

PROSPECTUS SUPPLEMENT
(to Prospectus dated December 11, 2020)

3,750,000 Shares of Common Stock
Warrants to purchase up to 2,812,501 Shares of Common Stock



We are offering 3,750,000 shares of our common stock, \$0.0001 par value per share, or common stock, and warrants to purchase up to 2,812,501 shares of our common stock. The common stock and warrants will be sold in units, with each unit consisting of one share of common stock and one warrant to purchase 0.75 of a share of common stock. Each full warrant is exercisable six months after the date of issuance, for one share of common stock at an exercise price of \$5.00 per share and will expire five years from the date such warrant first becomes exercisable. Each unit will be sold to investors in this offering at a price of \$4.00, or the offering price, pursuant to this prospectus supplement, the accompanying prospectus, and a securities purchase agreement. Warrants may only be exercised for whole numbers of shares of common stock. The shares of common stock and warrants are immediately separable and will be issued separately.

Our common stock is traded on the NYSE American Stock Exchange, or NYSE American, and on the Tel Aviv Stock Exchange, or the TASE, under the symbol "PHGE." On July 23, 2021, the last reported sale price of our common stock on the NYSE American was \$4.11 per share. We do not intend to apply for listing of the warrants on any securities exchange or other nationally recognized trading system. We do not expect such a market to develop and purchasers may not be able to resell the warrants purchased under this prospectus supplement and the accompanying prospectus. This may affect the pricing of the warrants in the secondary market, the transparency and availability of trading prices, the liquidity of such warrants, and the extent of issuer regulations.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page S8 of this prospectus supplement and in the documents incorporated by reference into this prospectus supplement.

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

We have engaged Cantor Fitzgerald & Co. and Chardan Capital Markets, LLC to act as our placement agents in connection with this offering. The placement agents have agreed to use their reasonable best efforts to place the securities offered by this prospectus supplement. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay the placement agents the placement agent fees set forth in the table below, which assumes that we sell all of the units we are offering, as described under the "Plan of Distribution (Conflict of Interest)" found on page S-17 of this prospectus supplement.

	Per Unit	Total
Offering price	\$ 4.00	\$ 15,000,000
Placement Agent Fee ⁽¹⁾	\$ 0.24	\$ 900,000
Proceeds to us, before expenses ⁽¹⁾	\$ 3.76	\$ 14,100,000

- (1) We have agreed to pay the placement agents an aggregate cash placement fee equal to 6.0% of the gross proceeds in this offering (excluding gross proceeds related to the units purchased by all of our directors and certain of our executive officers). We also have agreed to reimburse the placement agents for certain of their expenses related to this offering in an amount up to \$115,000. See "Plan of Distribution (Conflict of Interest)."

All of our directors and certain executive officers have agreed to purchase an aggregate of 125,000 units sold in this offering at the offering price. Two of our directors, Gbola Amusa and Jonas Grossman, are partners of Chardan Capital Markets, LLC. The placement agents will not receive cash fees or commissions on any units purchased by these persons. Subject to NYSE American approval, all of our directors and certain of our executive officers may pay a greater price per unit in this offering.

Delivery of the units is expected to be made on or about July 28, 2021 against payment for such units to be received by us on the same date.

Cantor

Chardan

The date of this prospectus supplement is July 26, 2021

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ABOUT THIS PROSPECTUS SUPPLEMENT

A registration statement on Form S-3 (File No. 333-251151) utilizing a “shelf” registration process relating to the securities described in this prospectus supplement was declared effective by the Securities and Exchange Commission, or SEC, on December 11, 2020. Under this “shelf” registration process, of which this offering is a part, we may, from time to time, sell our common stock, warrants and units.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference herein and therein. The second part, the accompanying prospectus, provides more general information. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement and the information contained in the accompanying prospectus or any document incorporated by reference therein filed prior to the date of this prospectus supplement, you should rely on the information in this 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 the accompanying prospectus — the statement in the document having the later date modifies or supersedes the earlier statement.

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

Neither we nor the placement agents have authorized anyone to provide information different from that contained in this prospectus supplement and the accompanying prospectus. When you make a decision about whether to invest in our securities, you should not rely upon any information other than the information in this prospectus supplement or the accompanying prospectus. Neither the delivery of this prospectus supplement or the accompanying prospectus, nor the distribution of our securities means that information contained in this prospectus supplement and the accompanying prospectus, is correct after their respective dates. It is important for you to read and consider all information contained in this prospectus supplement and the accompanying prospectus, including the information incorporated by reference into this prospectus supplement and the accompanying prospectus in making your investment decision. You should also read and consider the information in the documents to which we have referred you in the sections entitled “Where You Can Find More Information” and “Incorporation of Certain Information by Reference” in this prospectus supplement.

We are offering to sell, and seeking offers to buy, the units only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the accompanying prospectus and the offering of the units in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement and the accompanying prospectus outside the United States. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

Unless the context otherwise requires, all references in this prospectus supplement to “we,” “our,” “BiomX” and “us” refer to BiomX Inc. and our wholly-owned subsidiaries.

CAUTIONARY NOTICE REGARDING FORWARD-LOOKING STATEMENTS

The statements contained in this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein by reference 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:

- our 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;
- the continued impact of COVID-19 on general economic conditions, our operations, the continuity of our business, including our preclinical and clinical trials and our ability to raise additional capital;
- the U.S. Food and Drug Administration’s, or FDA’s, classification of our BX001 product candidate for acne-prone skin as a drug or cosmetic and the impact of changing regulatory requirements on our ability to develop and commercialize BX001;
- obtaining FDA acceptance of any non-U.S. clinical trials of product candidates;
- the proposed venture debt transaction contemplated under a non-binding term sheet we recently entered into, including the terms detailed in this prospectus supplement and whether we will enter into such transaction at all;
- our 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 in various global markets;
- 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;
- the ability of our product candidates to demonstrate requisite safety and tolerability for cosmetics, 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, especially with governments undergoing changes in administration and priorities;
- our ability to enroll patients in clinical trials and achieve anticipated development milestones when expected;
- 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 health care 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 manage the growth of the business;
- 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;
- political, economic and military instability in the State of Israel; and
- our intention to use the net proceeds of this offering to support clinical trials and for general corporate purposes, including working capital.

You should also consider carefully the statements set forth in the section entitled “Risk Factors” in this prospectus supplement and in our [Annual Report on Form 10-K](#) for the year ended December 31, 2020, as updated by any other document that we subsequently filed with the Securities and Exchange Commission and that is incorporated by reference into this prospectus supplement, which address various factors that could cause results or events to differ from those described in the forward-looking statements. The factors discussed herein, including those risks described under the heading “Risk Factors” herein, in the accompanying prospectus and in the documents we incorporate herein and therein by reference reflect the good faith judgment of our management, such statements can only be based on facts and factors currently known by us. Consequently, forward-looking statements are inherently subject to risks and uncertainties and 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 in this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein by reference could be interpreted differently in light of additional research, clinical and preclinical trials results. Readers are urged not to place undue reliance on these forward-looking statements, which speak only as of the date of this prospectus supplement, the accompanying prospectus and the documents incorporated herein and therein by reference. Except as required by law, we undertake no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained elsewhere or incorporated by reference into this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before investing in our securities. You should carefully read this entire prospectus supplement and the accompanying prospectus, including the “Risk Factors” sections, on page S-8 of this prospectus supplement, page 3 of the accompanying prospectus and beginning on page 1 of our Annual Report, as well as the financial statements and the other information incorporated by reference herein, before making an investment decision.

Overview

We are a clinical company developing products using both natural and engineered phage technologies designed to target and destroy bacteria that affect the appearance of skin, as well as harmful bacteria in chronic diseases, such as inflammatory bowel disease, or IBD, primary sclerosing cholangitis, cystic fibrosis, or CF, atopic dermatitis and colorectal cancer. Bacteriophage or phage are viruses that target bacteria and are considered inert to mammalian cells. By developing proprietary combinations of naturally occurring phage and by creating novel phage using synthetic biology, we develop phage-based therapies intended to address large-market and orphan diseases.

Since inception in 2015, we have devoted substantially all our resources to organizing and staffing the company, raising capital, acquiring rights to or discovering product candidates, developing our technology platforms, securing related intellectual property rights and conducting discovery, research and development activities for our product candidates. We do not have any products approved for sale, our products are still in the preclinical and clinical development stages, and we have not generated any revenue from product sales. As we move our product candidates from preclinical to clinical stage and continue with clinical trials, we expect our expenses to increase.

Our phage-based product candidates are developed utilizing our proprietary research and development platform named Bacteriophage Lead to Treatment, or BOLT. The BOLT platform enables us to rapidly develop, manufacture and formulate phage therapy candidates targeting particular pathogenic bacteria and incorporates our experience over the past five years with process refinement and implementation of technological advancements. The BOLT platform is unique, employing cutting edge capabilities across disciplines including computational biology, microbiology, phage synthetic engineering, unique assay development, manufacturing and formulation, to allow agile and efficient development of phage therapies. For a given indication, the platform will allow for the completion of a clinical proof of concept study in patients, meaning Phase 2 results, within approximately 12-18 months from project initiation (in certain indications the length of clinical proof of concept may be longer depending on the indication, identity of target bacteria, recruitment rate, cohort size and other factors). The ability to move quickly into clinical development is also driven by the strong safety profile of naturally-occurring phage, as corroborated by regulatory guidance we received from the FDA, relating to our IBD program, allowing us to bypass preclinical safety studies and studies in healthy volunteers and to proceed directly to patient studies.

Clinical and Pre-Clinical Developments

On November 12, 2020, we announced consolidation of our IBD and PSC programs into a single broad host range product candidate, named BX003, under development for both indications. Prior to November 2020, we had two separate phage product candidates for IBD and for PSC, with our IBD product candidate named BX002 and PSC product candidate named BX003. After the consolidation, the current BX003 product candidate is now under development to treat both IBD and PSC, targeting bacterial strains of *Klebsiella pneumoniae*, or *K. pneumoniae*, a potential pathogen implicated in both diseases. Prior to the consolidation, our Phase 1a clinical study was conducted only on BX002, and future clinical studies are planned to be conducted on BX003 for both IBD and PSC.

On February 2, 2021, we announced positive results of a randomized, single-blind, multiple-dose, placebo-controlled Phase 1a pharmacokinetic study of BX002, our product candidate for IBD and PSC, conducted under an investigational new drug, or IND, application submitted to the FDA. The study evaluated the safety and tolerability of orally administered BX002 in 18 healthy volunteers. Subjects were randomized to receive orally either BX002 or placebo, twice daily for three days. Subjects were monitored for safety for seven days in a clinical unit, with follow-up monitoring for safety assessments conducted at 14 and 28 days after completion of dosing. BX002 was demonstrated to be safe and well-tolerated, with no serious adverse events and no adverse events leading to discontinuation. In addition, the study met its objective of delivering high concentrations of viable phage to the

gastrointestinal tract of approximately 10^{10} PFU, or plaque forming units. This equals approximately 1,000 times more viable phage compared to the bacterial burden of *K. pneumoniae* in IBD and PSC patients as measured in stool. Based on the Phase 1a study results, we plan to advance to a Phase 1b/2a study evaluating the efficacy of BX003 for the reduction of *K. pneumoniae* in individuals that carry the target bacteria. Results from the Phase 1b/2a study are expected in the second quarter of 2022.

On March 24, 2021, we announced that we have completed enrollment of 140 patients under our Phase 2 cosmetic clinical study of BX001, a topical gel comprised of a cocktail of naturally-occurring phage targeting *Cutibacterium acnes*, or *C. acnes*, to improve the appearance of acne-prone skin in subjects with acne-prone skin. *C. acnes* are bacteria implicated in the pathophysiology of acne vulgaris. The study is a 12-week randomized, single center, double-blind, placebo-controlled trial with 140 individuals with mild-to-moderate acne vulgaris. Subjects enrolled are randomized into two cohorts: BX001 or placebo (vehicle) in a 1:1 ratio and will self-administer BX001 or placebo twice daily. The key endpoints will evaluate the safety, tolerability and efficacy of BX001. Results from the 8-week time point are expected to be available in the third quarter of 2021 and the full analysis including the 12-week time point is expected to be available in the fourth quarter of 2021.

On March 31, 2021, we announced the selection of the phage cocktail for BX004, our therapeutic phage product candidate under development for chronic respiratory infections caused by *Pseudomonas aeruginosa*, or *P. aeruginosa*, a main contributor to morbidity and mortality in patients with CF. BiomX is planning to conduct a Phase 1b/2a trial in CF patients with chronic respiratory infections caused by *P. aeruginosa*, that will be comprised of two parts. Part 1 will evaluate the safety, pharmacokinetics and microbiologic/clinical activity of BX004 in eight CF patients in a single ascending dose and multiple ascending dose design. Results from Part 1 are expected in the first quarter of 2022. Part 2 of the Phase 1b/2a trial will evaluate the safety and efficacy of BX004 in 21 CF patients randomized to a treatment or placebo cohort in a 2:1 ratio. Results from Part 2 are expected by the second quarter of 2022.

On March 31, 2021, we announced the selection of the phage cocktail for BX005, our topical phage product candidate targeting *Staphylococcus aureus*, or *S. aureus*, a bacterium associated with the development and exacerbation of inflammation in atopic dermatitis. By reducing *S. aureus* burden, BX005 is designed to shift the skin microbiome composition to its “pre-flare” state to potentially result in clinical improvement. Results from a Phase 2 proof-of-concept trial evaluating the safety and efficacy of BX005 in atopic dermatitis patients are expected in the first half of 2022.

For our CRC program, we are exploring phage mediated delivery of therapeutic payloads to *Fusobacterium nucleatum* bacteria residing in the tumors of patients with colorectal cancer. Preclinical results from animal studies evaluating use of phage therapy in combination with checkpoint inhibitors are expected in the third quarter of 2021.

Preliminary cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021.

We have preliminarily determined our cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021 to be approximately \$47.0million.

Our unaudited consolidated financial statements for the three and six months ended June 30, 2021 are not yet available. Accordingly, the information presented reflects our preliminary financial data subject to the completion of our financial closing procedures and any adjustments that may result from the completion of the quarterly review of our consolidated financial statements. Our preliminary cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021 included in this prospectus supplement has been prepared by our management, is the responsibility of our management and should not be regarded as a representation by us, our management, or the placement agents as to our actual results for the three and six months ended June 30, 2021. Our independent registered public accounting firm, Kesselman & Kesselman, Certified Public Accountants (Isr.), a member firm of PricewaterhouseCoopers International Limited, has not audited, reviewed, compiled, or applied agreed-upon procedures with respect to the preliminary cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021. Accordingly, Kesselman & Kesselman does not express an opinion or any other form of assurance with respect thereto. We believe that the above information about our preliminary cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021 is helpful to an investor’s understanding of our operating performance; however, the preliminary cash, cash equivalents, restricted cash and short-term deposits as of June 30, 2021 may differ from the actual results that will be reflected in our consolidated financial statements for the three and six months ended June 30, 2021 when they are completed and publicly disclosed.

Venture debt transaction

We recently entered into a non-binding term sheet with a lender, or the Lender, with respect to a venture debt facility, or the Loan. The maximum amount of the Loan is \$30.0 million, of which \$15.0 million will be funded upon closing of the Loan transaction, or the Closing. If completed, the Loan will be for a term of 48 months from the Closing, which term may be extended to up to 60 months upon satisfaction of certain milestones. The interest rate on the Loan will be the greater of (i) the Prime Rate minus 3.25% and (ii) 8.95%. During the first 18 months from the Closing we are expected to pay only interest and not principle, which 18month term may be extended to up to 30 months upon satisfaction of certain milestones. The Loan is to be secured by our assets, excluding intellectual property rights, or IPR, provided, however that our IPR will be subject to a negative pledge subject to customary exceptions such as licensing transactions in the ordinary course of business. In connection with the Loan, we are expected to be subject to restrictions on activities customary for transactions of this type including without limitation, restrictions on liens and indebtedness, payment of cash dividends, asset dispositions and down streaming, guaranties and mergers. At this point we do not expect to grant warrants to the Lender in connection with the extension of the Loan.

The above description of the Loan and the terms thereof is based on the terms of a non-binding term sheet that of its nature cannot be enforced by or against us or the Lender. Such terms are subject to further negotiations with the Lender and may further change due to a host of considerations, including tax structuring, diligence by the Lender, market conditions and others and ultimately we may not be able to close the Loan transaction under the above terms or any other terms. See “Risk Factors” below for additional risks related to the potential Loan.

Company Information

For further information regarding us and our financial information, you should refer to our recent filings with the SEC. See “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

THE OFFERING

Common Stock and Warrants Offered by Us	3,750,000 shares of common stock and warrants to purchase up to an additional 2,812,501 shares of common stock. This prospectus supplement also covers the shares of common stock issuable upon exercise of the warrants. There is currently no market for the warrants and none is expected to develop after this offering.
Purchase Price	\$4.00 per unit
Terms of Warrants	An exercise price of \$5.00 per share of common stock, exercisable six months after the date of issuance and expiring 5 years from the date such warrant first becomes exercisable. See “Description of Securities — Warrants.”
Common Stock to be Outstanding After the Offering	28,194,576 shares (excluding shares of common stock issuable upon exercise of the warrants being offered in this offering).
Use of Proceeds	We intend to use the net proceeds of this offering to support clinical trials and for general corporate purposes, including working capital. See “Use of Proceeds” on page S-11.
Risk Factors	See “Risk Factors” beginning on page S-8 and in the documents incorporated by reference into this prospectus supplement for a discussion of factors that you should consider before buying shares of our common stock.
NYSE American and TASE Symbol	“PHGE”. We do not intend to apply for listing of the warrants on any securities exchange or other nationally recognized trading system.

The number of shares of common stock to be outstanding after the offering is based on 24,444,576 shares outstanding on July 23, 2021 and assumes no exercise of outstanding options or warrants to purchase additional shares and excludes:

- 4,463,796 shares of common stock issuable upon the exercise of outstanding stock options as of March 31, 2021 at a weighted-average exercise price of \$3.97 per share;
- 45,324 shares of common stock reserved for future issuances under our stock option plans as of March 31, 2021;
- 2,974 shares of common stock issuable upon the exercise of outstanding warrants as of March 31, 2021 at a weighted-average exercise price of less than \$0.001 per share;
- 6,400,000 shares of common stock issuable upon the exercise of outstanding warrants as of March 31, 2021 at a weighted-average exercise price of \$11.50 per share;
- up to an aggregate 6,000,000 shares of common stock issuable in 2022, 2024 and 2026 to certain of our stockholders who were stockholders when we entered into a business combination in 2019 if certain conditions with respect to the price of our common stock are met; and
- 2,812,501 shares of common stock issuable upon the exercise of the warrants offered hereby, at an exercise price of \$5.00 per share.

Unless otherwise specified, the information in this prospectus supplement assumes no exercise of the outstanding options or warrants described above.

All of our directors and certain of our executive officers have agreed to purchase an aggregate of 125,000 units sold in this offering at the offering price. The placement agents will not receive cash fees or commissions on any units purchased by these persons. Subject to NYSE American approval, all of our directors and certain executive officers may pay a greater price per unit in this offering.

RISK FACTORS

Investment in our securities involves risks. Before deciding whether to invest in our securities, you should consider carefully the risk factors discussed below and those contained in the section entitled “Risk Factors” contained in our Annual Report, which is incorporated herein by reference in its entirety, as well as any amendment or update to our risk factors reflected in subsequent filings with the SEC. If any of the risks or uncertainties described below or in our SEC filings actually occurs, our business, financial condition, results of operations or cash flow could be materially and adversely affected. This could cause the trading price of our common stock and the value of the warrants to decline, resulting in a loss of all or part of your investment. The risks and uncertainties we have described are not the only ones facing our company. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business operations.

Risks Related to this Offering

We have broad discretion to use the net proceeds from this offering and our investment of these proceeds pending any such use may not yield a favorable return.

We intend to use the net proceeds of this offering to support clinical trials and for general corporate purposes, including working capital. However, our management will have broad discretion in the application of the net proceeds from this offering and could spend the proceeds in ways that do not improve our results of operations or enhance the value of our common stock. The failure by management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending any such uses, we plan to invest the net proceeds of this offering in short-term and long-term, investment-grade, interest-bearing securities. These investments may not yield a favorable return to our stockholders.

You will experience immediate and substantial dilution.

Since the price per share of the shares of common stock being offered as part of the units pursuant to this prospectus supplement and the accompanying prospectus is higher than the net tangible book value per share of our common stock, you will suffer substantial dilution in the net tangible book value of the common stock you purchase in this offering as part of the units. Based on the offering price of \$4.00 per share, and after deducting the placement agents’ fee and estimated offering expenses payable by us, if you purchase shares of common stock in this offering as part of the units, you will incur immediate and substantial dilution in net tangible book value of \$1.67 per each share that is part of a unit. See “Dilution” in this prospectus supplement for a more detailed discussion of the dilution you will incur if you purchase shares of our common stock in this offering.

Future sales or other issuances of our common stock could depress the market for our common stock.

Sales of a substantial number of shares of our common stock, or the perception by the market that those sales could occur, could cause the market price of our common stock to decline or could make it more difficult for us to raise funds through the sale of equity or debt in the future.

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

Our stock price can be volatile, which increases the risk of litigation, and may result in a significant decline in the value of your investment.

The stock markets in general and the markets for biotechnology stocks have experienced extreme volatility. The market for the common stock of smaller companies such as ours is characterized by significant price volatility when compared to the shares of larger, more established companies that trade on a national securities exchange and have large public floats, and our share price is more volatile than the shares of such larger, more established companies for the indefinite future.

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Additionally, market prices for securities of biotechnology companies historically have been very volatile. The market for these securities has from time to time experienced significant price and volume fluctuations for reasons unrelated or disproportionate to the operating performance of any one company. Furthermore, our business may be adversely impacted by risks, or the public perception of the risks, related to a pandemic or other health crisis, such as the COVID-19. A significant outbreak of contagious diseases could result in a widespread health crisis that could adversely affect the economies and financial markets of many countries, resulting in an economic downturn.

In the past, following periods of volatility in the market price of a particular company's securities, litigation has often been brought against that company. Any such lawsuit could consume resources and management time and attention, which could adversely affect our business.

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

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

You may not be able to resell your warrants.

There is no established trading market for the warrants being offered in this offering, and we do not expect such a market to develop. In addition, we do not intend to apply for listing of the warrants on any securities exchange or other nationally recognized trading system. Accordingly, you may not be able to resell your warrants. If your warrants cannot be resold, you will have to depend upon any appreciation in the value of our common stock over the exercise price of the warrants in order to realize a return on your investment in the warrants.

Investors will have no rights as a stockholder with respect to their warrants until they exercise their warrants and acquire shares of our common stock.

Until you acquire shares of our common stock upon exercise of your warrants, you will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

The warrants will not be immediately exercisable and may never have any value.

The warrants comprising part of the units being sold in this offering, which have an exercise price of \$5.00 per share of common stock, will not be exercisable until six months after the date they are issued and will expire on the five year anniversary of the closing of this offering. In the event our common stock price does not exceed the per share exercise price of the warrants during the period when the warrants are exercisable, the warrants will not have any value.

Risks related to Potential Venture Debt Transaction

To the extent we enter into the potential Loan, it may negatively affect our cash flows.

We are seeking constantly funding resources to finance the operation of our business, which resources may include incurring debt, such as venture debt. We recently entered into a non-binding term sheet with respect to the Loan of up to \$30.0 million. If we enter into a venture debt facility, such as the Loan, we will become subject to numerous risks, including the risk that our then existing cash resources, and potential cash flows could be insufficient for us to make required payments on our debt. We would also incur related fees and expenses and may be required to grant certain rights to the lenders, including the right to participate in future financings or obtain warrants to acquire our common stock, though we do not expect to currently do so. There are no limits in our organizational documents on the amount of debt we may incur, and we may incur substantial debt. Our debt obligations could have important consequences to our securityholders. Our incurrence of debt may increase our vulnerability to adverse economic,

market and industry conditions, limit our flexibility in planning for, or reacting to, changes in our business, and place us at a disadvantage in relation to competitors that have lower debt levels. Our incurrence of debt could also increase the costs to us of incurring additional debt, increase our exposure to floating interest rates or expose us to potential events of default (if not cured or waived) under covenants contained in debt instruments that could have a material adverse effect on our business, financial condition and operating results. Excessive debt could reduce the available cash flow to fund, or limit our ability to obtain financing for, working capital, capital expenditures or operating expenses, and hinder our ability to acquire or license intellectual property rights or declare distributions to our shareholders. We may not be able to prepay any debt without significant payments or penalties, which could also have the effect of deterring an acquisition of our company or receiving higher consideration in the event of such an acquisition. Further, even if these risks do not occur, we may not fully realize the benefits from a venture debt facility, if we enter it at all. For example, future funding of certain amounts of the debt may be subject to us meeting milestones or other conditions that may not occur.

We may not close the potential Loan, which would negatively affect our liquidity and capital resources.

We recently entered into a non-binding term sheet with respect to the Loan, that by its nature cannot be enforced against or by us or the Lender. There is no certainty that the Loan transaction will be entered into, either under the terms discussed in this prospectus supplements and the non-binding term sheet or at all. For instance, the Lender has not concluded its diligence process in connection with the Loan, tax structuring relating to the proposed Loan transaction has not been finalized, certain legal and business terms that are not included in the non-binding term sheet have not been concluded or even negotiated and no definitive binding agreements were entered into, or even agreed to, by the parties. If we do not close the Loan transaction we may need to seek alternative funding resources which may be in less favorable terms or not available to us when needed.

USE OF PROCEEDS

We estimate that our net proceeds from this offering will be approximately \$13,900,000 based on the offering price of \$4.00 per unit and after deducting the placement agents' fees and the estimated offering expenses that are payable by us. The foregoing net proceeds do not include any proceeds that we may receive from the potential exercise of the warrants offered hereby.

We intend to use the net proceeds of this offering to support clinical trials and for general corporate purposes, including working capital. Pending the use of the net proceeds, we intend to invest the net proceeds in accordance with our investment policy, as amended from time to time.

We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from this offering.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our common stock. We intend to retain any future earnings to finance the growth and development of our business and do not anticipate paying any cash dividends in the foreseeable future. Any dividends paid will be solely at the discretion of our board of directors.

DILUTION

Purchasers of our common stock in this offering (either as a component of units or upon warrant exercise) will suffer immediate and substantial dilution in the net tangible book value per share common stock. Net tangible book value per share represents our total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of March 31, 2021. Our net tangible book value as of March 31, 2021, was approximately \$51.3 million, or approximately \$2.12 per share of our common stock.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the sale of 3,750,000 shares of common stock in this offering (excluding shares of common stock issuable upon exercise of the warrants being offered in this offering) at an offering price of \$4.00 per unit, and after deducting the placement agents' fees and the estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2021 would have been approximately \$2.33 per share of common stock. This represents an immediate increase in net tangible book value of \$0.21 per share to our existing stockholders and an immediate dilution in net tangible book value of \$1.67 per share to purchasers participating in this offering. The following table illustrates this per share dilution:

Offering price per share	\$	4.00
Net tangible book value per share as of March 31, 2021	\$	2.12
Increase per share attributable to this offering	\$	0.21
As adjusted net tangible book value per share as of March 31, 2021 after this offering	\$	2.33
Dilution per share to new investors participating in this offering	\$	1.67

The discussion and table above are each based on 24,247,040 shares of common stock outstanding as of March 31, 2021, and excludes, as of that date, the following:

- 4,463,796 shares of common stock issuable upon the exercise of outstanding stock options as of March 31, 2021 at a weighted-average exercise price of \$3.97 per share;
- 45,324 shares of common stock reserved for future issuances under our stock option plans;
- 2,974 shares of common stock issuable upon the exercise of outstanding warrants as of March 31, 2021 at a weighted-average exercise price of less than \$0.001 per share;
- 6,400,000 shares of common stock issuable upon the exercise of outstanding warrants as of March 31, 2021 at a weighted-average exercise price of \$11.50 per share;
- up to an aggregate 6,000,000 shares of common stock issuable in 2022, 2024 and 2026 to certain of our stockholders who were stockholders when we entered into a business combination in 2019 if certain conditions with respect to the price of our common stock are met; and
- 2,812,501 shares of common stock issuable upon the exercise of the warrants offered hereby, at an exercise price of \$5.00 per share.

The table above assumes no exercise of outstanding options or warrants prior to this offering or outstanding vested restricted stock units. To the extent that options or warrants are exercised, there will be further dilution to new investors. To the extent that outstanding options or warrants outstanding as of March 31, 2021 have been or may be exercised or unvested restricted stock units have been or may be settled in shares, investors purchasing our common stock in this offering may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

All of our directors and certain of our executive officers have agreed to purchase an aggregate of 125,000 units sold in this offering at the offering price. The placement agents will not receive cash fees or commissions on any units purchased by these persons. Subject to NYSE American approval, all of our directors and certain of our executive officers may pay a greater price per unit in this offering.

DESCRIPTION OF SECURITIES

In this offering, we are offering units consisting of an aggregate of 3,750,000 shares of common stock and warrants to purchase up to 2,812,501 shares of our common stock. This prospectus supplement also relates to the shares of common stock issuable upon the exercise of warrants that are part of the units, and upon the exercise of the warrants we will issue to the placement agents in this offering.

Common Stock

The material terms and provisions of our common stock are described under the caption “Description of Capital Stock” starting on page 9 of the accompanying prospectus.

Warrants

The warrants to be issued in this offering as part of the units represent the right to purchase up to 0.75 shares of common stock at an initial exercise price of \$5.00 per share. Each warrant may be exercised at any time and from time to time, exercisable six months after the date of issuance of this offering and having a term of 5 years from the date such warrants first become exercisable. We do not intend to apply for listing of the warrants on any securities exchange or other nationally recognized trading system and we do not expect such a market to develop. The description of the warrants in this prospectus supplement supplements the “Description of Warrants” in the accompanying prospectus.

Exercise

Holders of the warrants may exercise their warrants to purchase shares of our common stock on or before the expiration date by delivering (1) an exercise notice, appropriately completed and duly signed and (2) if such holder is not utilizing the cashless exercise provisions, payment of the exercise price for the number of shares with respect to which the warrant is being exercised. Warrants may be exercised in whole or in part, but only for full shares of common stock, and any portion of a warrant not exercised prior to the expiration date shall be and become void and of no value.

In addition, the warrant holders are entitled to a “cashless exercise” option if, at any time of exercise, there is no effective registration statement registering, or no current prospectus available for, the issuance or resale of the shares of common stock underlying the warrants. This option entitles the warrant holder to elect to receive fewer shares of common stock without paying the cash exercise price. The number of shares to be issued would be determined by a formula based on the total number of shares with respect to which the warrant is being exercised, the volume weighted average of the prices per share of our common stock on the trading date immediately prior to the date of exercise and the applicable exercise price of the warrants.

Delivery of Shares

Upon the holder’s exercise of a warrant, we will promptly, issue and deliver the shares of common stock electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System if we are then a participant of such system and (a) there is an effective registration statement registering the issuance and resale of the shares of common stock underlying the warrants or (b) the warrant is being exercised via cashless exercise. Otherwise, we will promptly but in no event later than two trading days after the exercise date, issue and deliver, or cause to be issued and delivered, the shares of common stock issuable upon exercise of the warrant.

Certain Adjustments

The exercise price and the number of shares of common stock purchasable upon the exercise of the warrants are subject to adjustment upon the occurrence of the following events:

Stock Dividends and Splits

If, at any time while the warrant is outstanding, we pay a dividend or a distribution of common stock or any other equity equivalent, subdivide or combine outstanding shares of common stock into a larger or smaller number of shares, issue by reclassification of the shares of common stock any shares of capital stock of the Company, the

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exercise price in effect immediately prior to such dividend, distribution, subdivision, combination or reclassification will be proportionately reduced or increased, as applicable, and the number of shares issuable upon exercise of the warrant shall be proportionately adjusted such that the aggregate exercise price of the warrant shall remain unchanged.

Purchase Rights

If, at any time while the warrant is outstanding, we issue rights, options or warrants to all holders of our common stock, then the holders shall have the right thereafter to acquire such rights, options or warrants that such holder would have been entitled to acquire if it had been, immediately prior to such issuance, the holder of the number of warrant shares then issuable upon exercise of the warrant.

Pro Rata Distributions

If, at any time while the warrant is outstanding, we declare a dividend or distribute our assets to holders of our common stock, then the holders shall have the right to participate in such distribution to the same extent that such holder would have been entitled to participate if it had been, immediately prior to such declaration or distribution, the holder of the number of warrant shares then issuable upon exercise of the warrant.

Fundamental Transactions

If, at any time while the warrant is outstanding, we (1) consolidate or merge with or into another corporation, (2) sell all or substantially all of our assets, (3) are subject to or complete a tender or exchange offer pursuant to which holders of our common stock are permitted to tender or exchange their shares for other securities, cash or property, (4) effect any reclassification of our common stock or any compulsory share exchange pursuant to which our common stock is converted into or exchanged for other securities, cash or property, or (5) we consummate a stock or share purchase agreement or other business combination pursuant with another party whereby such other party acquires more than 50% of our outstanding common stock, each, a Fundamental Transaction, then the holders shall have the right thereafter to receive, upon exercise of the warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the warrant, which we refer to in this prospectus supplement as Alternate Consideration. Any successor to us, surviving entity or the corporation purchasing or otherwise acquiring such assets, or a Successor Entity, shall assume the obligation to deliver to the holder such Alternate Consideration as the holder may be entitled to purchase, and the other obligations under the warrant. We shall cause any Successor Entity to, at the option of the holder, deliver to the holder in exchange for the warrant a security of the Successor Entity substantially similar in form and substance to the warrant prior to such Fundamental Transaction which is reasonably satisfactory in form and substance to the holder.

Notice of Corporate Action

We will provide notice to holders of the warrants to provide such holders with an opportunity to exercise their warrants and hold common stock in order to participate in or vote on the following corporate events if we (1) declare a dividend on the common stock, (2) declare a special nonrecurring cash dividend on or a redemption of the common stock, (3) authorize the granting to all holders of the common stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (4) require the approval of any stockholders in connection with any reclassification of the common stock, any consolidation or merger to which we are a party, any sale or transfer of all or substantially all of our assets, any compulsory share exchange whereby the common stock is converted into other securities, cash or property or (5) authorize the voluntary or involuntary dissolution, liquidation or winding up of our affairs.

Limitations on Exercise

The number of warrant shares that may be acquired by the holder upon any exercise of the warrant shall be limited to the extent necessary to insure that, following such exercise (or other issuance), the total number of shares of common stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of common stock would be aggregated with the holder's for purposes of Section 13(d) of the Securities

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Exchange Act of 1934, as amended, or the Exchange Act, does not exceed either 9.90% or 19.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise), which we refer to as the Beneficial Ownership Limitation. Each holder elects either 9.90% or 19.99% as such holders Beneficial Ownership Limitation upon issuance of the warrant and any holder may elect to increase the Beneficial Ownership Limitation up to a maximum of 9.90% or 19.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise) upon 61 days' prior written notice.

Waivers and Amendments

The warrants may be modified or amended and the provisions therein may be waived with our written consent and the consent of the holders of the warrants.

Additional Provisions

The above summary of certain terms and provisions of the warrants is qualified in its entirety by reference to the detailed provisions of the warrants, the form of which has been included as an exhibit to a Current Report on Form 8-K that was filed with the SEC and that is incorporated by reference into the registration statement of which this prospectus supplement forms a part. We are not required to issue fractional shares upon the exercise of the warrants. No holders of the warrants will possess any rights as a stockholder under those warrants until the holder exercises those warrants. The warrants may be transferred independent of the common stock they were issued with, on a form of assignment, subject to all applicable laws.

PLAN OF DISTRIBUTION (CONFLICT OF INTEREST)

Cantor Fitzgerald & Co. and Chardan Capital Markets, LLC, or, collectively, the placement agents, have agreed to act as our placement agents in connection with this offering, subject to the terms and conditions of the placement agency agreement dated July 26, 2021, entered into by and among the Company and the placement agents. The placement agents are not purchasing or selling any of the units offered by this prospectus supplement, but will use their reasonable best efforts to arrange for the sale of the securities offered by this prospectus supplement. We have entered into a securities purchase agreement directly with the investors in connection with this offering, pursuant to which, subject to certain conditions, we will sell to the investors 3,750,000 shares of common stock and warrants to purchase up to 2,812,501 shares of common stock. The shares of common stock and warrants will be sold in units, with each unit consisting of one share of common stock and one warrant, where each warrant is exercisable to purchase 0.75 of a share of common stock, and the shares of common stock and warrants are immediately separable upon issuance. There is no market through which the warrants may be sold and purchasers may not be able to resell the warrants purchased under this prospectus supplement. The securities purchase agreement contains customary representations, warranties and covenants.

We will deliver the shares of common stock being issued to the purchasers electronically upon receipt of purchaser funds for the purchase of the shares of our common stock and warrants offered pursuant to this prospectus supplement. The warrants will be issued in certificated form. We expect to deliver the shares of our common stock and warrants being offered pursuant to this prospectus supplement on or about July 28, 2021, subject to customary closing conditions including, but not limited to, approval by NYSE American.

This is a summary of the material provisions of the placement agency agreement and securities purchase agreement and does not purport to be a complete statement of their terms and conditions. A copy of the placement agency agreement and the form of securities purchase agreement with the purchasers have been filed with the SEC and are incorporated by reference into the registration statement of which this prospectus supplement forms a part.

All of our directors and certain of our executive officers have agreed to purchase an aggregate of 125,000 units sold in this offering at the offering price. The placement agents will not receive cash fees or commissions on any units purchased by these persons. Subject to NYSE American approval, all of our directors and certain of our executive officers may pay a greater price per unit in this offering.

Fees and Expenses

We have agreed to pay the placement agents a cash fee of 6.0% of the aggregate gross proceeds of this offering paid to us at closing (excluding gross proceeds related to the units purchased by all of our directors and certain of our executive officers). The following table shows the per share and total placement agent fees we will pay to the placement agents in connection with the sale of the securities, assuming the purchase of all of the shares we are offering:

Per unit ⁽¹⁾	\$	0.24
Total ⁽¹⁾	\$	900,000

- (1) The placement agents will not receive cash fees or commissions on any units purchased by all of our directors and certain of our executive officers.

We have also agreed to reimburse the placement agents for certain of their expenses related to this offering in an amount up to \$115,000.

We negotiated the price for the units offered in this offering with the purchasers. The factors considered in determining the price included the recent market price of our common stock, the general condition of the securities market at the time of this offering, the history of, and the prospects, for the industry in which we compete, our past and present operations, and our prospects for future revenues.

The placement agents may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended, or the Securities Act, and any fees or commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agents would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act.

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These rules and regulations may limit the timing of purchases and sales of our securities by the placement agents. Under these rules and regulations, the placement agents:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until they have completed their participation in the distribution.

We have agreed to indemnify the placement agents and certain other persons against certain liabilities, including civil liabilities under the Securities Act and the Exchange Act and to contribute to payments that the placement agents may be required to make in respect of those liabilities.

From time to time, the placement agents have provided and may provide in the future, various financial advisory, investment banking and other services to us in the ordinary course of business, for which they have received and may continue to receive customary fees and commissions.

Conflict of Interest

Two of our directors, Gbola Amusa and Jonas Grossman, are participating in this offering and are partners of Chardan Capital Markets, LLC. If necessary, this offering complies with FINRA Rule 5121(a)(1)(A).

Listing

Our common stock is listed on NYSE American and on the TASE under the trading symbol “PHGE.”

We do not intend to apply for listing of the warrants on any securities exchange or other nationally recognized trading system.

The placement agents may distribute this prospectus supplement and the accompanying prospectus electronically.

LEGAL MATTERS

The validity of the units, including the common stock and warrants, offered by this prospectus supplement has been passed upon by Sullivan & Worcester LLP, Boston, Massachusetts. Certain legal matters in connection with this offering will be passed upon for the placement agents by Cooley LLP, New York, New York.

EXPERTS

The financial statements incorporated in this prospectus supplement by reference to the Annual Report on Form 10-K for the year ended December 31, 2020 have been so incorporated in reliance on the report of by Brightman Almagor Zohar & Co., a Firm in the Deloitte Global Network, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements, and other information with the SEC. You can access the electronic versions of these filings on the SEC's Internet website found at www.sec.gov. Our SEC filings are also available on our website, www.biomx.com. Information contained on our website does not constitute part of this prospectus supplement or the accompanying prospectus.

We have filed this prospectus supplement with the SEC as part of a registration statement on Form S-3 under the Securities Act. This prospectus supplement does not contain all of the information set forth in the registration statement because some parts of the registration statement are omitted in accordance with the rules and regulations of the SEC. You can obtain a copy of the registration statement from the SEC at the address listed above or from the SEC's website.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with them which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and accompanying prospectus, and later information that we file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus supplement and the termination of the offering (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):

We have filed or may file the following documents with the SEC. These documents are incorporated herein by reference as of their respective dates of filing:

- Our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2020, as filed with the SEC on March 31, 2021;
- Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2021, as filed with the SEC on May 24, 2021;
- The information identified as incorporated by reference under Items 10, 11, 12, 13 and 14 of Part III of our Annual Report, from our definitive Proxy Statement for our 2021 Annual Meeting of Shareholders dated [April 30, 2021](#);
- Our Current Reports on Form 8-K filed with the SEC on [February 2, 2021](#), [March 2, 2021](#), [April 29, 2021](#), [June 21, 2021](#) and [July 26, 2021](#) (Items 1.01, 9.01 and Cautionary Statement Regarding Forward-Looking Statements only); and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) filed with the SEC on December 13, 2018, including any amendments and reports filed for the purpose of updating such description.

We will provide a copy of the documents we incorporate by reference, at no cost, to any person who receives this prospectus supplement. To request a copy of any or all of these documents, you should write or telephone us at 22 Einstein St., 5th floor, Ness Ziona, Israel, Attention: Ms. Marina Wolfson, or +972 723942377, respectively.

PROSPECTUS



\$150,000,000

Common Stock

Preferred Stock

Debt Securities

Warrants

Units

We may from time to time sell common stock, preferred stock, debt securities, warrants to purchase common stock, and units of two or more of such securities, in one or more offerings for an aggregate initial offering price of \$150,000,000. We refer to the common stock, the preferred stock, the debt securities, the warrants to purchase common stock and the units collectively as the securities. This prospectus describes the general manner in which our securities may be offered using this prospectus. Other than in connection with the exercise of certain outstanding warrants, we will specify in an accompanying prospectus supplement the terms of the securities to be offered and sold. We may sell these securities to or through underwriters or dealers, directly to purchasers or through agents. We will set forth the names of any underwriters, dealers or agents in an accompanying prospectus supplement. You should carefully read this prospectus and any accompanying supplements before you decide to invest in any of these securities.

Our common stock is traded on the NYSE American Stock Market, or NYSE American, under the symbol "PHGE" and on the Tel Aviv Stock Exchange, or TASE, under the symbol "PHGE." On November 30, 2020, the last reported sale price of our common stock on NYSE American was \$6.20 per share.

Investing in our securities involves risks. See "Risk Factors" on page 3 of this prospectus.

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

The date of this prospectus is December 11, 2020.

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You should rely only on the information contained in this prospectus, any prospectus supplement and the documents incorporated by reference herein or therein, or to which we have referred you. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus and any prospectus supplement do not constitute an offer to sell, or a solicitation of an offer to purchase, the securities offered by this prospectus and any prospectus supplement in any jurisdiction to or from any person to whom or from whom it is unlawful to make such offer or solicitation of an offer in such jurisdiction. You should not assume that the information contained in this prospectus, any prospectus supplement or any document incorporated by reference is accurate as of any date other than the date indicated in the applicable document.

Neither the delivery of this prospectus nor any distribution of securities pursuant to this prospectus shall, under any circumstances, create any implication that there has been no change in the information set forth or incorporated by reference into this prospectus or in our affairs since the date of this prospectus. Our business, financial condition, results of operations and prospects may have changed since that date.

Our name and logo and the names of our products are our trademarks or registered trademarks. Unless the context otherwise requires, references in this prospectus to “BiomX,” “we,” “us,” and “our” refer to BiomX Inc. and its wholly-owned Israeli subsidiary, BiomX Ltd. and RondinX Ltd., an Israeli company and wholly-owned subsidiary of BiomX Ltd.

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the SEC using a “shelf” registration process. Under this shelf registration process, we may, from time to time, sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$150,000,000. This prospectus describes the securities we may offer and the general manner in which our securities may be offered by this prospectus. Each time we sell securities (other than in connection with the exercise of certain outstanding warrants), we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus. To the extent there is a conflict between the information contained in this prospectus and the 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 company developing products using both natural and engineered phage technologies designed to target and destroy bacteria that affect the appearance of skin, as well as harmful bacteria in chronic diseases, such as inflammatory bowel disease, or IBD, primary sclerosing cholangitis, cystic fibrosis, or CF, atopic dermatitis and colorectal cancer. Bacteriophage or phage are viruses that target bacteria and are considered inert to mammalian cells. By developing proprietary combinations of naturally occurring phage and by creating novel phage using synthetic biology, we develop phage-based therapies intended to address large-market and orphan diseases.

Since inception in 2015, we have devoted substantially all our resources to organizing and staffing the company, raising capital, acquiring rights to or discovering product candidates, developing our technology platforms, securing related intellectual property rights and conducting discovery, research and development activities for our product candidates. We do not have any products approved for sale, our products are still in the preclinical and clinical development stages, and we have not generated any revenue from product sales. As we move our product candidates from preclinical to clinical stage and continue with clinical trials, we expect our expenses to increase.

On November 12, 2020, we announced our new BOLT (“Bacteriophage Lead to Treatment”) research and development platform. The BOLT platform enables us to rapidly develop, manufacture and formulate phage therapy candidates targeting particular pathogenic bacteria and incorporates our experience over the past five years with process refinement and implementation of technological advancements. The BOLT platform is unique, employing cutting edge capabilities across disciplines including computational biology, microbiology, phage synthetic engineering, unique assay development, manufacturing and formulation, to allow agile and efficient development of phage therapies. For a given indication, the platform will allow for the completion of a clinical proof of concept study in patients, meaning Phase 2 results, within approximately 12-18 months from project initiation (in certain indications the length of clinical proof of concept may be longer depending on the indication, identity of target bacteria, recruitment rate, cohort size and other factors). The ability to move quickly into clinical development is also driven by the strong safety profile of naturally-occurring phage, as corroborated by regulatory guidance we received from the U.S. Food and Drug Administration, or the FDA, relating to our IBD program, allowing us to bypass preclinical safety studies and studies in healthy volunteers and to proceed directly to patient studies. The platform allows generation of personalized phage treatments, tailored to target specific bacterial strains in a given patient, allowing us to conduct an initial clinical proof of concept study in patients (Phase 2 results) within approximately 12-18 months of project initiation for many indications, and, in parallel, also the development of an optimized phage therapy candidate with a fixed composition optimized for the treatment of a specific indication for the overall patient population. We are initially utilizing the BOLT platform in our cystic fibrosis and atopic dermatitis programs.

BiomX’s approach is driven by the convergence of several factors: rapidly increasing understanding of phage, including the links between phage behaviors and their genomes; growing evidence that harmful bacteria are present and involved in chronic diseases, such as IBD, that could, in principle, be treated with phage; as well as by a growing number of anecdotal reports from different academic centers of successful compassionate use administration of phages to seriously ill patients who were unresponsive to other therapies. BiomX believes its phage therapeutic product candidates have the ability to treat conditions and diseases by precisely targeting pathogenic bacteria without disrupting other bacteria or the healthy microbiota.

BiomX's goal is to develop multiple products based on the ability of phage to precisely target components of the microbiome and on BiomX's ability to screen, identify and combine different phage, both naturally occurring and created using synthetic engineering, to develop these treatments

Clinical Developments

On November 12, 2020, we announced initiation of a new phage therapy program in CF addressing chronic respiratory infections caused by *Pseudomonas aeruginosa*, a main contributor to morbidity and mortality in these patients. Subject to our preparation and submission of an investigational new drug application, or IND, that must take effect, Phase 2 results of a proof of concept clinical study evaluating safety and efficacy in patients are expected in the fourth quarter of 2021.

On November 12, 2020, we also announced the initiation of a new program for development of a topically administered phage-based product targeting *Staphylococcus aureus*, a bacterium linked to the development and exacerbation of inflammation in atopic dermatitis. Subject to our preparation and submission of an IND that must take effect, Phase 2 results of a proof of concept clinical study evaluating safety and efficacy in patients are expected in the first half of 2022.

RISK FACTORS

An investment in our securities involves significant risks. You should carefully consider the risk factors below as well as risk factors contained in any prospectus supplement and in our filings with the SEC, including our Annual Report on [Form 10-K](#) for the fiscal year ended December 31, 2019, our quarterly report on [Form 10-Q](#) for the quarter ended September 30, 2020, our Current Report on [Form 8-K](#), filed on December 4, 2020, as well as all of the information contained in this prospectus, any prospectus supplement and the other documents incorporated by reference herein or therein, before you decide to invest in our securities. Our business, prospects, financial condition and results of operations may be materially and adversely affected as a result of any of such risks. The value of our securities could decline as a result of any of these risks. You could lose all or part of your investment in our securities. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business, prospects, financial condition and results of operations.

The summary below provides an overview of many of the risks we face. Consistent with the foregoing, the risks we face include, but are not limited to, the following:

- We are a development clinical-stage company with limited operating history, we have never generated any revenue from product sales and may never be profitable. We anticipate that our expenses will increase significantly and we will continue to incur increasing and significant losses for the foreseeable future.
- We will need to raise additional capital in the future to support our operations which may not be available at terms that are favorable to us and might cause significant dilution to our stockholders.
- We are seeking to develop product candidates using phage technology, an approach for which it is difficult to predict the potential success and time and cost of development. To our knowledge, no bacteriophage has thus far been approved as a drug in the United States or in the European Union.
- Our product candidates must undergo clinical testing which may fail to demonstrate the requisite safety and tolerability for cosmetics, safety and efficacy for drug products, or safety, purity, and potency for biologics, and any of our product candidates could cause adverse effects, which would substantially delay or prevent regulatory approval and/or commercialization.
- The COVID-19 pandemic may adversely affect our business, including our clinical trials.
- If we are not able to obtain, or if there are delays in obtaining, required regulatory approvals for our product candidates for therapeutic indications, we will not be able to commercialize, or will be delayed in commercializing them.
- Regulatory requirements for development of our product candidates are uncertain and evolving. Changes in these laws or the current interpretation or application of these laws would have a significant adverse impact on our ability to develop and commercialize our product candidates. Our success is also largely dependent on a broad degree of market acceptance of our product candidates and, in the case of drug products, physician adoption and use, which are necessary for commercial success.
- Initiating, managing and completing clinical trials entails many risks, including in enrolling patients, non-performance of third parties we rely on to manage and perform clinical trials, delays and adverse effects. Even if successfully completed, results from clinical studies may not be replicated in subsequent clinical trials.
- If our competitors are able to develop and market products that are more effective, safer or more affordable than ours, or obtain marketing approval before we do, our commercial opportunities may be limited.
- Legal requirements as well as ethical and social concerns about synthetic biology and genetic engineering could limit or prevent the use of our technologies and limit our revenues.
- There is a substantial risk of product liability claims in our business. If we do not obtain sufficient liability insurance, a product liability claim could result in substantial liabilities to us.

- Failure to comply with health and data protection laws and regulations could lead to claims, government enforcement actions, regulatory actions, private litigation and/or adverse publicity. In addition, our business and operations might be adversely affected by security breaches, including any cybersecurity incidents.
- Our relationships with healthcare providers, physicians and third-party payors will be subject to applicable anti-kickback, fraud and abuse and other healthcare laws and regulations, which could expose us to criminal sanctions, civil penalties, contractual damages, reputational harm and other consequences.
- Even if we receive regulatory approval of any product candidates for therapeutic indications, we will be subject to ongoing regulatory compliance obligations and continued regulatory review as well as unfavorable health care legislative and regulatory reform measures. Additionally, any of our product candidates, if approved, could be subject to labeling and other restrictions and market withdrawal, and we may be subject to penalties if we fail to comply with regulatory requirements or experience unanticipated problems with our product candidates.
- We are highly dependent on intellectual property licensed from third parties, collaborations with third parties in research and development and manufacturing of our clinical supply of product candidates. Termination or limitation of any of these licenses as well as third party collaborations could result in the loss of significant rights and materially harm our business.
- We are dependent on patents and proprietary technology such as trade secrets and other forms of non-patent intellectual property protection. If we fail to adequately protect this intellectual property our ability to commercialize products could suffer. If we infringe the rights of third parties, we could be prevented from selling products, forced to pay damages and/or royalties, and forced to defend against litigation which might be very expensive to us.
- We rely on our BOLT proprietary product platform to develop our phage therapies. Our competitive position could be materially harmed if our competitors develop similar platforms and develop rival product candidates.
- Because our headquarters and principal facilities are located in the State of Israel, we are exposed to potential political, economic and military instability in Israel that might adversely affect us.
- We have received, and may continue to receive, Israeli and other governmental grants to assist in the funding of our research and development activities. If we lose such funding we may encounter difficulties in the funding of future research and development. In addition, such Israeli government grants restrict our ability to manufacture products and transfer technology outside of Israel and require us to satisfy specified conditions. If we fail to satisfy such conditions, we may be required to refund grants, together with interest and penalties.
- We incur significant costs operating as a public company, including significant management attention to maintaining and improving our internal control over financial reporting and the requirements of being a public company which may, among other things, strain our resources and divert management's attention.
- Exchange rate fluctuations between the U.S. Dollar, the New Israeli Shekel, the Euro and other foreign currencies, may negatively affect our future revenues and expenses.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

The statements contained in this prospectus, any prospectus supplement 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:

- our limited operating history;
- 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;
- the impact of the COVID-19 pandemic on general economic conditions, our operations, the continuity of our business, including our preclinical and clinical trials and our ability to raise additional capital;
- the FDA’s classification of our BX001 product candidate for acne-prone skin as a drug or cosmetic and the impact of changing regulatory requirements on our ability to develop and commercialize BX001;
- obtaining FDA acceptance of any non-U.S. clinical trials of product candidates;
- 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;
- the ability of our product candidates to demonstrate requisite safety and tolerability for cosmetics, 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;
- our ability to enroll patients in clinical trials and achieve anticipated development milestones when expected;
- 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;

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- the impact of unfavorable pricing regulations, third-party reimbursement practices or health care 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 manage the growth of the business;
- 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;
- potential security breaches, including cybersecurity incidents;
- political, economic and military instability in the State of Israel; and
- other factors described in the documents incorporated by reference in this prospectus and any prospectus supplement.

The factors discussed herein, including those risks described under the heading “Risk Factors” herein, in any prospectus supplement 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, any prospectus supplement 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.

USE OF PROCEEDS

Unless we otherwise indicate in an applicable prospectus supplement, we currently intend to use the net proceeds from the sale of the securities for research and product development activities, clinical trial activities, manufacturing for clinical trials and for preparing our product candidates for commercialization, marketing and business development, investment in capital equipment and infrastructure and for working capital and other general corporate purposes.

We may set forth additional information on the use of net proceeds from the sale of securities we offer under this prospectus in a prospectus supplement relating to the specific offering. Pending the application of the net proceeds, we intend to invest the net proceeds in money market funds and investment securities consisting of U.S. Treasury notes, or high quality, marketable debt instruments of corporations and government sponsored enterprises subject to any investment policies our investment committee may determine from time to time.

THE SECURITIES WE MAY OFFER

The descriptions of the securities contained in this prospectus, together with any applicable prospectus supplement, summarize the material terms and provisions of the various types of securities that we may offer. We will describe in any applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we so indicate in any applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We may also include in any prospectus supplement information, where applicable, about material U.S. federal income tax consequences relating to the securities, and the securities exchange or market, if any, on which the securities will be listed.

We may sell from time to time, in one or more offerings, one or more of the following securities:

- common stock;
- preferred stock;
- debt securities
- warrants to purchase common stock; and
- units of two or more of the securities mentioned above.

The total initial offering price of all securities that we may issue in these offerings will not exceed \$150,000,000.

DESCRIPTION OF CAPITAL STOCK

The following summary is a description of the material terms of our share capital. We encourage you to read our Amended and Restated Certificate of Incorporation, as amended, or our Certificate of Incorporation, and Amended and Restated By-laws, or our Bylaws, which have been filed with the SEC, as well as the applicable provisions of the General Corporation Law of the State of Delaware, or the DGCL, for more information.

As of November 30, 2020, our authorized capital stock consists of 60,000,000 shares of common stock, of which there were 23,173,378 shares outstanding as of September 30, 2020, and 1,000,000 shares of preferred stock, none of which are outstanding. The following statements set forth the material terms of our capital stock; however, reference is made to the more detailed provisions of, and these statements are qualified in their entirety by reference to, our Certificate of Incorporation and Bylaws, copies of which are referenced as exhibits herein, and the provisions of the DGCL.

Common Stock

Our 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. Our stockholders 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. 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.

Preferred Stock

There are no shares of preferred stock outstanding. 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. Although we do not currently intend to issue any shares of preferred stock, we reserve the right to do so in the future. No shares of preferred stock are being issued or registered hereunder.

Transfer Agent

The transfer agent for our shares of common stock is Continental Stock Transfer & Trust Company, 17 Battery Place, New York, New York 10004.

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 10% 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.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the debt securities we may offer under this prospectus. While the terms summarized below will apply generally to any debt securities that we may offer, we will describe the particular terms of any series of debt securities in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any debt securities offered under that prospectus supplement may differ from the terms we describe below.

We may issue debt securities either separately, or together with, or upon the conversion or exercise of or in exchange for, other securities described in this prospectus. Debt securities may be our senior, senior subordinated or subordinated obligations and, unless otherwise specified in a supplement to this prospectus, the debt securities will be our direct, unsecured obligations and may be issued in one or more series.

The debt securities will be issued under an indenture between us and a trustee to be named in the applicable indenture, or the indenture. We have summarized select portions of the indenture below. The summary is not complete. The form of the indenture has been filed as an exhibit to the registration statement of which this prospectus forms a part and you should read the indenture for provisions that may be important to you. Capitalized terms used in the summary and not defined herein have the meanings specified in the indenture.

As of November 30, 2020, we have no outstanding debt securities.

As used in this section only, “BiomX,” “we,” “our” or “us” refer to BiomX Inc., excluding our subsidiaries, unless expressly stated or the context otherwise requires.

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our Board of Directors and set forth or determined in the manner provided in a resolution of our Board of Directors, by a supplemental indenture or an Officer’s Certificate. The particular terms of each series of debt securities will be described in a prospectus supplement relating to such series (including any pricing supplement or term sheet).

We can issue an unlimited amount of debt securities under the indenture that may be in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will set forth in a prospectus supplement (including any pricing supplement or term sheet) relating to any series of debt securities being offered, the aggregate principal amount and the following terms of such debt securities, if applicable:

- the title and ranking of the debt securities of such series (including the terms of any subordination provisions);
- the price or prices (expressed as a percentage of the principal amount) at which we will issue the debt securities of such series;
- any limit on the aggregate principal amount of the debt securities of such series;
- the date or dates on which the principal of the debt securities of such series is payable;
- the rate or rates (which may be fixed or variable) per annum or the method used to determine the rate or rates (including any commodity, commodity index, stock exchange index or financial index) at which the debt securities of such series will bear interest, the date or dates from which interest will accrue, the date or dates on which interest will commence and be payable and any regular record date for the interest payable on any interest payment date;
- the place or places where principal of, and interest, if any, on the debt securities of such series will be payable (and the method of such payment), where the debt securities of such series may be surrendered for registration of transfer or exchange, and where notices and demands to us in respect of the debt securities of such series may be delivered;
- the period or periods within which, the price or prices at which and the terms and conditions upon which we may redeem, in whole or in part, the debt securities of such series;

- any obligation we have to redeem or purchase the debt securities of such series pursuant to any sinking fund or analogous provisions or at the option of a holder of debt securities and the period or periods within which, the price or prices at which and in the terms and conditions upon which the debt securities of such series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
- the dates on which and the price or prices at which we will repurchase debt securities of such series at the option of the holders of such debt securities and other detailed terms and provisions of these repurchase obligations;
- the denominations in which the debt securities of such series will be issued, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the debt securities of such series will be issued in the form of certificated debt securities or global debt securities;
- the portion of principal amount of the debt securities of such series payable upon declaration of acceleration of the maturity date, if other than the principal amount;
- the currency of denomination of the debt securities of such series, which may be Dollars or any Foreign Currency, and if such currency of denomination is a composite currency, the agency or organization, if any, responsible for overseeing such composite currency;
- the designation of the currency, currencies or currency units in which payment of principal of, premium and interest on the debt securities of such series will be made;
- if payments of principal of, premium or interest on the debt securities of such series will be made in one or more currencies or currency units other than that or those in which such debt securities are denominated, the manner in which the exchange rate with respect to these payments will be determined;
- the manner in which the amounts of payment of principal of, premium, if any, or interest on the debt securities of such series will be determined, if these amounts may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index;
- any provisions relating to any security provided for the debt securities of such series;
- any addition to, deletion of or change in the Events of Default described in this prospectus or in the indenture with respect to the debt securities of such series and any change in the acceleration provisions described in this prospectus or in the indenture with respect to such debt securities;
- any addition to, deletion of or change in the covenants described in this prospectus or in the indenture with respect to the debt securities of such series;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents with respect to the debt securities of such series;
- the provisions, if any, relating to conversion or exchange of any debt securities of such series, including if applicable, the conversion or exchange price and period, provisions as to whether conversion or exchange will be mandatory, at the option of holders or at our option, the events requiring an adjustment of the conversion or exchange price and provisions affecting conversion or exchange;
- any other terms of the debt securities of such series, which may supplement, modify or delete any provision of the indenture as it applies to that series, including any terms that may be required under applicable law or regulations or advisable in connection with the marketing of such debt securities; and
- whether any of our direct or indirect subsidiaries will guarantee the debt securities of that series, including the terms of subordination, if any, of such guarantees.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

If we denominate the purchase price of any debt securities in a foreign currency or currencies or a foreign currency unit or units, or if the principal of and any premium and interest on any series of debt securities is payable in a foreign currency or currencies or a foreign currency unit or units, we will provide you with information on the restrictions, elections, general tax considerations, specific terms and other information with respect to that issue of debt securities and such foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Transfer and Exchange

Each debt security will be represented by either one or more global securities registered in the name of The Depository Trust Company, or the Depository, or a nominee of the Depository (we will refer to any debt security represented by a global debt security as a “book-entry debt security”), or a certificate issued in definitive registered form (we will refer to any debt security represented by a certificated security as a “certificated debt security”) as set forth in the applicable prospectus supplement. Except as set forth under the heading “Global Debt Securities” below, book-entry debt securities will not be issuable in certificated form.

Certificated Debt Securities. You may transfer or exchange certificated debt securities at any office we maintain for this purpose in accordance with the terms of the indenture. No service charge will be made for any transfer or exchange of certificated debt securities, but we may require payment of a sum sufficient to cover any tax or other governmental charge payable in connection with a transfer or exchange.

You may effect the transfer of certificated debt securities and the right to receive the principal of, premium and interest on certificated debt securities only by surrendering the certificate representing those certificated debt securities and either reissuance by us or the trustee of the certificate to the new holder or the issuance by us or the trustee of a new certificate to the new holder.

Global Debt Securities and Book-Entry System. Each global debt security representing book-entry debt securities will be deposited with, or on behalf of, the Depository, and registered in the name of the Depository or a nominee of the Depository. Please see “Global Debt Securities.”

Covenants

We will set forth in the applicable prospectus supplement any restrictive covenants applicable to any issue of debt securities.

No Protection in the Event of a Change of Control

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions which may afford holders of the debt securities protection in the event we have a change in control or in the event of a highly leveraged transaction (whether or not such transaction results in a change in control) which could adversely affect holders of debt securities.

Consolidation, Merger and Sale of Assets

We may not consolidate with or merge with or into, or convey, transfer or lease all or substantially all of our properties and assets to any person (a “successor person”) unless:

- we are the surviving corporation or the successor person (if other than BiomX) is a corporation organized and validly existing under the laws of any U.S. domestic jurisdiction and expressly assumes our obligations on the debt securities and under the indenture; and
- immediately after giving effect to the transaction, no Default or Event of Default, shall have occurred and be continuing.

Notwithstanding the above, any of our subsidiaries may consolidate with, merge into or transfer all or part of its properties to us.

Events of Default

“Event of Default” means with respect to any series of debt securities, any of the following:

- default in the payment of any interest upon any debt security of that series when it becomes due and payable, and continuance of such default for a period of 30 days;
- default in the payment of principal or premium, if any, of any debt security of that series at its maturity;
- default in the performance or breach of any other covenant or warranty by us in the indenture (other than a covenant or warranty that has been included in the indenture solely for the benefit of a series of debt securities other than that series), which default continues uncured for a period of 60 days after we receive written notice from the trustee or we and the trustee receive written notice from the holders of not less than a majority in principal amount of the outstanding debt securities of that series as provided in the indenture;
- certain voluntary or involuntary events of bankruptcy, insolvency or reorganization of us; and
- any other Event of Default provided with respect to debt securities of that series that is described in the applicable prospectus supplement.

No Event of Default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) will necessarily constitute an Event of Default with respect to any other series of debt securities. The occurrence of certain Events of Default or an acceleration under the indenture may constitute an event of default under certain indebtedness of ours or our subsidiaries outstanding from time to time.

We will provide the trustee written notice of any Default or Event of Default within 30 days of becoming aware of the occurrence of such Default or Event of Default, which notice will describe in reasonable detail the status of such Default or Event of Default and what action we are taking or propose to take in respect thereof.

If an Event of Default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the trustee if given by the holders), declare to be due and payable immediately the principal of (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) and accrued and unpaid interest, if any, on all debt securities of that series. In the case of an Event of Default resulting from certain events of bankruptcy, insolvency or reorganization, the principal (or such specified amount) of and accrued and unpaid interest, if any, on all outstanding debt securities will become and be immediately due and payable without any declaration or other act on the part of the trustee or any holder of outstanding debt securities. At any time after a declaration of acceleration with respect to debt securities of any series has been made, but before a judgment or decree for payment of the money due has been obtained by the trustee, the holders of a majority in principal amount of the outstanding debt securities of that series may rescind and annul the acceleration if all Events of Default, other than the non-payment of accelerated principal and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the indenture. We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an Event of Default.

The indenture provides that the trustee may refuse to perform any duty or exercise any of its rights or powers under the indenture unless the trustee receives indemnity satisfactory to it against any cost, liability or expense which might be incurred by it in performing such duty or exercising such right or power. Subject to certain rights of the trustee, the holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or exercising any trust or power conferred on the trustee with respect to the debt securities of that series.

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No holder of any debt security of any series will have any right to institute any proceeding, judicial or otherwise, with respect to the indenture or for the appointment of a receiver or trustee, or for any remedy under the indenture, unless:

- that holder has previously given to the trustee written notice of a continuing Event of Default with respect to debt securities of that series; and
- the holders of not less than a majority in principal amount of the outstanding debt securities of that series have made written request, and offered indemnity or security satisfactory to the trustee, to the trustee to institute the proceeding as trustee, and the trustee has not received from the holders of not less than a majority in principal amount of the outstanding debt securities of that series a direction inconsistent with that request and has failed to institute the proceeding within 60 days.

Notwithstanding any other provision in the indenture, the holder of any debt security will have an absolute and unconditional right to receive payment of the principal of, premium and any interest on that debt security on or after the due dates expressed in that debt security and to institute suit for the enforcement of payment.

The indenture requires us, within 120 days after the end of our fiscal year, to furnish to the trustee a statement as to compliance with the indenture. If a Default or Event of Default occurs and is continuing with respect to the securities of any series and if it is known to a responsible officer of the trustee, the trustee shall mail to each Securityholder of the securities of that series notice of a Default or Event of Default within 90 days after it occurs or, if later, after a responsible officer of the trustee has knowledge of such Default or Event of Default. The indenture provides that the trustee may withhold notice to the holders of debt securities of any series of any Default or Event of Default (except in payment on any debt securities of that series) with respect to debt securities of that series if the trustee determines in good faith that withholding notice is in the interest of the holders of those debt securities.

Modification and Waiver

We and the trustee may modify, amend or supplement the indenture or the debt securities of any series without the consent of any holder of any debt security:

- to cure any ambiguity, defect or inconsistency;
- to comply with covenants in the indenture described above under the heading “Consolidation, Merger and Sale of Assets”;
- to provide for uncertificated securities in addition to or in place of certificated securities;
- to add guarantees with respect to debt securities of any series or secure debt securities of any series;
- to surrender any of our rights or powers under the indenture;
- to add covenants or events of default for the benefit of the holders of debt securities of any series;
- to comply with the applicable procedures of the applicable depositary;
- to make any change that does not adversely affect the rights of any holder of debt securities;
- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to effect the appointment of a successor trustee with respect to the debt securities of any series and to add to or change any of the provisions of the indenture to provide for or facilitate administration by more than one trustee; or
- to comply with requirements of the SEC in order to effect or maintain the qualification of the indenture under the Trust Indenture Act.

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We may also modify and amend the indenture with the consent of the holders of at least a majority in principal amount of the outstanding debt securities of each series affected by the modifications or amendments. We may not make any modification or amendment without the consent of the holders of each affected debt security then outstanding if that amendment will:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement or waiver;
- reduce the rate of or extend the time for payment of interest (including default interest) on any debt security;
- reduce the principal of or premium on or change the fixed maturity of any debt security or reduce the amount of, or postpone the date fixed for, the payment of any sinking fund or analogous obligation with respect to any series of debt securities;
- reduce the principal amount of discount securities payable upon acceleration of maturity;
- waive a default in the payment of the principal of, premium or interest on any debt security (except a rescission of acceleration of the debt securities of any series by the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of that series and a waiver of the payment default that resulted from such acceleration);
- make the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security;
- make any change to certain provisions of the indenture relating to, among other things, the right of holders of debt securities to receive payment of the principal of, premium and interest on those debt securities and to institute suit for the enforcement of any such payment and to waivers or amendments; or
- waive a redemption payment with respect to any debt security.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

Legal Defeasance. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, we may be discharged from any and all obligations in respect of the debt securities of any series (subject to certain exceptions). We will be so discharged upon the irrevocable deposit with the trustee, in trust, of money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money or U.S. government obligations in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities.

This discharge may occur only if, among other things, we have delivered to the trustee an opinion of counsel stating that we have received from, or there has been published by, the United States Internal Revenue Service a ruling or, since the date of execution of the indenture, there has been a change in the applicable United States federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a

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result of the deposit, defeasance and discharge and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit, defeasance and discharge had not occurred.

Defeasance of Certain Covenants. The indenture provides that, unless otherwise provided by the terms of the applicable series of debt securities, upon compliance with certain conditions:

- we may omit to comply with the covenant described under the heading “Consolidation, Merger and Sale of Assets” and certain other covenants set forth in the indenture, as well as any additional covenants which may be set forth in the applicable prospectus supplement; and
- any omission to comply with those covenants will not constitute a Default or an Event of Default with respect to the debt securities of that series (“covenant defeasance”).

The conditions include:

- depositing with the trustee money and/or U.S. government obligations or, in the case of debt securities denominated in a single currency other than U.S. Dollars, government obligations of the government that issued or caused to be issued such currency, that, through the payment of interest and principal in accordance with their terms, will provide money in an amount sufficient in the opinion of a nationally recognized firm of independent public accountants or investment bank to pay and discharge each installment of principal of, premium and interest on and any mandatory sinking fund payments in respect of the debt securities of that series on the stated maturity of those payments in accordance with the terms of the indenture and those debt securities; and
- delivering to the trustee an opinion of counsel to the effect that the holders of the debt securities of that series will not recognize income, gain or loss for United States federal income tax purposes as a result of the deposit and related covenant defeasance and will be subject to United States federal income tax on the same amounts and in the same manner and at the same times as would have been the case if the deposit and related covenant defeasance had not occurred.

No Personal Liability of Directors, Officers, Employees or Securityholders

None of our past, present or future Directors, officers, employees or securityholders, as such, will have any liability for any of our obligations under the debt securities or the indenture or for any claim based on, or in respect or by reason of, such obligations or their creation. By accepting a debt security, each holder waives and releases all such liability. This waiver and release is part of the consideration for the issue of the debt securities. However, this waiver and release may not be effective to waive liabilities under U.S. federal securities laws, and it is the view of the SEC that such a waiver is against public policy.

Global Debt Securities

We may issue the debt securities of a series in whole or in part in the form of one or more registered global securities that we will deposit with a depositary or with a nominee for a depositary identified in the applicable prospectus supplement and registered in the name of such depositary or nominee. In such case, we will issue one or more registered global securities denominated in an amount equal to the aggregate principal amount of all of the debt securities of the series to be issued and represented by such registered global security or securities.

Unless and until it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred except as a whole:

- by the depositary for such registered global security to its nominee;
- by a nominee of the depositary to the depositary or another nominee of the depositary; or
- by the depositary or its nominee to a successor of the depositary or a nominee of the successor.

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The prospectus supplement relating to a series of debt securities will describe the specific terms of the depositary arrangement with respect to any portion of such series represented by a registered global security. We currently anticipate that the following provisions will apply to all depositary arrangements for debt securities:

- ownership of beneficial interests in a registered global security will be limited to persons that have accounts with the depositary for the registered global security, those persons being referred to as “participants,” or persons that may hold interests through participants;
- upon the issuance of a registered global security, the depositary for the registered global security will credit, on its book-entry registration and transfer system, the participants’ accounts with the respective principal amounts of the debt securities represented by the registered global security beneficially owned by the participants;
- any dealers, underwriters or agents participating in the distribution of the debt securities will designate the accounts to be credited; and
- ownership of any beneficial interest in the registered global security will be shown on, and the transfer of any ownership interest will be effected only through, records maintained by the depositary for the registered global security (with respect to interests of participants) and on the records of participants (with respect to interests of persons holding through participants).

The laws of some states may require that certain purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in registered global securities.

So long as the depositary for a registered global security, or its nominee, is the registered owner of the registered global security, the depositary, or the nominee, as the case may be, will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the applicable indenture. Except as set forth below, owners of beneficial interests in a registered global security:

- will not be entitled to have the debt securities represented by a registered global security registered in their names;
- will not receive or be entitled to receive physical delivery of the debt securities in the definitive form; and
- will not be considered the owners or holders of the debt securities under the applicable indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depositary or the registered global security and, if the person is not a participant, on the procedures of a participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture.

We understand that under currently existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under an indenture, the depositary for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and those participants would authorize beneficial owners owning through those participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

We will make payments of principal of and premium, if any, and interest, if any, on debt securities represented by a registered global security registered in the name of a depositary or its nominee to the depositary or its nominee, as the case may be, as the registered owners of the registered global security. Neither we nor any trustee or any other agent of us or a trustee will be responsible or liable for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

We expect that the depositary for any debt securities represented by a registered global security, upon receipt of any payments of principal and premium, if any, and interest, if any, in respect of the registered global security, will immediately credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the registered global security as shown on the records of the depositary. We also expect that standing customer instructions and customary practices will govern payments by participants to owners of beneficial interests in the registered global security held through the participants, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name." We also expect that any of these payments will be the responsibility of the participants.

No registered global security may be exchanged in whole or in part for debt securities registered, and no transfer of a registered global security in whole or in part may be registered, in the name of any person other than the depositary for such registered global security, unless (1) such depositary notifies us that it is unwilling or unable to continue as depositary for such registered global security or has ceased to be a clearing agency registered under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and we fail to appoint an eligible successor depositary within 90 days, (2) an event of default shall have occurred and be continuing with respect to such debt securities, or (3) circumstances, if any, exist in addition to or in lieu of the foregoing as have been specified for that purpose in an applicable prospectus supplement. In any such case, the affected registered global security may be exchanged in whole or in part for debt securities in definitive form and the applicable trustee will register any such debt securities in such name or names as such depositary directs.

We currently anticipate that certain registered global securities will be deposited with, or on behalf of, The Depository Trust Company, New York, New York, or DTC, and will be registered in the name of Cede & Co., as the nominee of DTC. DTC has advised us that DTC is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act. DTC holds securities that its participants, or direct participants, deposit with DTC. DTC also facilitates the post-trade settlement among direct participants of sales and other securities transactions in deposited securities, through electronic computerized book-entry transfers and pledges between direct participants' accounts. This eliminates the need for physical movement of securities certificates. Direct participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations. DTC is a wholly owned subsidiary of The Depository Trust & Clearing Corporation, or DTCC. DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies and clearing corporations that clear through or maintain a custodial relationship with a direct participant, either directly or indirectly.

The rules applicable to DTC and its direct participants are on file with the SEC. The information in this paragraph concerning DTC and DTC's book-entry system has been obtained from sources that we believe to be reliable, but we take no responsibility for the accuracy thereof. In the event registered global securities are deposited with, or on behalf of, a depositary other than DTC, we will describe additional or differing terms of the depositary arrangements in the applicable prospectus supplement relating to that particular series of debt securities.

We may also issue bearer debt securities of a series in the form of one or more global securities, referred to as "bearer global securities." We currently anticipate that we will deposit these bearer global securities with a common depositary for Euroclear Bank S.A./N.V. and Clearstream Banking, société anonyme, or with a nominee for the depositary identified in the prospectus supplement relating to that series. The prospectus supplement relating to a series of debt securities represented by a bearer global security will describe the specific terms and procedures, including the specific terms of the depositary arrangement and any specific procedures for the issuance of debt securities in definitive form in exchange for a bearer global security, with respect to the portion of the series represented by a bearer global security.

Neither we nor any trustee assumes any responsibility for the performance by DTC or any other depositary or its participants of their respective obligations, including obligations that they have under the rules and procedures that govern their operations.

Governing Law

The indenture and the debt securities, including any claim or controversy arising out of or relating to the indenture or the securities, will be governed by the laws of the State of New York.

The indenture will provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to the indenture, the debt securities or the transactions contemplated thereby.

The indenture will provide that any legal suit, action or proceeding arising out of or based upon the indenture or the transactions contemplated thereby may be instituted in the federal courts of the United States of America located in the City of New York or the courts of the State of New York in each case located in the City of New York, and we, the trustee and the holder of the debt securities (by their acceptance of the debt securities) irrevocably submit to the non-exclusive jurisdiction of such courts in any such suit, action or proceeding. The indenture will further provide that service of any process, summons, notice or document by mail (to the extent allowed under any applicable statute or rule of court) to such party's address set forth in the indenture will be effective service of process for any suit, action or other proceeding brought in any such court. The indenture will further provide that we, the trustee and the holders of the debt securities (by their acceptance of the debt securities) irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the courts specified above and irrevocably and unconditionally waive and agree not to plead or claim any such suit, action or other proceeding has been brought in an inconvenient forum.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the warrants that we may offer under this prospectus and the related warrant agreements and warrant certificates. While the terms summarized below will apply generally to any warrants that we may offer, we will describe the particular terms of any series of warrants (and any securities issuable upon exercise of such warrants) in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any warrants offered under that prospectus supplement may differ from the terms we describe below. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement.

General

We may issue warrants for the purchase of common stock in one or more series. We may issue warrants independently or together with common stock, and the warrants may be attached to or separate from the common stock. As of November 30, 2020, we have an aggregate of 10,501,971 warrants outstanding to purchase an aggregate of up to 7,001,971 shares of common stock with a weighted average exercise price of \$10.84, certain of which are included in our outstanding units, certain of which were issued in private placements and certain of which are traded on the NYSE American under the symbol “PHGE.WS,” or the Outstanding Warrants. However, unless set forth in the applicable prospectus supplement, any warrants offered pursuant to this prospectus will be of a separate class and have different terms from the Outstanding Warrants.

We will evidence each series of warrants by warrant certificates that we will issue under a separate agreement or by warrant agreements that we will enter into directly with the purchasers of the warrants. If we evidence warrants by warrant certificates, we will enter into a warrant agreement with a warrant agent. We will indicate the name and address of the warrant agent, if any, in the applicable prospectus supplement relating to a particular series of warrants.

We will describe in the applicable prospectus supplement the terms of the series of warrants, including:

- the offering price and aggregate number of warrants offered;
- the currency for which the warrants may be purchased or exercised;
- if applicable, the terms of the common stock with which the warrants are issued and the number of warrants issued with such common stock;
- if applicable, the date on and after which the warrants and the related common stock will be separately transferable;
- the number of shares of common stock or other securities purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the manner in which the warrants may be exercised, which may include by cashless exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreement and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of shares of common stock issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreement and warrants may be modified;
- the material United States federal income tax consequences of holding or exercising the warrants;
- the terms of the common stock issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants will not have any of the rights of holders of the common stock purchasable upon such exercise, including the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

Exercise of Warrants

Each warrant will entitle the holder to purchase the number of shares of common stock that we specify in the applicable prospectus supplement at the exercise price that we describe in the applicable prospectus supplement. Unless we otherwise specify in the applicable prospectus supplement, holders of the warrants may exercise the warrants at any time up to 5:00 P.M., Eastern U.S. time, on the expiration date that we set forth in the applicable prospectus supplement. After the close of business on the expiration date, unexercised warrants will become void.

Holders of the warrants may exercise the warrants by delivering to the warrant agent or us the warrant certificate or warrant agreement representing the warrants to be exercised together with specified information, and by paying the required amount to the warrant agent or us in immediately available funds, as provided in the applicable prospectus supplement. We will set forth on the reverse side of the warrant certificate or in the warrant agreement and in the applicable prospectus supplement the information that the holder of the warrant will be required to deliver to the warrant agent or us in connection with such exercise.

Upon receipt of the required payment and the warrant certificate or the warrant agreement, as applicable, properly completed and duly executed at the corporate trust office of the warrant agent, if any, at our offices or at any other office indicated in the applicable prospectus supplement, we will issue and deliver the common stock or other securities purchasable upon such exercise. If fewer than all of the warrants represented by the warrant certificate or warrant agreement are exercised, then we will issue a new warrant certificate or warrant agreement for the remaining amount of warrants.

Enforceability of Rights by Holders of Warrants

If we appoint a warrant agent, any warrant agent will act solely as our agent under the applicable warrant agreement and will not assume any obligation or relationship of agency or trust with any holder of any warrant. A single bank or trust company may act as warrant agent for more than one issue of warrants. A warrant agent will have no duty or responsibility in case of any default by us under the applicable warrant agreement or warrant, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a warrant may, without the consent of the related warrant agent or the holder of any other warrant, enforce by appropriate legal action its right to exercise, and receive the securities purchasable upon exercise of, its warrants.

No prospectus supplement will be delivered in connection with the issuance of these shares of common stock pursuant to the exercise of such warrants.

DESCRIPTION OF UNITS

We may issue, in one or more series, units consisting of common stock, preferred stock, debt securities and/or warrants for the purchase of common stock and/or preferred stock, in any combination. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below. As of November 30, 2020, we are authorized to issue 7,000,000 units, of which 6,019 units are outstanding, each consisting of one share of common stock and one Outstanding Warrant, or the Outstanding Units. However, unless set forth in the applicable prospectus supplement, any units offered pursuant to this prospectus will be of a separate class and have different terms from the Outstanding Units.

We will file as exhibits to a prospectus supplement, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplement related to the particular series of units that we may offer under this prospectus and the complete unit agreement and any supplemental agreements that contain the terms of the units.

Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units, including whether and under what circumstances the securities comprising the units may be held or transferred separately; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock”, “Description of Debt Securities” and “Description of Warrants” will apply to each unit and to any common stock, preferred stock, debt security or warrant included in each unit, respectively.

We may issue units in such amounts and in such distinct series as we determine.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following ways from time to time:

- through agents to the public or to investors;
- to one or more underwriters or distributors for resale to the public or to investors;
- in “at the market offerings,” within the meaning of Rule 415(a)(4) of the Securities Act;
- directly to investors in privately negotiated transactions;
- directly to a purchaser pursuant to what is known as an “equity line of credit” as described below;
- through a combination of these methods of sale; or
- upon exercise of outstanding warrants.

The securities that we distribute by any of these methods may be sold, in one or more transactions, at:

- a fixed price or prices, which may be changed;
- market prices prevailing at the time of sale;
- prices related to prevailing market prices; or
- negotiated prices.

The accompanying prospectus supplement will describe the terms of the offering of our securities, including:

- the name or names of any agents or underwriters;
- any securities exchange or market on which the common stock may be listed;
- the purchase price and commission, if any, to be paid in connection with the sale of the securities being offered and the proceeds we will receive from the sale;
- any over-allotment options pursuant to which underwriters may purchase additional securities from us;
- any underwriting discounts or agency fees and other items constituting underwriters’ or agents’ compensation;
- any public offering price; and
- any discounts or concessions allowed or reallocated or paid to dealers.

If underwriters are used in the sale, they will acquire the securities for their own account and may resell the securities from time to time in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of the sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. We may offer the securities to the public through underwriting syndicates represented by managing underwriters or by underwriters without a syndicate. Subject to certain conditions, the underwriters will be obligated to purchase all the securities offered by the prospectus supplement. We may change from time to time the public offering price and any discounts or concessions allowed or reallocated or paid to dealers.

If we use a dealer in the sale of the securities being offered pursuant to this prospectus or any prospectus supplement, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale. The names of the dealers and the terms of the transaction will be specified in a prospectus supplement.

We may sell the securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of securities and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, any agent will act on a best-efforts basis for the period of its appointment.

We may also sell securities pursuant to an “equity line of credit”. In such event, we will enter into a common stock purchase agreement with the purchaser to be named therein, which will be described in a Current Report on Form 8-K that we will file with the SEC. In that Form 8-K, we will describe the total amount of securities that we may require the purchaser to purchase under the purchase agreement and the other terms of purchase, and any rights that the purchaser is granted to purchase securities from us. In addition to our issuance of shares of common stock to the equity line purchaser pursuant to the purchase agreement, this prospectus (and the applicable prospectus supplement or post-effective amendment) also covers the resale of those shares from time to time by the equity line purchaser to the public. The equity line purchaser will be considered an “underwriter” within the meaning of Section 2(a)(11) of the Securities Act. Its resales may be effected through a number of methods, including without limitation, ordinary brokerage transactions and transactions in which the broker solicits purchasers and block trades in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction. The equity line purchaser will be bound by various anti-manipulation rules of the SEC and may not, for example, engage in any stabilization activity in connection with its resales of our securities and may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities other than as permitted under the Exchange Act.

We may sell our securities directly or through agents we designate from time to time. We will name any agent involved in the offering and sale of our common stock, and we will describe any commissions we will pay the agent in the prospectus supplement. Unless the prospectus supplement states otherwise, our agent will act on a best-efforts basis for the period of its appointment.

We may provide underwriters and agents with indemnification against civil liabilities related to offerings pursuant to this prospectus, including liabilities under the Securities Act, or contribution with respect to payments that the underwriters or agents may make with respect to these liabilities. Underwriters and agents may engage in transactions with, or perform services for, us in the ordinary course of business. We will describe such relationships in the prospectus supplement naming the underwriter or agent and the nature of any such relationship.

Rules of the SEC may limit the ability of any underwriters to bid for or purchase securities before the distribution of the shares of common stock is completed. However, underwriters may engage in the following activities in accordance with the rules:

- *Stabilizing transactions* — Underwriters may make bids or purchases for the purpose of pegging, fixing or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum.
- *Options to purchase additional stock and syndicate covering transactions* — Underwriters may sell more shares of our common stock than the number of shares that they have committed to purchase in any underwritten offering. This creates a short position for the underwriters. This short position may involve either “covered” short sales or “naked” short sales. Covered short sales are short sales made in an amount not greater than the underwriters’ option to purchase additional shares in any underwritten offering. The underwriters may close out any covered short position either by exercising their option or by purchasing shares in the open market. To determine how they will close the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market, as compared to the price at which they may purchase shares through their option. Naked short sales are short sales in excess of the option. The underwriters must close out any naked position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriters are concerned that, in the open market after pricing, there may be downward pressure on the price of the shares that could adversely affect investors who purchase shares in the offering.
- *Penalty bids* — If underwriters purchase shares in the open market in a stabilizing transaction or syndicate covering transaction, they may reclaim a selling concession from other underwriters and selling group members who sold those shares as part of the offering.

Similar to other purchase transactions, an underwriter’s purchases to cover the syndicate short sales or to stabilize the market price of our common stock may have the effect of raising or maintaining the market price of our common stock or preventing or mitigating a decline in the market price of our common stock. As a result, the price of the shares of our common stock may be higher than the price that might otherwise exist in the open market. The imposition of a penalty bid might also have an effect on the price of shares if it discourages resales of the shares.

If commenced, the underwriters may discontinue any of these activities at any time.

Our common stock is traded on NYSE American and on TASE. One or more underwriters may make a market in our common stock, but the underwriters will not be obligated to do so and may discontinue market making at any time without notice. We cannot give any assurance as to liquidity of the trading market for our common stock.

Any underwriters who are qualified market makers on NYSE American may engage in passive market making transactions in that market in the common stock in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the common stock. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

LEGAL MATTERS

Sullivan & Worcester LLP, Boston, Massachusetts, passed upon the validity of the securities offered hereby. Additional legal matters may be passed upon for any underwriters, dealers or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The financial statements incorporated in this prospectus by reference from our Annual Report on [Form 10-K](#) for the year ended December 31, 2019 have been audited by Brightman Almagor Zohar & Co., a Firm in the Deloitte Global Network, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We have filed a registration statement on Form S-3 under the Securities Act with the SEC with respect to the shares of our common stock, preferred stock, debt securities, warrants and units offered through this prospectus. This prospectus is filed as a part of that registration statement and does not contain all of the information contained in the registration statement and exhibits. We refer you to our registration statement and each exhibit attached to it for a more complete description of matters involving us, and the statements we have made in this prospectus are qualified in their entirety by reference to these additional materials.

We are subject to the reporting and information requirements of the Exchange Act and as a result file periodic reports and other information with the SEC. You can review our SEC filings and the registration statement by accessing the SEC's internet site at www.sec.gov. We maintain a corporate website at www.biomx.com. Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

INCORPORATION OF DOCUMENTS 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.

We have filed or may file the following documents with the SEC. These documents are incorporated herein by reference as of their respective dates of filing:

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2019 filed with the SEC on March 26, 2020;
- Our Quarterly Reports on Form 10-Q for the quarters ended [March 31, 2020](#), [June 30, 2020](#) and [September 30, 2020](#), as filed with the SEC on May 14, 2020, August 13, 2020 and November 12, 2020, respectively;
- Our Current Reports on Form 8-K filed with the SEC on [April 7, 2020](#), [May 5, 2020](#), [June 8, 2020](#), [October 5, 2020](#), and [December 4, 2020](#);
- The information identified as incorporated by reference under Items 10, 11, 12, 13 and 14 of Part III of our Annual Report on Form 10-K for the year ended December 31, 2019, from our definitive Proxy Statement and definitive proxy statement for our 2020 annual meeting of stockholders filed with the SEC on [April 21, 2020](#); and
- The description of our common stock, warrants and units contained in the Registration Statement on [Form 8-A](#) filed on December 13, 2018, under the Exchange Act, including any amendment or report filed or to be filed for the purpose of updating such description.

All documents filed by us pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act 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 7 Pinhas Sapir St., Floor 2, Ness Ziona, Israel, Attention: Ms. Marina Wolfson, or +972 723942377, respectively.

**3,750,000 Shares of Common Stock
Warrants to purchase up to 2,812,501 Shares of Common Stock**



PROSPECTUS SUPPLEMENT

Cantor	Chardan
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July 26, 2021
