

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

FORM S-3
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

BIOMX INC.

(Exact name of registrant as specified in its charter)

Delaware

(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:

**Howard E. Berkenblit, Esq.
Sullivan & Worcester LLP
One Post Office Square
Boston MA 02109
Tel: (617) 338-2800**

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 JUNE 2, 2023

PROSPECTUS

BIOMX INC.



31,775,477 Shares of Common Stock

This prospectus relates to the resale by the selling stockholders named in this prospectus or their permitted transferees (the “Selling Stockholders”) of up to 31,775,477 shares of our common stock, par value \$0.0001 per share (“Common Stock”), 14,610,714 of which are issuable upon the exercise of outstanding pre-funded warrants (the “Pre-Funded Warrants”), purchased pursuant to a securities purchase agreement by and among the Company and the purchasers thereto, dated February 22, 2023.

The shares of Common Stock that may be sold by the Selling Stockholders are referred to in this prospectus as the “Offered Securities.” We will not receive any of the proceeds from the sale by the Selling Stockholders of the Offered Securities; however, we will receive the exercise price of the Pre-Funded Warrants upon any exercise of the Pre-Funded Warrants by payment of cash, with an exercise price of \$0.001 per share. 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 Stockholders 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 9 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 Stockholders may offer, sell or distribute Offered Securities publicly or through private transactions. If the Selling Stockholders 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 Stockholders 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 June 1, 2023, the last reported sale price of our Common Stock on NYSE American was \$0.38 per share.

We are an “emerging growth company” under applicable federal securities laws and are subject to reduced public company reporting requirements. Investing in our securities involves a high degree of risk.

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 _____, 2023.

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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 stockholders 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 stockholders 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 stockholders identified in this prospectus, or any of their transferees, may offer from time to time up to 31,775,477 shares of Common Stock, of which 14,610,714 are issuable upon exercise of Pre-Funded Warrants. If necessary, the specific manner in which the shares of Common Stock 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

BiomX Inc. is a clinical stage product discovery company developing products using both natural and engineered phage cocktails designed to target and destroy harmful bacteria associated with chronic diseases, focusing its efforts at this point on cystic fibrosis and to a lesser degree on atopic dermatitis. 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-markets and orphan diseases.

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.

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ABOUT THIS OFFERING

The Selling Stockholders identified in this prospectus are offering on a resale basis a total of up to 31,775,477 shares of Common Stock.

Common Stock offered by the Selling Stockholders	Up to 31,775,477 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 Stockholders, except for the Pre-Funded Warrants’ exercise price paid for the Common Stock offered hereby and issuable upon the exercise of the Pre-Funded Warrants for \$0.001 per share. 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. 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, 2022, 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 Common Shares. 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.

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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 forward-looking statements include, among other statements, statements regarding the following:

- the ability to generate revenues, and raise sufficient financing to meet working capital requirements;
- 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;
- political, economic and military instability in the State of Israel, and in particular, the proposed judicial and other legislation by the Israeli government;
- 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;
- expenses associated with compliance with ongoing regulatory obligations and successful continuing regulatory review;
- 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;

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- delays in developing manufacturing processes for our product candidates;
- the continued impact of COVID-19, 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;
- 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;
- 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

USE OF PROCEEDS

All of the shares of Common Stock offered by the Selling Stockholders pursuant to this prospectus will be sold by the Selling Stockholders for their account. We will not receive any of the proceeds from these sales. Out of the 31,775,477 shares of Common Stock offered hereby, 14,610,714 shares of Common Stock are issuable upon the exercise of the Pre-Funded Warrants. Upon exercise of such Pre-Funded Warrants, we will receive the applicable cash exercise price paid by the holders of the Pre-Funded Warrants of \$0.001 per share.

SELLING STOCKHOLDERS

Up to 31,775,477 shares of Common Stock may be offered for resale, from time to time, by the Selling Stockholders identified in the table below, of which 14,610,714 shares of Common Stock are issuable upon the exercise of the Pre-Funded Warrants.

In December 2021, we entered into a Securities Purchase Agreement with the Cystic Fibrosis Foundation (the “CF Securities Purchase Agreement”). Under the terms of the agreement, we were to receive up to \$5.0 million in two tranches. In the first tranche, which closed and was fully received on December 21, 2021, the Cystic Fibrosis Foundation invested \$3.0 million as an initial equity investment based on a share price of \$2.57 and we issued the 1,167,315 shares included in this prospectus. Upon completion of patient dosing in Part 1 of the Company’s Phase 1b/2a study of BX004, the Company had the right to receive the second tranche of \$2.0 million, also as an equity investment. In the event that the average closing price of the Common Stock for the ten trading days prior to the second tranche completion was less than \$2.57, the Company had the right in its sole discretion to waive the second tranche payment and in such event the CF Foundation would not have any right to receive additional shares. Ultimately, in lieu of the second tranche in the CF Securities Purchase Agreement, the CF Foundation decided to participate in the 2023 SPA (as defined below) with an aggregate investment amount of \$2.0 million and the Company waived the right to receive the second tranche of \$2.0 million under the CF Securities Purchase Agreement. Pursuant to the CF Securities Purchase 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 best efforts to cause such registration statement to be declared effective under the Securities Act as promptly as possible after the filing thereof. In connection with the execution of the 2023 SPA, we and the Cystic Fibrosis Foundation agreed to delay the preparation and filing of the registration statement referenced in the CF Securities Purchase Agreement and instead to prepare and file a registration statement following the second closing of the 2023 SPA that would also include the resale of the additional shares issued pursuant to the 2023 SPA to the Cystic Fibrosis Foundation and additional investors.

On February 22, 2023, we entered into a Securities Purchase Agreement with the Selling Stockholders (the “2023 SPA”), relating to a private placement of an aggregate of 30,608,162 shares of Common Stock, including shares issuable upon the exercise of Pre-Funded Warrants to purchase additional shares of Common Stock, at a purchase price of \$0.245 per share of Common Stock and \$0.244 per Pre-Funded Warrant. Under the terms of the 2023 SPA, our gross proceeds from the 2023 SPA were approximately \$7.5 million, before deducting offering expenses. Pursuant to the Registration Rights Agreement (the “Registration Rights Agreement”) executed in connection with the execution of the 2023 SPA, 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 best efforts to cause such registration statement to be declared effective under the Securities Act as promptly as possible after the filing thereof.

To our knowledge, within the past three years, none of the Selling Stockholders 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.

A Selling Stockholder who is an affiliate of a broker-dealer and any participating broker-dealer is 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 Stockholder or broker-dealer may be regarded as underwriting commissions or discounts under the Securities Act. To our knowledge, the Selling Stockholder is not an affiliate of a broker-dealer and there are no participating broker-dealers.

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

The following table sets forth the number of shares of Common Stock (i) known to us to be beneficially owned by each of the Selling Stockholders as of May 30, 2023, (ii) being offered hereby by each of the Selling Stockholders and (iii) beneficially owned by each of the Selling Stockholders after giving effect to the sale by a Selling Stockholder of all of its Offered Securities. The following table also sets forth the percentage of Common Stock beneficially owned by each of the Selling Stockholders before giving effect to the sale by a Selling Stockholder of all Offered Securities, based on 45,979,730 shares of Common Stock outstanding as of May 30, 2023. 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 Stockholders, and we have further assumed that a Selling Stockholder will not acquire beneficial ownership of any additional securities during the offering.

The Selling Stockholders are not making any representation that any shares of Common Stock covered by this prospectus will be offered for sale. Because we do not know how long each of the Selling Stockholders will hold the Pre-Funded Warrants, whether any will exercise the Pre-Funded Warrants and, upon such exercise, how long each such Selling Stockholders will hold the shares of Common Stock before selling them, and because each of the Selling Stockholders 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 Stockholder upon completion of this offering. In addition, each Selling Stockholder 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 Stockholders list and the securities that may be resold.

Name	Number of Shares of Common Stock Beneficially Owned Before this Offering ⁽¹⁾	Percentage of Outstanding Shares Beneficially Owned Before this Offering ²⁾⁽³⁾	Number of Shares of Common Stock Offered Hereby	Shares of Common Stock Beneficially Owned After Completion of the Offering	
				Number	Percentage ⁽²⁾
Cystic Fibrosis Foundation ⁽⁴⁾	4,593,375	9.99%	9,330,580	0	0%
OrbiMed Israel Partners Limited Partnership ⁽⁵⁾	4,553,489	9.90%	11,020,408	3,188,489	6.88%
Nimble Ventures, LLC ⁽⁶⁾	4,593,375	9.99%	5,102,041	0	0%
Telmina Limited ⁽⁷⁾	2,839,714	6.17%	2,040,816	798,898	1.74%

Hans W. Schoepflin Trust dated June 9, 1989 ⁽⁸⁾	1,752,256	3.81%	1,020,408	731,848	1.59%
Stichting Administratiekantoor The Invisible Hand at Work ⁽⁹⁾	1,429,521	3.11%	612,245	817,276	1.78%
Abraham D. Sofaer and Marian Scheuer Sofaer ⁽¹⁰⁾	1,337,599	2.91%	1,020,408	317,191	0.69%
Dr. Norm Gitis ⁽¹¹⁾	1,020,408	2.22%	1,020,408	0	0%
Scheuer-Sofaer Group LLC ⁽¹²⁾	408,163	0.89%	408,163	0	0%
Nancy Carroll Professional Corporation ⁽¹³⁾	300,000	0.65%	200,000	100,000	0.22%

- (1) Beneficial ownership is determined in accordance with SEC rules and generally includes voting or investment power with respect to securities. Common Stock subject to warrants currently exercisable, or exercisable within 60 days of May 30, 2023, are counted as outstanding for computing the percentage of the selling stockholder holding such warrants but are not counted as outstanding for computing the percentage of any other selling stockholder.
- (2) Applicable percentage of ownership is based on 45,979,730 shares of Common Stock outstanding as of May 30, 2023 (assumes the exercise in full of the Pre-Funded Warrants).
- (3) The percentage gives effect to the 9.99% (9.90% for OrbiMed Israel Partners Limited Partnership) beneficial ownership limitation set forth in the selling stockholder's Pre-Funded Warrants.
- (4) Cystic Fibrosis Foundation ("CFF") is a Delaware nonstock corporation and a non-profit organization under Section 501(c)(3) of the Internal Revenue Code with an address at 4550 Montgomery Ave., Suite 1100N Bethesda, MD 20814. CFF is the owner of 4,552,315 shares of Common Stock and 4,778,265 Pre-Funded Warrants entitling CFF to acquire 4,778,265 shares of Common Stock. The Pre-Funded Warrants contain an issuance limitation that prohibits the holder from exercising the Pre-Funded Warrants to the extent that after giving effect to such issuance after exercise, the holder (together with the holder's affiliates and any other persons acting as a group together with the holder) would beneficially own in excess of 9.99% of the shares of Common Stock outstanding immediately after giving effect to the issuance of the shares of Common Stock issuance upon exercise of the Pre-Funded Warrants.
- (5) OrbiMed Israel Partners Limited Partnership ("OIP LP") is an Israeli limited partnership with an address at 5 Hahoshlim Street, Building B, 1st Floor, Herzliya Pituach Israel. 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. OIP LP together with its affiliates and any other person acting as a group together with the holder or any of the holder's affiliates, owns 4,553,489 shares of Common Stock, 500,000 warrants (entitling the holder to acquire up to 375,000 shares of Common Stock) and 9,280,408 Pre-Funded Warrants (entitling the holder to acquire up to 9,280,408 shares of Common Stock). The warrants and the Pre-Funded Warrants contain an issuance limitation that prohibits the holder from exercising the Pre-Funded Warrants to the extent that after giving effect to such issuance after exercise, the holder (together with the holder's affiliates and any other persons acting as a group together with the holder or any of the holder's affiliated, including BioFund GP LP, Carl L. Gordon and Erez Chimovits) would beneficially own in excess of 9.90% of the shares of Common Stock outstanding immediately after giving effect to the issuance of the shares of Common Stock issuance upon exercise of the Pre-Funded Warrants.
- (6) Nimble Ventures, LLC ("Nimble") is a Delaware limited liability company with an address at 122 W Dildo Drive, Miami Beach, FL, 33139. The natural controlling person having ultimate control is John H. Burbank III. Nimble is the owner of 4,550,000 shares of Common Stock and 552,041 Pre-Funded Warrants entitling Nimble to acquire 552,041 shares of Common Stock. The Pre-Funded Warrants contain an issuance limitation that prohibits the holder from exercising the Pre-Funded Warrants to the extent that after giving effect to such issuance after exercise, the holder (together with the holder's affiliates and any other persons acting as a group together with the holder) would beneficially own in excess of 9.99% of the shares of Common Stock outstanding immediately after giving effect to the issuance of the shares of Common Stock issuance upon exercise of the Pre-Funded Warrants.
- (7) Telmina Limited is a BVI company with an address at C/O Geneva Trust Company (GTC) S.A., 34 Rue de l'athenee, PO Box 393, 1211 Geneva 12, Switzerland, whose shares are registered through its parent, treasury, company Centaurus Investments Limited. The natural controlling person having ultimate control over the trust structure that Telmina is part of is Rodney Hodges. Telmina Limited is the owner of 2,839,714 shares of Common Stock.
- (8) Hans W. Schoepflin Trust dated June 9, 1989 is a California Revocable trust, with an address at Bardos LLC, 7979 Ivanhoe Ave., Suite 460 La Jolla, CA 92037. The natural controlling person having ultimate control over the trust is Hans W. Schoepflin. Hans W. Schoepflin Trust dated June 9, 1989 is the owner of 1,752,256 shares of Common Stock.
- (9) Stichting Administratiekantoor The Invisible Hand at Work is a Dutch foundation with an address at Hoge Weidelaan 20 2275 TL Voorburg, The Netherlands. The natural controlling person having ultimate control over the foundation is Mr. Hendrik Brulleman. Stichting Administratiekantoor The Invisible Hand at Work is the owner of 1,429,521 shares of Common Stock.
- (10) Abraham D. Sofaer and Marian Scheuer Sofaer are natural persons with an address at 1200 Bryant St., Palo Alto CA 94301. Abraham D. Sofaer and Marian Scheuer Sofaer are the owners of 1,337,599 shares of Common Stock.
- (11) Dr. Norm Gitis is a natural person with an address at 838 Port Walk Place Redwood City, CA 94065, and is the owner of 1,020,408 shares of Common Stock.
- (12) Scheuer-Sofaer Group LLC is a New York State limited liability company with an address at 1200 Bryant St., Palo Alto CA 94301, managed by Abraham D. Sofaer. The Scheuer-Sofaer Group LLC is the owner of 408,163 shares of Common Stock.
- (13) Nancy Carroll Professional Corporation is incorporated under the laws of the Province of Ontario, Canada, with an address at 22 Vesta Drive, Toronto, Ontario, Canada, M5P2Z5. Nancy Joan Carroll has control over this entity. Nancy Carroll Professional Corporation is the owner of 300,000 shares of Common Stock.

PLAN OF DISTRIBUTION

Each Selling Stockholder of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the NYSE American or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- in market transactions, including transactions on a national securities exchange or quotations service or over-the-counter market;
- in privately negotiated transactions;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- in a block trade in which a broker-dealer will attempt to sell a block of securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- through the settlement of short sales (including short sales "against the box"), in each case subject to compliance with the Securities Act and other applicable securities laws;

- through one or more underwriters in a public offering on a firm commitment or best-efforts basis;
- an exchange distribution in accordance with the rules of the applicable exchange, if any;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- broker-dealers may agree with the Selling Stockholder to sell a specified number of such securities at a stipulated price per security;
- directly to one or more purchasers;
- in other ways not involving market makers or established trading markets;
- by pledge to secure debts and other obligations;
- through agents; or
- in any combination of the above or by any other legally available means.

The Selling Stockholders may, from time to time, pledge or grant a security interest in some or all of the securities owned by them and, if they default in the performance of its secured obligations, the pledgees or secured parties may offer and sell their securities, from time to time, under this prospectus, or under an amendment or supplement to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the descriptions of the Selling Stockholders to include the pledgee, transferee or other successors in interest as a Selling Stockholder under this prospectus. The Selling Stockholders also may transfer their securities in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

In connection with the sale of our securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of our securities in the course of hedging the positions they assume. The Selling Stockholders may also sell their securities short and deliver these securities to close out its short positions, or loan or pledge such securities to broker-dealers that in turn may sell these securities. The Selling Stockholders 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-dealers or other financial institutions of securities offered by this prospectus, which securities such broker-dealers or other financial institutions may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The aggregate proceeds to each Selling Stockholder from the sale of the securities offered by it will be the purchase price of the security less discounts or commissions, if any. Each Selling Stockholder reserves the right to accept and, together with its agents from time to time, to reject, in whole or in part, any proposed purchase of its securities to be made directly or through agents. We will not receive any of the proceeds from the resale of securities being offered by each of the Selling Stockholders named herein.

Each Selling Stockholder also may resell all or a portion of its securities in open market transactions in reliance upon Rule 144 under the Securities Act, provided that they meet the criteria and conform to the requirements of that rule.

The Selling Stockholders and any broker-dealers that act in connection with the sale of securities might be deemed to be “underwriters” within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by such broker-dealers and any profit on the resale of the securities sold by them while acting as principals might be deemed to be underwriting discounts or commissions under the Securities Act.

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

LEGAL MATTERS

Sullivan & Worcester LLP, Boston, Massachusetts, passed 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, 2022 have been so incorporated in reliance on the report of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited (PwC), given upon the authority of said firm as experts in accounting and auditing.

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, 2022 filed with the SEC on March 29, 2023;

- Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2023 filed with the SEC on May 15, 2023;
- Our Current Reports on Form 8-K filed with the SEC on [January 6, 2023](#), [February 22, 2023](#) (other than Item 7.01 and Exhibit 99.1 furnished therewith), [February 27, 2023](#), [March 29, 2023](#) (Item 5.08 only), [April 25, 2023](#), [May 5, 2023](#) and [May 15, 2023](#) (Item 5.02 only); and
- The descriptions of our common stock, warrants and units contained in the Registration Statement on [Form 8-A](#) filed on December 13, 2018, under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), 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: Ms. Marina Wolfson, or +972 723942377.

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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 reference 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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31,775,477 Shares



Common Stock

PROSPECTUS

Dated , 2023

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	\$	1,050.50
Legal fees and expenses		35,000
Accounting fees and expenses		30,000

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) 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.
 - (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.
 - (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.
 - (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)."

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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.

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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.

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

Exhibit	Description
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, effective as of October 28, 2019 (Incorporated by reference to Exhibit 3.3 to the registrant's Current Report on Form 8-K filed by the registrant on November 1, 2019)
4.1	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)
4.2	Form of Pre-Funded Warrants (Incorporated by reference to Exhibit 4.1 to the registrant's Current Report on Form 8-K filed by the registrant on February 27, 2023)
5.1*	Opinion of Sullivan & Worcester LLP regarding the Offered Securities
23.1*	Consent of Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited.
23.2*	Consent of Sullivan & Worcester LLP (included in Exhibit 5.1)
24.1*	Power of attorney (included in the signature page hereto)
107*	Filing Fee Table

* Filed herewith.

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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 Registration Fee" table in the effective registration statement; and
- (iii) to include any material information with respect to the plan of distribution not previously disclosed in 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) 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.

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

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act, 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 2 day of June, 2023.

BIOMX INC.

By /s/ Jonathan Solomon
Jonathan Solomon
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints each of Jonathan Solomon and Marina Wolfson, and each of them acting singly, as his or her true and lawful attorney-in-fact and agent, each with full power of substitution, for the undersigned in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments or any abbreviated registration statement and any amendments thereto filed pursuant to Rule 462(b) increasing the number of securities for which registration is sought), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, with full power of each to act alone, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as the undersigned might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or either of them, or his or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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
<u>/s/ Dr. Russell Greig</u> Dr. Russell Greig	Chairman of the Board of Directors	June 2, 2023
<u>/s/ Jonathan Solomon</u> Jonathan Solomon	Chief Executive Officer (Principal Executive Officer) and Director	June 2, 2023
<u>/s/ Marina Wolfson</u> Marina Wolfson	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	June 2, 2023
<u>/s/ Michael Dambach</u> Michael Dambach	Director	June 2, 2023
<u>/s/ Jason Marks</u> Jason Marks	Director	June 2, 2023
<u>/s/ Dr. Alan Moses</u> Dr. Alan Moses	Director	June 2, 2023
<u>/s/ Lynne Sullivan</u> Lynne Sullivan	Director	June 2, 2023



Sullivan & Worcester LLP
 One Post Office Square
 Boston, MA 02109

617 338 2800
 sullivanlaw.com

June 2, 2023

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

Re: Registration Statement on Form S-3

Ladies and Gentlemen:

This opinion is furnished to you in connection with a Registration Statement on Form S-3 (the "Registration Statement") being filed by BiomX Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of the re-sale of up to an aggregate of 31,775,477 shares of common stock, \$0.0001 par value per share of the Company (the "Common Stock"), consisting of (i) 17,164,763 shares of Common Stock (the "Shares"); and (ii) 14,610,714 shares of Common Stock (the "Warrant Shares") issuable upon the exercise of pre-funded warrants (the "Pre-Funded Warrants"). Each of such Common Shares and Warrant Shares is to be offered and sold from time to time by the applicable selling stockholders listed in the Registration Statement under the heading "Selling Stockholders".

We are acting as counsel for the Company in connection with the Registration Statement. We have examined signed copies of the Registration Statement and have also examined and relied upon minutes of meetings of the Board of Directors of the Company as provided to us by the Company, the Certificate of Incorporation and By-Laws of the Company, each as restated and/or amended to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents. Other than our examination of the documents indicated above, we have made no other examination in connection with this opinion.

Based upon and subject to the foregoing, we are of the opinion that:

- (1) The Shares have been validly issued, fully paid and are nonassessable.
- (2) The Warrant Shares have been duly authorized for issuance by the Company, and such Warrant Shares, when issued and paid for by the holders of the Pre-Funded Warrants pursuant to the terms of the Pre-Funded Warrants, will be validly issued, fully paid and non-assessable shares of Common Stock

The opinions set forth herein are rendered as of the date hereof, and we assume no obligation to update such opinions to reflect any facts or circumstances which may hereafter come to our attention or any changes in the law which may hereafter occur (which may have retroactive effect).

This opinion is rendered to you in connection with the filing of the Registration Statement. This opinion may not be relied upon for any other purpose, or furnished to, quoted or relied upon by any other person, firm or corporation for any purpose, without our prior written consent, except that (A) this opinion may be furnished or quoted to judicial or regulatory authorities having jurisdiction over you, and (B) this opinion may be relied upon by purchasers and holders of the securities covered by the Registration Statement currently entitled to rely on it pursuant to applicable provisions of federal securities law.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the caption "Legal Matters" in the Registration Statement. In giving such consent, we do not 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.

Very truly yours,

/s/ Sullivan & Worcester LLP

 Sullivan & Worcester LLP

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Registration Statement on Form S-3 of BiomX Inc. of our report dated March 29, 2023 relating to the financial statements, which appears in BiomX Inc.'s Annual Report on Form 10-K for the year ended December 31, 2022. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

Tel-Aviv, Israel
June 2, 2023

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

Filing Fee Table

Form S-3
(Form Type)

BiomX Inc.

(Exact Name of Registrant as Specified in its Charter)

Newly Registered Securities and Carry Forward Securities

	Security Type	Security Class Title	Fee Calculation Rule	Amount registered ⁽¹⁾⁽²⁾	Proposed maximum offering price per share ⁽³⁾	Proposed maximum aggregate offering price	Fee Rate	Amount of registration fee
Fees to be Paid	Equity	Common Stock, \$0.0001 par value per share	Rule 457(c)	31,775,477	\$ 0.30	\$ 9,532,643.1	\$ 0.00011020	\$ 1,050.50
Total Offering Amounts						\$ 9,532,643.1		-
Total Fee Offsets								-
Net Fee Due								\$ 1,050.50

- (1) Represents shares of common stock, par value \$0.0001 per share, or the Common Stock, which may be sold by the selling stockholders named in this registration statement. Pursuant to Rule 416 under the Securities Act of 1933, as amended, or the Securities Act, this registration statement also covers an indeterminate number of additional shares of Common Stock as may be issuable with respect to the shares being registered hereunder as a result of a stock split, stock dividend, recapitalization or other similar event.
- (2) Represents 17,164,764 shares of Common Stock and 14,610,714 shares of Common Stock that are issuable upon the exercise of pre-funded warrants issued pursuant to a securities purchase agreement with the selling stockholders named herein.
- (3) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(c) under the Securities Act, based upon the average of the high and low prices of the Common Stock on May 26, 2023, as reported on the NYSE American Stock Market. The Registrant will not receive any proceeds from the sale of its Common Stock by the selling stockholders.