shares consist of 757,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 378,500 shares of common stock underlying the Warrants. Iroquois Capital Management L.L.C. is the investment manager of Iroquois Master Fund, Ltd. Iroquois Capital Management, LLC has voting control and investment discretion over securities held by Iroquois Master Fund. As Managing Members of Iroquois Capital Management, LLC, Richard Abbe and Kimberly Page make voting and investment decisions on behalf of Iroquois Capital Management, LLC in its capacity as investment manager to Iroquois Master Fund Ltd. As a result of the foregoing, Mr. Abbe and Mrs. Page may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities held by Iroquois Capital Management and Iroquois Master Fund.
- (30) Registered shares consist of 1,298,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 649,000 shares of common stock underlying the Warrants. Kingsbrook Partners LP (“Kingsbrook Partners”) is the investment manager of Kingsbrook Opportunities Master Fund LP (“Kingsbrook Opportunities”) and consequently has voting control and investment discretion over securities held by Kingsbrook Opportunities. Kingsbrook Opportunities GP LLC (“Opportunities GP”) is the general partner of Kingsbrook Opportunities and may be considered the beneficial owner of any securities deemed to be beneficially owned by Kingsbrook Opportunities. KB GP LLC (“GP LLC”) is the general partner of Kingsbrook Partners and may be considered the beneficial owner of any securities deemed to be beneficially owned by Kingsbrook Partners. Ari J. Storch, Adam J. Chill and Scott M. Wallace are the sole managing members of Opportunities GP and GP LLC and as a result may be considered beneficial owners of any securities deemed beneficially owned by Opportunities GP and GP LLC. Each of Kingsbrook Partners, Opportunities GP, GP LLC and Messrs. Storch, Chill and Wallace disclaim beneficial ownership of these securities.
- (31) Registered shares consist of 9,352,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 4,676,000 shares of common stock underlying the Warrants. Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of these securities on behalf of the Selling Securityholder as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or the Selling Securityholder that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the Selling Securityholder.

- (32) Registered shares consist of 3,130,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 1,565,000 shares of common stock underlying the Warrants. Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of these securities on behalf of the Selling Securityholder as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or the Selling Securityholder that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the Selling Securityholder.
- (33) Registered shares consist of 2,163,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 1,081,500 shares of common stock underlying the Warrants. Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of these securities on behalf of the Selling Securityholder as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or the Selling Securityholder that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the Selling Securityholder.
- (34) Registered shares consist of 2,661,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 1,330,500 shares of common stock underlying the Warrants. Nantahala Capital Management, LLC is a Registered Investment Adviser and has been delegated the legal power to vote and/or direct the disposition of these securities on behalf of the Selling Securityholder as a General Partner, Investment Manager, or Sub-Advisor and would be considered the beneficial owner of such securities. The above shall not be deemed to be an admission by the record owners or the Selling Securityholder that they are themselves beneficial owners of these securities for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or any other purpose. Wilmot Harkey and Daniel Mack are managing members of Nantahala Capital Management, LLC and may be deemed to have voting and dispositive power over the shares held by the Selling Securityholder.
- (35) Registered shares consist of 216,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 108,000 shares of common stock underlying the Warrants. Norm Gitis has sole voting and investment power over these securities.
- (36) Registered shares consist of 1,298,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 649,000 shares of common stock underlying the Warrants. Chaim Davis has sole voting and investment power over these securities.
- (37) Registered shares consist of 4,327,000 shares of common stock to be issued in the Automatic Conversion of the Series X Preferred Stock and 2,163,500 shares of common stock underlying the Warrants. Laurence Lytton has sole voting and investment power over these securities.
- (38) Registered shares consist of 6,666,667 shares of common stock underlying the Warrants. RBC Capital Markets, LLC, a registered broker-dealer, acted as placement for the PIPE.
- (39) Registered shares consist of 2,857,142 shares of common stock underlying the Warrants. Laidlaw & Co. (UK) Ltd., a registered broker-dealer, acted as placement agent for the PIPE.
- (40) Consists of Placement Agent Warrants. The Placement Agent Warrants were received as compensation for investment banking services to the Company.

- (41) Consists of 2,839,714 shares of common stock beneficially owned prior to the Merger.
- (42) Consists of 13,773,653 shares of common stock and 375,000 shares of common stock underlying warrants, in each case beneficially owned prior to the Merger.
- (43) Consists of 9,330,580 shares of common stock beneficially owned prior to the Merger.
- (44) Consists of 1,745,764 shares of common stock beneficially owned prior to the Merger.
- (45) Consists of 702,517 shares of common stock beneficially owned prior to the Merger.
- (46) Consists of 1,020,408 shares of common stock beneficially owned prior to the Merger.
- (47) Registered shares consist of 250,000 shares of common stock underlying the Warrants. Alexandria Venture Investments, LLC, a Delaware limited liability company, is an affiliate of the Landlord.
- (48) Consists of warrants issued to Alexandria Venture Investments, LLC in connection with the Sixth Amendment to the Lease Agreement.
- (49) Consists of 409,089 shares of common stock beneficially owned prior to the Merger.

PLAN OF DISTRIBUTION

We are registering a total of (i) Warrants to purchase up to 120,148,806 shares of Common Stock, (ii) up to 147,735 shares of Series X Preferred Stock, and (iii) up to 386,200,774 shares of Common Stock issued to the Selling Securityholders to permit the sale, transfer or other disposition of the Offered Securities by the Selling Securityholders or their donees, pledgees, transferees or other successors-in-interest from time to time after the date of this prospectus. We will not receive any of the proceeds from these sales except with respect to amounts received by us upon the exercise of the Warrants for cash. Out of the 386,200,774 shares of Common Stock offered hereby, 120,148,806 shares of Common Stock are issuable upon the exercise of the Warrants. Upon exercise of such Warrants, we will receive the applicable cash exercise price paid by the holders of the Warrants. We will, or will procure to, bear all fees and expenses incident to our obligation to register the Offered Securities.

The Selling Securityholders may sell all or a portion of the Offered Securities beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the Offered Securities are sold through underwriters or broker-dealers, the Selling Securityholders will be responsible for underwriting discounts (it being understood that the Selling Securityholders shall not be deemed to be underwriters solely as a result of their participation in this offering) or commissions or agent's commissions. The Offered Securities may be sold 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 or in transactions otherwise than on these exchanges or systems or in the over-the-counter market and in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions. The Selling Securityholders may use any one or more of the following methods when selling Offered Securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the Offered Securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- to or through underwriters or 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;
- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;
- broker-dealers may agree with the Selling Securityholders to sell a specified number of such Offered Securities at a stipulated price per Offered Security;
- through the writing or settlement of options or other hedging transactions, whether such options are listed on an options exchange or otherwise;
- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

The Selling Securityholders also may resell all or a portion of the Offered Securities in open market transactions in reliance upon Rule 144 under the Securities Act, as amended, as permitted by that rule, or Section 4(a)(1) under the Securities Act, if available, rather than under this prospectus, provided that they meet the criteria and conform to the requirements of those provisions.

Broker-dealers engaged by the Selling Securityholders may arrange for other broker-dealers to participate in sales. If the Selling Securityholders effect such transactions by selling Offered 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 Securityholders or commissions from purchasers of the Offered Securities for whom they may act as agent or to whom they may sell as principal. Such commissions will be in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction will not be in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2121.01.

In connection with sales of the Offered Securities or otherwise, the Selling Securityholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the Offered Securities in the course of hedging in positions they assume. The Selling Securityholders may also sell Offered Securities short and if such short sale takes place after the date that this Registration Statement is declared effective by the Commission, the Selling Securityholders may

deliver Offered Securities covered by this prospectus to close out short positions and to return borrowed Offered Securities in connection with such short sales. The Selling Securityholders may also loan or pledge Offered Securities to broker-dealers that in turn may sell such Offered Securities, to the extent permitted by applicable law. The Selling Securityholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). Notwithstanding the foregoing, the Selling Securityholders have been advised that they may not use Offered Securities the resale of which has been registered on this registration statement to cover short sales of our Common Stock made prior to the date the registration statement, of which this prospectus forms a part, has been declared effective by the SEC.

The Selling Securityholders may, from time to time, pledge or grant a security interest in some or all of the Offered 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 Offered 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 of 1933, amending, if necessary, the list of Selling Securityholders to include the pledgee, transferee or other successors in interest as Selling Securityholders under this prospectus. The Selling Securityholders also may transfer and donate the Offered 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.

The Selling Securityholders and any broker-dealer or agents participating in the distribution of the Offered Securities may be deemed to be “underwriters” within the meaning of Section 2(11) of the Securities Act in connection with such sales. In such event, any commissions paid, or any discounts or concessions allowed to, any such broker-dealer or agent and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Selling Securityholders who are “underwriters” within the meaning of Section 2(11) of the Securities Act will be subject to the applicable prospectus delivery requirements of the Securities Act including Rule 172 thereunder and may be subject to certain statutory liabilities of, including but not limited to, Sections 11, 12 and 17 of the Securities Act and Rule 10b-5 under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

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Each Selling Securityholder, excluding RBC Capital Markets, LLC and Laidlaw & Co. (UK) Ltd, has informed the Company that it is not a registered broker-dealer, and does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the Offered Securities. Upon the Company being notified in writing by a Selling Securityholder that any material arrangement has been entered into with a broker-dealer for the sale of the Offered Securities through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplement to this prospectus will be filed, if required, pursuant to Rule 424(b) under the Securities Act, disclosing (i) the name of each such Selling Securityholder and of the participating broker-dealer(s), (ii) the number of Offered Securities involved, (iii) the price at which such Offered Securities were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable, (v) that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and (vi) other facts material to the transaction. In no event shall any broker-dealer receive fees, commissions and markups, which, in the aggregate, would exceed eight percent (8.0%).

Under the securities laws of some U.S. states, the Offered Securities may be sold in such states only through registered or licensed brokers or dealers. In addition, in some U.S. states the Offered 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 Securityholder will sell any or all of the Offered Securities registered pursuant to the shelf registration statement, of which this prospectus forms a part.

Each Selling Securityholder 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 Offered Securities by the Selling Securityholder 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 Offered Securities to engage in market-making activities with respect to the Offered Securities. All of the foregoing may affect the marketability of the Offered Securities and the ability of any person or entity to engage in market-making activities with respect to the Offered Securities.

We will pay all expenses of the registration of the Offered Securities pursuant to the Registration Rights Agreement, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or “blue sky” laws; *provided, however*, that each Selling Securityholder will pay all underwriting discounts and selling commissions, if any and any related legal expenses incurred by it. We will indemnify the Selling Securityholders against certain liabilities, including some liabilities under the Securities Act, in accordance with the Registration Rights Agreement, or the Selling Securityholders will be entitled to contribution. We may be indemnified by the Selling Securityholders against certain civil liabilities set forth in the Registration Rights Agreement, including liabilities under the Securities Act, that may arise from any written information furnished to us by the Selling Securityholders specifically for use in this prospectus, in accordance with the related registration rights agreements, or we may be entitled to contribution.

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DESCRIPTION OF SECURITIES TO BE REGISTERED

The following description of our Common Stock, Series X Preferred Stock and Warrants summarizes the material terms and provisions of our Common Stock, Series X Preferred Stock, Merger Warrants, Private Placement Warrants and Placement Agent Warrants. The following description does not purport to be complete and is subject to, and qualified in its entirety by, BiomX’s Certificate of Incorporation, Bylaws, and Certificate of Designation, each as may be amended, which are incorporated by reference to Exhibits 3.1, 3.2 and 3.3, respectively, of BiomX’s Annual Report on Form 10-K for the year ended December 31, 2023, as filed with the SEC on April 4, 2024, the Third Amendment to the Certificate of Incorporation which is incorporated by reference to Exhibit 3.1 of BiomX’s Current Report on Form 8-K filed on July 9, 2024 with the SEC, and by applicable law. The terms of BiomX’s Common Stock, Series X Preferred Stock and Warrants may also be affected by Delaware law.

Our authorized capital stock consists of 750,000,000 shares of Common Stock, and 1,000,000 shares of preferred stock, of which 256,888 shares are designated as Series X Preferred Stock.

Common Stock

Holders of record of our Common Stock are entitled to one vote for each share held on all matters to be voted on by stockholders. The holders of our Common Stock have no conversion, preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to the shares of Common Stock. There is no cumulative voting with respect to the election of directors. In the event of our liquidation, dissolution, or winding up, holders of our Common Stock will be entitled to share ratably in all assets remaining after payment of all debts and other liabilities and any liquidation preference of any outstanding preferred stock. Our stockholders are entitled to receive ratable dividends when, as and if declared by our Board of Directors out of funds legally available therefor.

We have not paid any cash dividends on our Common Stock to date and do not intend to pay cash dividends in the foreseeable future. The payment of cash dividends

in the future will be dependent upon our revenues and earnings, if any, capital requirements and general financial condition. The payment of any cash dividends will be within the discretion of our Board of Directors at such time. Our Common Stock is listed on NYSE American under the symbol "PHGE." The transfer agent and registrar for our Common Stock is Continental Stock Transfer & Trust Company. The transfer agent and registrar's address is 1 State Street, 30th Floor, New York, NY 10004-1561.

Preferred Stock

Our Certificate of Incorporation authorizes the issuance of 1,000,000 shares of preferred stock with such designation, rights and preferences as may be determined from time to time by our Board of Directors. Accordingly, our Board of Directors is empowered, without stockholder approval, to issue preferred stock with dividend, liquidation, conversion, voting or other rights which could adversely affect the voting power or other rights of the holders of Common Stock. In addition, the preferred stock could be utilized as a method of discouraging, delaying or preventing a change in control of us.

Series X Preferred Stock

We have 256,887 shares of Series X Non-Voting Convertible Preferred Stock outstanding, convertible into an aggregate of 256,887,000 shares of Common Stock, including 109,152,000 shares of Common Stock that will be issued upon the Automatic Conversion at 5:00 PM ET on July 15, 2024. The powers, preferences, rights, qualifications, limitations and restrictions applicable to the Series X Preferred Stock are set forth in the Certificate of Designation, which was filed with the Secretary of State of the State of Delaware.

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Holders of Series X Preferred Stock are entitled to receive dividends on shares of Series X Preferred Stock equal to, on an as-if-converted-to-Common-Stock basis, and in the same form as, dividends actually paid on shares of the Common Stock. Except as otherwise required by law or with respect to the Series X Preferred Stock protective provisions set forth in the Certificate of Designation and described below, the Series X Preferred Stock does not have voting rights.

The Certificate of Designation contains certain covenants of the Company that are customary for documents of this type, including restrictions on taking certain actions without the affirmative vote or written approval, agreement or waiver of the requisite holders. The Series X Preferred Stock does not have a preference upon any liquidation, dissolution or winding-up of the Company.

Each share of Series X Preferred Stock will automatically convert into 1,000 shares of Common Stock at 5:00 p.m. ET on July 15, 2024 in the Automatic Conversion, subject to certain limitations, including that a holder of Series X Preferred Stock is prohibited from converting shares of Series X Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with any person whose beneficial ownership would be aggregated with such holder's for purposes of Section 13(d) or Section 16 of the Exchange Act, would beneficially own more than a specified percentage (as has been established by the holder between 0% and 19.99%) of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion.

The holders of Series X Preferred Stock have no preemptive or other subscription rights and there are no sinking fund provisions applicable to the shares of Common Stock. There is no established public trading market for the Series X Preferred Stock and we do not intend to list the Series X Preferred Stock on any national securities exchange or nationally recognized trading system. The transfer agent and registrar for our Series X Preferred Stock is Continental Stock Transfer & Trust Company. The transfer agent and registrar's address is 1 State Street, 30th Floor, New York, NY 10004-1561.

Merger Warrants

The Merger Warrants are exercisable for an aggregate of 2,166,497 shares of Common Stock at an exercise price of \$5.00 per share. The Merger Warrants may be exercised at any time prior to their expiration on January 28, 2027. The exercise price of the Merger Warrants is subject to customary adjustments for stock dividends, stock splits, reclassifications and the like.

The Merger Warrants may not be exercised to the extent that, after giving effect to such exercise, the holder thereof, together with its affiliates, and any other persons acting as a group together with the holder or any of the holder's affiliates (such persons, "Attribution Parties"), would beneficially own in excess of 9.90% of the number of shares of Common Stock outstanding immediately after giving effect to such exercise.

The Merger Warrants are subject to customary buy-in provisions in the event the shares underlying the Merger Warrants are not delivered to the holder thereof in accordance with the terms of the Merger Warrants following exercise and such holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the holder of the shares which the holder anticipated receiving upon such exercise.

There is no established public trading market for the Merger Warrants and we do not intend to list the Merger Warrants on any national securities exchange or nationally recognized trading system.

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Landlord Warrants

The Landlord Warrants are exercisable for an aggregate of 250,000 shares of Common Stock at an exercise price of \$5.00 per share. The terms of the Landlord Warrants are identical to those of the Merger Warrants. There is no established public trading market for the Landlord Warrants and we do not intend to list the Landlord Warrants on any national securities exchange or nationally recognized trading system.

Private Placement Warrants

The Private Placement Warrants are exercisable for an aggregate of 108,208,500 shares of Common Stock at an exercise price of \$0.2311 per share. The Private Placement Warrants may be exercised at any time and expire on July 9, 2026. The exercise price of the Private Placement Warrants is subject to customary adjustments for stock dividends, stock splits, reclassifications and the like.

The Private Placement Warrants may not be exercised to the extent that, after giving effect to such exercise, the holder thereof, together with its Attribution Parties, would beneficially own a number of shares of Common Stock in excess of such holder's beneficial ownership limitation, which limitation was initially set at such holder's discretion to a percentage between 0% and 19.99% of the number of shares of Common Stock outstanding or deemed to be outstanding as of the applicable measurement date.

The Private Placement Warrants are subject to customary buy-in provisions in the event the shares underlying the Private Placement Warrants are not delivered to the holder thereof in accordance with the terms of the Private Placement Warrants following exercise and such holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the holder of the shares which the holder anticipated receiving upon such exercise.

There is no established public trading market for the Private Placement Warrants and we do not intend to list the Private Placement Warrants on any national securities exchange or nationally recognized trading system.

Placement Agent Warrants

The Placement Agent Warrants are exercisable for an aggregate of 9,523,809 shares of Common Stock at an exercise price of \$0.2311 per share. The terms of the Placement Agent Warrants are substantially the same as those of the Private Placement Warrants, except that the Placement Agent Warrants may, at the election of the holder thereof, be exercised either for cash or on a cashless basis. There is no established public trading market for the Placement Agent Warrants and we do not intend to list the Placement Agent Warrants on any national securities exchange or nationally recognized trading system.

Certain Anti-Takeover Provisions of Delaware Law and our Certificate of Incorporation and Bylaws

We are subject to the provisions of Section 203 of the DGCL regulating corporate takeovers. This statute prevents certain Delaware corporations, under certain circumstances, from engaging in a “business combination” with:

- a stockholder who owns 15% or more of our outstanding voting stock (otherwise known as an “interested stockholder”);
- an affiliate of an interested stockholder; or
- an associate of an interested stockholder, for three years following the date that the stockholder became an interested stockholder.

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A “business combination” includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 do not apply if:

- our Board of Directors approves the transaction that made the stockholder an “interested stockholder,” prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of Common Stock; or
- on or subsequent to the date of the transaction, the business combination is approved by our Board of Directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Special meeting of stockholders

Our Bylaws provide that special meetings of our stockholders may be called only by a majority vote of our Board of Directors, or by our chief executive officer.

Classified Board of Directors

Our Board of Directors is divided into three classes, each of which will generally serve for a term of three years with only one class of directors being elected in each year. This system of electing directors may tend to discourage a third party from making a tender offer or otherwise attempting to obtain control of us, because it generally makes it more difficult for stockholders to replace a majority of the directors.

Advance notice requirements for stockholder proposals and director nominations

Our Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders must provide timely notice of their intent in writing. To be timely, a stockholder’s notice to bring matters before our annual meeting of stockholders needs to be delivered to our principal executive offices not later than the close of business on the 90th day nor earlier than the opening of business on the 120th day prior to the scheduled date of the annual meeting of stockholders, and a stockholder’s notice to nominate candidates for election as directors needs to be delivered to us not less than 120 days prior to any meeting of stockholders called for the election of directors. Our Bylaws also specify certain requirements as to the form and content of a stockholders’ notice. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

LEGAL MATTERS

Haynes and Boone, LLP, New York, New York, will pass upon the validity of the securities offered hereby.

EXPERTS

The financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2023 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 upon the authority of said firm as experts in auditing and accounting.

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INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We are “incorporating by reference” certain documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information in the documents incorporated by reference is considered to be part of this prospectus. Statements contained in documents that we file with the SEC and that are incorporated by reference in this prospectus will automatically update and supersede information contained in this prospectus, including information in previously filed documents or reports that have been incorporated by reference in this prospectus, to the extent the new information differs from or is inconsistent with the old information.

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2023 filed with the SEC on April 4, 2024;

- Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2024 filed with the SEC on May 20, 2024
- Our Current Reports on Form 8-K (other than any portions thereof deemed furnished and not filed) filed with the SEC on [March 6, 2024](#) (excluding Exhibit 99.3 which is deemed furnished and not filed), [March 18, 2024](#), [April 15, 2024](#), [May 30, 2024](#) and [July 9, 2024](#) and the Current Reports on Form 8-K/A filed with the SEC on [March 21, 2024](#) and [May 30, 2024](#); and
- The descriptions of our common stock, preferred stock and incorporated by reference to [Exhibit 4.1](#) to our Annual Report on Form 10-K for the year ended December 31, 2023 filed with the SEC on April 4, 2024, including any amendment or report filed or to be filed for the purpose of updating such descriptions.

All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (1) after the date of the filing of the registration statement of which this prospectus forms a part and prior to its effectiveness and (2) until all of the securities to which this prospectus relates has been sold or the offering is otherwise terminated, except in each case for information contained in any such filing where we indicate that such information is being furnished and is not to be considered “filed” under the Exchange Act, will be deemed to be incorporated by reference in this prospectus and any accompanying prospectus supplement and to be a part hereof from the date of filing of such documents.

We will provide a copy of the documents we incorporate by reference, at no cost, to any person who receives this prospectus. To request a copy of any or all of these documents, you should write or telephone us at 22 Einstein St., Floor 4, Ness Ziona, 7414003, Israel, Attention: Mr. Jonathan Solomon, or (972) 72-394-2377.

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WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC’s website at www.sec.gov. Copies of certain information filed by us with the SEC are also available on our website at www.biomx.com. Our website is not a part of this prospectus and is not incorporated by reference in this prospectus. These references to websites are inactive textual references only, and are not hyperlinks.

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

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Warrants to Purchase up to 120,148,806 shares of Common Stock
147,735 Shares of Series X Preferred Stock
386,200,774 Shares of Common Stock Consisting of:
Up to 120,148,806 Shares of Common Stock Issuable Upon Exercise of Warrants
Up to 147,735,000 Shares of Common Stock Issuable Upon Conversion of the Series X Preferred Stock
Up to 118,316,968 Outstanding Shares of Common Stock, which includes 109,152,000 shares of Common Stock that will be issued upon the automatic conversion of
109,152 shares of Series X Preferred Stock at 5:00 p.m. ET on July 15, 2024
Offered by the Selling Securityholders Named Herein



PROSPECTUS

Dated , 2024

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth the various expenses to be incurred in connection with the registration of the securities being registered hereby, all of which will be (or have been) borne by us. All amounts shown are estimates except the SEC registration fee.

SEC registration fee	\$ 23,809.18
Legal fees and expenses	50,000
Accounting fees and expenses	24,000
Miscellaneous	2,190.82
Total expenses	<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.

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- (c) (1) To the extent that a present or former director or officer of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subsections (a) and (b) of this section, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys’ fees) actually and reasonably incurred by such person in connection therewith. For indemnification with respect to any act or omission occurring after December 31, 2020, references to “officer” for purposes of paragraphs (c)(1) and (2) of this section shall mean only a person who at the time of such act or omission is deemed to have consented to service by the delivery of process to the registered agent of the corporation pursuant to § 3114(b) of Title 10 (for purposes of this sentence only, treating residents of this State as if they were nonresidents to apply § 3114(b) of Title 10 to this sentence). (2) The corporation may indemnify any other person who is not a present or former director or officer of the corporation against expenses (including attorneys’ fees) actually and reasonably incurred by such person to the extent he or she has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subsections (a) and (b) of this section, or in defense of any claim, issue or matter therein.
- (d) Any indemnification under subsections (a) and (b) of this section (unless ordered by a court) shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the present or former director, officer, employee or agent is proper in the circumstances because the person has met the applicable standard of conduct set forth in subsections (a) and (b) of this section. Such determination shall be made, with respect to a person who is a director or officer at the time of such determination, (1) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, or (2) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (3) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion, or (4) by the stockholders.
- (e) Expenses (including attorneys’ fees) incurred by an officer or director in defending any civil, criminal, administrative or investigative action, suit or proceeding may be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the corporation as authorized in this section. Such expenses (including attorneys’ fees) incurred by former officers and directors or other employees and agents may be so paid upon such terms and conditions, if any, as the corporation deems appropriate.
- (f) The indemnification and advancement of expenses provided by, or granted pursuant to, the other subsections of this section shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person’s official capacity and as to action in another capacity while holding such office. A right to indemnification or to advancement of expenses arising under a provision of the certificate of incorporation or a bylaw shall not be eliminated or impaired by an amendment to such provision after the occurrence of the act or omission that is the subject of the civil, criminal, administrative or investigative action, suit or proceeding for which indemnification or advancement of expenses is sought, unless the provision in effect at the time of such act or omission explicitly authorizes such elimination or impairment after such action or omission has occurred.

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- (g) A corporation shall have power to purchase and maintain insurance on behalf of any person who 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 any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under this section. For purposes of this subsection, insurance shall include any insurance provided directly or indirectly (including pursuant to any fronting or reinsurance arrangement) by or through a captive insurance company organized and licensed in compliance with the laws of any jurisdiction, including any captive insurance company licensed under Chapter 69 of Title 18, provided that the terms of any such captive insurance shall: (1) Exclude from coverage thereunder, and provide that the insurer shall not make any payment for, loss in connection with any claim made against any person arising out of, based upon or attributable to any (i) personal profit or other financial advantage to which such person was not legally entitled or (ii) deliberate criminal or deliberate fraudulent act of such person, or a knowing violation of law by such person, if (in the case of the foregoing paragraph (g)(1)(i) or (ii) of this section) established by a final, nonappealable adjudication in the underlying proceeding in respect of such claim (which shall not include an action or proceeding initiated by the insurer or the insured to determine coverage under the policy), unless and only to the extent such person is entitled to be indemnified therefor under this section; (2) Require that any determination to make a payment under such insurance in respect of a claim against a current director or officer (as defined in paragraph (c)(1) of this section) of the corporation shall be made by an independent claims administrator or in accordance with the provisions of paragraphs (d)(1) through (4) of this section; and (3) Require that, prior to any payment under such insurance in connection with any dismissal or compromise of any action, suit or proceeding brought by or in the right of a corporation as to which notice is required to be given to stockholders, such corporation shall include in such notice that a payment is proposed to be made under such insurance in connection with such dismissal or compromise. For purposes of paragraph (g)(1) of this section, the conduct of an insured person shall not be imputed to any other insured person. A corporation that establishes or maintains a captive insurance company that provides insurance pursuant to this section shall not, solely by virtue thereof, be subject to the provisions of Title 18.
- (h) For purposes of this section, references to "the corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under this section with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued.
- (i) For purposes of this section, references to "other enterprises" shall include employee benefit plans; references to "fines" shall include any excise taxes assessed on a person with respect to any employee benefit plan; and references to "serving at the request of the corporation" shall include any service as a director, officer, employee or agent of the corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the corporation" as referred to in this section.
- (j) The indemnification and advancement of expenses provided by, or granted pursuant to, this section shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer, employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.
- (k) The Court of Chancery is hereby vested with exclusive jurisdiction to hear and determine all actions for advancement of expenses or indemnification brought under this section or under any bylaw, agreement, vote of stockholders or disinterested directors, or otherwise. The Court of Chancery may summarily determine a corporation's obligation to advance expenses (including attorneys' fees)."

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

In accordance with Section 102(b)(7) of the DGCL, our certificate of incorporation provides that no director shall be personally liable to it or any of its stockholders for monetary damages resulting from breaches of their fiduciary duty as directors, except to the extent such limitation on or exemption from liability is not permitted under the DGCL, unless they violated their duty of loyalty to us or our stockholders, acted in bad faith, knowingly or intentionally violated the law, authorized unlawful payments of dividends, unlawful stock purchases or unlawful redemptions, or derived improper personal benefit from their actions as directors. The effect of this provision of our certificate of incorporation is to eliminate our rights and those of our stockholders (through stockholders' derivative suits on its behalf) to recover monetary damages against a director for breach of the fiduciary duty of care as a director, including breaches resulting from negligent or grossly negligent behavior, except, as restricted by Section 102(b)(7) of the DGCL. However, this provision does not limit or eliminate our rights or the rights of any stockholder to seek non-monetary relief, such as an injunction or rescission, in the event of a breach of a director's duty of care.

If the DGCL is amended to authorize corporate action further eliminating or limiting the liability of directors, then, in accordance with our certificate of incorporation, the liability of our directors to us or our stockholders will be eliminated or limited to the fullest extent authorized by the DGCL, as so amended. Any repeal or amendment of provisions of the registrant's certificate of incorporation limiting or eliminating the liability of directors, whether by our stockholders or by changes in law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to further limit or eliminate the liability of directors on a retroactive basis.

Our certificate of incorporation also provides that we will, to the fullest extent authorized or permitted by applicable law, indemnify our current and former officers and directors, as well as those persons who, while directors or officers of our corporation, are or were serving as directors, officers, employees or agents of another entity, trust or other enterprise, including service with respect to an employee benefit plan, in connection with any threatened, pending or completed proceeding, whether civil, criminal, administrative or investigative, against all expense, liability and loss (including, without limitation, attorney's fees, judgments, fines, ERISA excise taxes and penalties and amounts paid in settlement) reasonably incurred or suffered by any such person in connection with any such proceeding. Notwithstanding the foregoing, a person eligible for indemnification pursuant to our certificate of incorporation will be indemnified by us in connection with a proceeding initiated by such person only if such proceeding was authorized by our board of directors, except for proceedings to enforce rights to indemnification.

The right to indemnification conferred by our certificate of incorporation is a contract right that includes the right to be paid by us the expenses incurred in defending or otherwise participating in any proceeding referenced above in advance of its final disposition, provided, however, that if the DGCL requires, an advancement of expenses incurred by our officer or director (solely in the capacity as our officer or director) will be made only upon delivery to us of an undertaking, by or on behalf of such officer or director, to repay all amounts so advanced if it is ultimately determined that such person is not entitled to be indemnified for such expenses under our certificate of incorporation or otherwise.

The rights to indemnification and advancement of expenses will not be deemed exclusive of any other rights which any person covered by our certificate of incorporation may have or hereafter acquire under law, our certificate of incorporation, our bylaws, an agreement, vote of stockholders or disinterested directors, or otherwise.

Any repeal or amendment of provisions of our certificate of incorporation affecting indemnification rights, whether by our stockholders or by changes in law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to provide broader indemnification rights on a retroactive basis, and will not in any way diminish or adversely affect any right or protection existing at the time of such repeal or amendment or adoption of such inconsistent provision with respect to any act or omission occurring prior to such repeal or amendment or adoption of such inconsistent provision. Our certificate of incorporation will also permit us, to the extent and in the manner authorized or permitted by law, to indemnify and to advance expenses to persons other than those specifically covered by our certificate of incorporation.

Our bylaws include the provisions relating to advancement of expenses and indemnification rights consistent with those set forth in our certificate of incorporation. In addition, our bylaws provide for a right of indemnity to bring a suit in the event a claim for indemnification or advancement of expenses is not paid in full by us within a specified period of time. Our bylaws also permit us to purchase and maintain insurance, at our expense, to protect ourselves and/or any of our director, officer, employee or agent or another entity, trust or other enterprise against any expense, liability or loss, whether or not we would have the power to indemnify such person against such expense, liability or loss under the DGCL.

Any repeal or amendment of provisions of our bylaws affecting indemnification rights, whether by our board of directors, stockholders or by changes in applicable law, or the adoption of any other provisions inconsistent therewith, will (unless otherwise required by law) be prospective only, except to the extent such amendment or change in law permits us to provide broader indemnification rights on a retroactive basis, and will not in any way diminish or adversely affect any right or protection existing thereunder with respect to any act or omission occurring prior to such repeal or amendment or adoption of such inconsistent provision.

In addition, we are party to indemnification agreements with each of our directors and executive officers. These agreements require us to indemnify these individuals to the fullest extent permitted by the DGCL against liabilities that may arise by reason of their service to us, and to advance expenses incurred as a result of any proceeding against them as to which they could be indemnified. We maintain standard policies of insurance that provide coverage (1) to our directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act and (2) to us with respect to indemnification payments that we may make to such directors and officers.

Item 16. Exhibits

The following exhibits are filed as part of this registration statement:

Exhibit	Description
2.1	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 Phase Therapeutics, Inc. (Incorporated by reference to Exhibit 2.1 to the registrant's Current Report on Form 8-K filed by the registrant on March 6, 2024)
3.1	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 registrant's Periodic Report on Form 10-Q filed by the registrant on November 9, 2022)
3.2	Amended and Restated Bylaws of the Company (Incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed by the registrant on April 15, 2024)
3.3	Form of Certificate of Designation of Series X Preferred Stock (Incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed by the registrant on March 6, 2024)
3.4	Certificate of Amendment to the Amended and Restated Certificate of Incorporation of the Company (Incorporated by reference to Exhibit 3.1 to the registrant's Current Report on Form 8-K filed by the registrant on July 9, 2024)
4.1	Description of securities registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended (Incorporated by reference to Exhibit 4.1 to the registrant's Annual Report on Form 10-K filed by the registrant on April 4, 2024)
4.2	Specimen Common Stock Certificate (Incorporated by reference to Exhibit 4.2 to the registrant's Registration Statement on Form S-1/A filed by the registrant on December 4, 2018)
4.3	Form of Merger Warrant (Incorporated by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed by the registrant on March 6, 2024)
4.4	Form of Private Placement Warrant (Incorporated by reference to Exhibit 4.2 to the registrant's Current Report on Form 8-K filed by the registrant on March 6, 2024)
4.5	Form of Placement Agent Warrant (Incorporated by reference to Exhibit 4.3 to the registrant's Current Report on Form 8-K filed by the registrant on March 6, 2024)
4.6	Form of Landlord Warrant (Incorporated by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed by the registrant on March, 18, 2024)
5.1*	Opinion of Haynes and Boone, LLP
23.1*	Consent of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited.
23.2*	Consent of Haynes and Boone, LLP (included in Exhibit 5.1)
24.1**	Power of attorney (included in the signature page hereto)
107**	Filing Fee Table

* Filed herewith.

** Previously filed.

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.

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- (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.

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SIGNATURES

Pursuant to the requirements of the Securities Act, 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 Ness Ziona, Israel, on this 9th day of July, 2024.

BIOMX INC.

By /s/ Jonathan Solomon
 Jonathan Solomon
 Chief Executive Officer

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

Signature	Title	Date
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<u>/s/ Jonathan Solomon</u> Jonathan Solomon	Chief Executive Officer (Principal Executive Officer) and Director	July 9, 2024
<u>/s/ Marina Wolfson</u> Marina Wolfson	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	July 9, 2024
* <u>Susan Blum</u>	Director	July 9, 2024
* <u>Dr. Jesse Goodman</u>	Director	July 9, 2024
* <u>Dr. Russell Greig</u>	Chairman of the Board of Directors	July 9, 2024
* <u>Jonathan Leff</u>	Director	July 9, 2024
* <u>Gregory Merrill</u>	Director	July 9, 2024
* <u>Dr. Alan Moses</u>	Director	July 9, 2024
* <u>Eddie Williams</u>	Director	July 9, 2024
*By: <u>/s/ Jonathan Solomon</u> Jonathan Solomon Attorney-in-Fact		

HAYNES BOONE



July 9, 2024

BiomX Inc.
22 Einstein St., 4th Floor
Ness Ziona 7414003, Israel

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 an amendment to its registration statement on Form S-3 (as amended, the "Registration Statement") by the Company which registers the resale by the holders thereof of (i) Warrants (as defined below) to purchase up to 120,148,806 shares of Common Stock (as defined below), (ii) 147,735 shares of our Series X non-voting convertible preferred stock, par value \$0.0001 per share (the "Series X Preferred Stock") and (iii) up to 386,200,774 shares of common stock, par value \$0.0001 per share ("Common Stock," and together with the Warrants and the Series X Preferred Stock, the "Securities"), which consists of:

- (a) up to 120,148,806 shares of Common Stock issuable upon the exercise of (w) warrants to purchase up to 108,208,500 shares of Common Stock issued pursuant to the securities purchase agreement dated March 6, 2024 (the "Securities Purchase Agreement") by and among the Company and the purchasers identified therein (the "PIPE Warrants"), (x) warrants to purchase up to 2,166,497 shares of Common Stock issued pursuant to the merger agreement dated March 6, 2024 (the "Merger Agreement" and the transactions entered into pursuant to the Merger Agreement, the "Merger") by and among the Company, BTX Merger Sub I, Inc., a Delaware corporation, BTX Merger Sub II, LLC, a Delaware limited liability company and Adaptive Phage Therapeutics, Inc. ("APT"), a Delaware corporation (the "Merger Consideration Warrants"), (y) warrants to purchase up to 9,523,809 shares of Common Stock issued to Laidlaw & Co. (UK) Ltd. and RBC Capital Markets, LLC (the "Placement Agent Warrants") and (z) warrants to purchase up to 250,000 shares of Common Stock issued pursuant to the Sixth Amendment to the Lease Agreement dated March 5, 2024 by and between the APT and Are-708 Quince Orchard, LLC, a Delaware limited liability company (the "Landlord Warrants," together with the Placement Agent Warrants, the PIPE Warrants and the Merger Consideration Warrants, the "Warrants");
- (b) 256,887,000 shares of Common Stock issuable upon the conversion of the Series X Preferred Stock issued pursuant to the Securities Purchase Agreement and the Merger Agreement, including 109,152,000 shares of Common Stock that will be issued upon the automatic conversion of 109,152 shares of Series X Preferred Stock at 5:00 PM ET on July 15, 2024; and
- (c) 9,164,968 shares of Common Stock issued pursuant to the Merger Agreement.

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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 and Amended and Restated Bylaws of the Company, as of the date hereof ("Company Charter Documents"); (ii) the Registration Statement and all exhibits thereto; (iii) Certificate of Designations of the Series X Preferred Stock (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; (vii) resolutions of the Board of Directors of the Company related to the Securities and attached as Attachment A to minutes of a meeting of the Board of Directors of the Company held on March 5, 2024; (viii) a written consent of the Board of Directors of the Company related to the Securities and dated March 14, 2024; and (ix) 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 9,164,968 shares of Common Stock currently outstanding are validly issued, fully paid and non-assessable; (ii) the 256,887,000 shares of Common Stock issuable upon conversion of the Series X Preferred Stock, when issued in accordance with the terms of the Certificate of Designations, will be validly issued, fully paid and non-assessable; (iii) the 120,148,806 shares of Common Stock issuable upon exercise of the Warrants, when issued in accordance with the terms of the Warrants, will be validly issued, fully paid and non-assessable; (iv) the 147,735 shares of Series X Preferred Stock are validly issued, fully paid and non-assessable; and (v) the Warrants constitute valid and legally binding obligations of the Company.



HAYNES BOONE

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The opinions set forth above are subject to the following qualifications, limitations and exceptions:

The opinions are subject to the effect of (i) general principles of equity, including (without limitation) concepts of materiality, reasonableness, good faith and fair dealing, general matters of public policy and other similar doctrines generally affecting the enforceability of agreements (regardless of whether considered in a proceeding in equity or at law) (ii) obligations of good faith and fair dealing under New York law, (iii) provisions purporting to make a guarantor primarily liable rather than as a surety and (iv) other commonly-recognized statutory and judicial constraints on enforceability, including statutes of limitation, limitations on rights to indemnification that contravene law or public policy and the effectiveness of waivers of rights or benefits that cannot be effectively waived under applicable law.

The opinions expressed herein are limited, to the extent relevant to the opinions expressed herein, to (i) the Delaware General Corporation Law and (ii) the laws of the State of New York, in each case as in effect on the date hereof (all of the foregoing being referred to as the "Opined on Law"). We do not express any opinion with respect to any other laws, or the laws of any other jurisdiction (including, without limitation, any laws of any other jurisdiction which might be referenced by the choice-of-law rules of the Opined on Law), other than the Opined on Law or as to the effect of any such other laws on the opinions herein stated.

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/A of BiomX Inc. of our report dated April 3, 2024 relating to the financial statements, which appears in BiomX Inc.'s Annual Report on Form 10-K for the year ended December 31, 2023. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

Tel-Aviv, Israel
July 9, 2024

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