

PROSPECTUS SUPPLEMENT
(To Prospectus dated October 22, 2021)

12,285,056 Shares of Common Stock

Pre-funded Warrants to Purchase 6,142,656 Shares of Common Stock



We are offering 12,285,056 shares of our common stock and, in lieu of common stock, pre-funded warrants to purchase 6,142,656 shares of our common stock. The purchase price of each pre-funded warrant equals the price per share at which shares of our common stock are being sold in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant equals \$0.0001 per share. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of such pre-funded warrants.

Our common stock is listed on the Nasdaq Capital Market under the symbol “ABEO.” On May 2, 2024, the last reported sales price for our common stock on the Nasdaq Capital Market was \$4.07 per share. We do not intend to list the pre-funded warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

Investing in our securities involves significant risks. Please read the information contained in or incorporated by reference under the heading “Risk Factors” beginning on page S-6 of this prospectus supplement, and under similar headings in other documents filed after the date hereof and incorporated by reference into this prospectus supplement and the accompanying prospectus.

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.

	Per Share	Per Pre-Funded Warrant		Total
Offering price	\$ 4.07	\$ 4.0699	\$	75,000,174
Underwriting discounts and commissions ⁽¹⁾	\$ 0.2442	\$ 0.2442	\$	4,500,047
Proceeds to Abeona Therapeutics Inc., before expenses ⁽²⁾	\$ 3.8258	\$ 3.8257	\$	70,500,126

(1) The underwriter will also be reimbursed for certain expenses incurred in this offering. See “Underwriting” for details.

(2) The above summary of offering proceeds does not give effect to any proceeds from the exercise of the pre-funded warrants being delivered in this offering.

Delivery of the shares of common stock and pre-funded warrants is expected to be made on or about May 7, 2024.

Sole Bookrunner

Stifel

The date of this prospectus supplement is May 3, 2024

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus relate to the offering of our common stock and pre-funded warrants. You should read this prospectus supplement, the accompanying prospectus, the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, and any free writing prospectus that we may authorize for use in connection with this offering in their entirety before making an investment decision. You should also read and consider the information in the documents to which we have referred you in the section of this prospectus supplement entitled “Where You Can Find More Information; Incorporation by Reference.” These documents contain important information that you should consider when making your investment decision.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of the offering of the common stock and pre-funded warrants and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus, including the documents incorporated by reference into the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to the combined document consisting of this prospectus supplement and the accompanying prospectus. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference into the accompanying prospectus that was filed with the Securities and Exchange Commission (the “SEC”) before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

We are responsible for the information contained in, or incorporated by reference into, this prospectus supplement, the accompanying prospectus and in any free writing prospectus that we may authorize for use in connection with this offering. We have not, and the underwriter has not, authorized any other person to provide you with different information, and neither we nor the underwriter take any responsibility for any other information that others may give you.

We are not, and the underwriter is not, making an offer to sell or soliciting an offer to buy our securities in any jurisdiction in which an offer or solicitation is not authorized or in which the person making that offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make an offer or solicitation.

You should assume that the information appearing in this prospectus supplement, the accompanying prospectus, the documents incorporated by reference into this prospectus supplement and the accompanying prospectus, and in any free writing prospectus that we may authorize for use in connection with this offering is accurate only as of the date of those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

Unless the context otherwise requires or as otherwise expressly stated, references in this prospectus to the terms “the Company,” “Abeona,” “we,” “our” and “us” or other similar terms mean Abeona Therapeutics Inc. and its subsidiaries.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus, and the other documents we have filed with the SEC that are incorporated herein by reference contain forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans, objectives of management or other financial items are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “seek,” “intend,” “may,” “plan,” “predict,” “project,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus supplement, particularly as set forth and incorporated by reference in the “Risk Factors” section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, collaborations, or investments we may make. You should read this prospectus supplement, the accompanying prospectus, and the documents that we incorporate by reference in this prospectus supplement completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, except as otherwise required by law. We advise you, however, to consult any further disclosures we make on related subjects in our future annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K we file with the SEC.

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SUMMARY

This summary highlights information contained elsewhere or incorporated by reference in this prospectus supplement and the accompanying prospectus. This summary does not contain all of the information that you should consider before deciding to invest in our securities. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the “Risk Factors” section beginning on page S-6 of this prospectus supplement, our financial statements and the related notes thereto and the other documents incorporated by reference in this prospectus supplement and the accompanying prospectus.

Overview

We are a clinical-stage biopharmaceutical company developing cell and gene therapies for life-threatening diseases. Our lead clinical program is pz-cel, investigational autologous, COL7A1 gene-corrected epidermal sheets, currently in development for recessive dystrophic epidermolysis bullosa (“RDEB”). We have announced positive data from our VIITAL™ Phase 3 study evaluating the efficacy, safety and tolerability of pz-cel. The VIITAL™ study met its two co-primary efficacy endpoints demonstrating statistically significant, clinically meaningful improvements in wound healing and pain reduction in large chronic RDEB wounds. On September 25, 2023, we submitted a Biologics License Application (“BLA”) for pz-cel to the U.S. Food and Drug Administration (“FDA”).

In November 2023, the FDA accepted and granted priority review for our BLA for pz-cel, and subsequently, under the Prescription Drug User Fee Act (“PDUFA”), the FDA set a target action date of May 25, 2024. However, in April 2024, the FDA issued a Complete Response Letter (“CRL”) in response to the BLA. The CRL follows the completion of Abeona’s Late Cycle Review Meeting with the FDA in March 2024. At the Late Cycle Review Meeting and in a subsequent information request, the FDA

noted that certain additional information needed to satisfy Chemistry Manufacturing and Controls (“CMC”) requirements must be satisfactorily resolved before the application can be approved. In response, the Company submitted plans to the FDA with the commitment to provide CMC data prior to BLA approval, and full validation reports after approval in mid-2024. In addition, the Company discussed these plans with the FDA in a subsequent informal meeting. In the CRL, the FDA indicated that the proposed timing of the data submission by us would not allow sufficient time for the FDA to complete its review by the May 25, 2024 PDUFA date.

The information needed to satisfy the CMC requests in the CRL pertains to validation requirements for certain manufacturing and release testing methods, including some that were captured in the observations during the FDA’s pre-license inspection (“PLI”). The CRL did not identify any deficiencies related to the clinical efficacy or clinical safety data in the BLA, and the FDA did not request any new clinical trials or clinical data to support the approval of pz-cel. We anticipate completing and submitting the requested CMC information in the third quarter of 2024.

We have continued to prepare our current Good Manufacturing Practices (“cGMP”) commercial facility in Cleveland, Ohio for manufacturing pz-cel drug product to support our planned commercial launch of pz-cel, if approved. Pz-cel study drug product for all our VIITAL™ study participants has been manufactured at our Cleveland facility. As part of our commercial planning, we continue to engage with stakeholders across the healthcare system, including public and private payors, and healthcare providers to better understand market access and potential pricing for pz-cel. We have also begun discussions with high volume treatment centers of excellence to onboard them for pz-cel application upon potential FDA approval.

Our development portfolio also features adeno-associated virus (“AAV”) based gene therapies designed to treat ophthalmic diseases using the novel AIM™ capsid platform that we have exclusively licensed from the University of North Carolina at Chapel Hill, and internal AAV vector research programs.

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Preclinical Pipeline

Our preclinical programs are investigating the use of novel AAV capsids in AAV-based therapies for serious genetic eye diseases, including ABO-504 for Stargardt disease, ABO-503 for X-linked retinoschisis (“XLRs”) and ABO-505 for autosomal dominant optic atrophy (“ADOA”). We have completed pre-Investigational New Drug Application meetings with the FDA regarding our preclinical development plans and regulatory requirements to support first-in-human trials.

Preliminary Financial Update

While we have not finalized our financial results as of and for the quarter ended March 31, 2024, we expect to report that as of March 31, 2024, our cash, cash equivalents, restricted cash and short-term investments were approximately \$62.7 million. This financial information is preliminary and subject to change in connection with the completion of our financial statements for the quarter ended March 31, 2024. In addition, our independent registered public accounting firm has not audited, reviewed, compiled or performed any procedures with respect to this unaudited preliminary financial information and does not express an opinion or any other form of assurance with respect thereto. Accordingly, you should not place undue reliance on this information. Additional information and disclosures would be required for a more complete understanding of our financial condition, liquidity and results of operations as of March 31, 2024. We assume no duty to update this preliminary estimate except as required by law.

Company Information

We were incorporated in 1974. On October 24, 2014, we changed our name to PlasmaTech Biopharmaceuticals, Inc., and on June 19, 2015, we changed our name to Abeona Therapeutics Inc. to reflect our broader rare disease commitment. Our principal executive office is located at 6555 Carnegie Avenue, 4th Floor, Cleveland, Ohio 44103, and our telephone number is (646) 813-4701. Our website address is www.abeonatherapeutics.com. We do not incorporate by reference into this prospectus supplement the information on our website, and you should not consider it as part of this prospectus supplement.

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THE OFFERING

Common stock offered	12,285,056 shares.
Pre-funded warrants offered	We are also offering, in lieu of common stock, pre-funded warrants to purchase 6,142,656 shares of our common stock. The purchase price of each pre-funded warrant is equal to the price per share at which the shares of our common stock are being sold in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant is \$0.0001 per share. Each pre-funded warrant is exercisable at any time after the date of execution, subject to an ownership limitation. See “Description of Pre-Funded Warrants.” This prospectus supplement also relates to the offering of the shares of our common stock issuable upon exercise of the pre-funded warrants.
Common stock to be outstanding immediately after this offering	38,808,934 shares, assuming no exercise of any pre-funded warrants offered hereby.
Use of Proceeds	We estimate that the net proceeds to us from this offering, after deducting the underwriting discounts and commissions and paying estimated offering expenses payable by us, and excluding the proceeds, if any, from the exercise of the pre-funded warrants offered hereby, will be approximately \$70.2 million. We expect to use the net proceeds of this offering primarily to fund preparations for resubmission of our BLA and for commercialization of our product candidate pz-cel, as well as for working capital and general corporate purposes. See “Use of Proceeds” on page S-8 of this prospectus supplement for a more complete description of the intended use of proceeds from this offering.
Risk Factors	Investing in our securities involves significant risks. Please read the information contained in or incorporated by reference under the heading “Risk Factors” beginning on page S-6 of this prospectus supplement, and under similar headings in documents incorporated by reference into this prospectus supplement and the accompanying prospectus.
Nasdaq Capital Market symbol	ABEO

The number of shares of our common stock to be outstanding after this offering is based on 26,523,878 shares of our common stock outstanding as of December 31, 2023, which amount excludes:

- 179,001 shares issuable upon the exercise of stock options outstanding as of December 31, 2023, at a weighted average exercise price of \$38.53 per share;
- 137,500 shares of common stock issued under our equity incentive plans after December 31, 2023;
- 156,591 shares of common stock reserved for future issuance under our 2023 equity incentive plan;
- 859,400 shares of common stock reserved for future issuance under our inducement equity incentive plan;
- 9,397,897 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2023, at a weighted average exercise price of \$5.70 per share, subject to customary adjustments thereunder;
- 2,919,140 shares of common stock issuable upon the exercise of pre-funded warrants outstanding as of December 31, 2023, at an exercise price of \$0.0001;
- 589,681 shares of common stock issuable upon the exercise of warrants issued in connection with our credit facility entered into on January 8, 2024, at an exercise price of the lesser of \$4.75 per share and the effective price per share of any bona fide equity financing with gross proceeds in excess of \$10,000,000 that occurs before September 30, 2024, which such exercise price will be \$4.07 following this offering;
- 1,902,376 shares of common stock issued and sold after December 31, 2023 pursuant to our open market sale agreement with Jefferies LLC for aggregate gross proceeds of \$10.3 million; and
- 6,142,656 shares of common stock issuable upon the exercise of the pre-funded warrants offered hereby.

Unless otherwise indicated, all information in this prospectus supplement assumes no exercises of the pre-funded warrants offered and sold in this offering and no exercises of outstanding options or warrants.

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RISK FACTORS

An investment in our securities involves risks. Before making an investment decision, we urge you to consider carefully the risks described below and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus, including those risks identified under Item 1A. "Risk Factors" and the factors listed under the heading "Forward-Looking Information," in each case contained in our Annual Report on Form 10-K for the year ended December 31, 2023, which is incorporated by reference in this prospectus and may be amended, supplemented or superseded from time to time by other reports that we subsequently file with the SEC. Additional risks are incorporated by reference into this prospectus supplement in connection with this offering. Each of the risks described could result in a decrease in the value of our securities and your investment therein.

Risks Related to our Common Stock and this Offering

The net proceeds from this offering will be invested based on our management's discretion and judgment, and there can be no assurance that such investments will be successful.

Our management will have broad discretion over the use of the net proceeds from this offering, you may not agree with how we use the proceeds, and the proceeds may not be invested successfully. As you will be relying on the discretion and judgment of our management with regard to the use of these net proceeds following the consummation of this offering, you will not have the opportunity, at the time of your investment decision, to assess whether such proceeds are being used appropriately. It is possible that such proceeds will be invested in a way that does not yield a favorable, or any, return for Abeona.

You will experience immediate and substantial dilution in the book value per share of the common stock you purchase in the offering. In addition, holders of our common stock may incur dilution due to issuances pursuant to the exercise of outstanding options or warrants.

You will incur immediate and substantial dilution as a result of this offering. The offering price per share of our common stock offered pursuant to this prospectus supplement is substantially higher than the net tangible book value per share. Accordingly, at the offering price of \$4.07 per share, purchasers of common stock in this offering will experience immediate dilution of \$1.99 per share in as adjusted net tangible book value of the common stock. To the extent that additional shares of common stock are issued upon exercise of the Company's outstanding options or warrants, you will incur further dilution. Furthermore, if the pre-funded warrants offered hereby are exercised, you will incur further dilution. See "Dilution" for a more detailed discussion of the dilution you will incur if you purchase shares of common stock in this offering. We may also acquire or license other technologies or finance strategic alliances by issuing equity, which may result in additional dilution to our stockholders.

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

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 prices per share in this offering. We may sell shares or other securities in any other offering, including under our open market sale agreement with Jefferies LLC, at a price per share that is less than the prices per share paid by investors in this offering, and investors purchasing shares of our common stock 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 prices per share paid by investors in this offering.

We may require additional capital funding, the receipt of which may impair the value of our common stock.

Our future capital requirements depend on many factors, including our research, development, sales and marketing activities. We may need to raise additional capital through public or private equity or debt offerings or through arrangements with strategic partners or other sources in order to continue to develop our drug candidates. There can be no assurance that additional capital will be available when needed or on terms satisfactory to us, if at all. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution and the new equity securities may have greater rights, preferences or privileges than our existing common stock.

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There is no public market for the pre-funded warrants being offered in this offering.

There is no public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the pre-funded warrants on any securities exchange or nationally recognized trading system, including the Nasdaq Capital Market. Without an active market, the liquidity of the pre-funded warrants will be limited.

We may not receive any additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant may be exercised by way of a cashless exercise, meaning that the holder may not pay a cash purchase price upon exercise, but instead would receive upon such exercise the net number of shares of our common stock determined according to the formula set forth in the pre-funded warrant. Accordingly, we may not receive any additional funds upon the exercise of the pre-funded warrants.

Holders of pre-funded warrants purchased in this offering will have no rights as holders of our common stock with respect to the shares underlying such pre-funded warrants until such holders exercise their pre-funded warrants and acquire our common stock.

Until holders of pre-funded warrants acquire shares of our common stock upon exercise of the pre-funded warrants, holders of pre-funded warrants will have no rights with respect to the shares of our common stock underlying such pre-funded warrants including with respect to dividends and voting rights. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a holder of our common stock only as to matters for which the record date occurs after the exercise date.

Significant holders or beneficial holders of our common stock may not be permitted to exercise pre-funded warrants that they hold.

A holder of a pre-funded warrant will not be entitled to exercise any portion of any pre-funded warrant which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 4.99% (or, at the election of the holder, 9.99%) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 4.99% (or, at the election of the holder, 9.99%) of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. As a result, you may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for you to do so. In such circumstance you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market for the pre-funded warrants.

We received a Complete Response Letter from the U.S. Food and Drug Administration on our Biologics License Application for pz-cel, and if our resubmission of our Biologics License Application is not approved in accordance with our expected timeframe, our business could be materially and adversely affected.

Our lead clinical program is pz-cel, investigational autologous, COL7A1 gene-corrected epidermal sheets, currently in development for RDEB. In April 2024, the FDA issued a CRL in response to the BLA related to pz-cel. The CRL follows the completion of our Late Cycle Review Meeting with the FDA in March 2024. At the Late Cycle Review Meeting and in a subsequent information request, the FDA noted that certain additional information needed to satisfy CMC requirements must be satisfactorily resolved before the application can be approved. The information needed to satisfy the CMC requests in the CRL substantially relates to validation requirements for certain manufacturing and release testing methods, including some that were captured in the observations during the FDA's PLI. If we are unable to complete the BLA resubmission in the third quarter of 2024, as expected, or our resubmission does not address the deficiencies to the FDA's satisfaction, our ability to commercialize pz-cel will be further delayed, which would likely have a material adverse effect on our business, financial condition, and results of operations and may cause the market price of our common stock to decline.

Following our public announcement of the CRL on April 22, 2024, the market price of our common stock significantly declined, and we may experience significant stock price volatility following the decline. In the past, litigation has been brought against a company following a decline in the market price of its securities. We may become involved in litigation in the future and/or subject to governmental or regulatory investigations or inquiries relating to the CRL. Litigation and investigations often are expensive and divert management's attention and resources, which could adversely affect our business.

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USE OF PROCEEDS

We estimate that the net proceeds from the sale of the shares and pre-funded warrants offered hereby will be approximately \$70.2 million after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We will receive nominal proceeds, if any, upon exercise of the pre-funded warrants.

We intend to use the net proceeds from this offering primarily to fund preparations for resubmission of our BLA and for commercialization of our product candidate pz-cel, as well as for working capital and general corporate purposes. The amounts and timing of our use of the net proceeds from the sale of securities in this offering will depend on a number of factors, such as regulatory approvals, commercial infrastructure expansion, the timing and progress of our pre-clinical product candidates and our development efforts, technological advances and the competitive environment for our product candidates.

As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to us from this offering. Accordingly, our management will have broad discretion in the timing and application of these proceeds. Pending application of the net proceeds as described above, we may invest the net proceeds of this offering in a variety of capital preservation investments, including but not limited to short-term, interest-bearing investment grade government securities, money market accounts, certificates of deposit and direct or guaranteed obligations of the U.S. government.

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DILUTION

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the price per share you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. The net tangible book value of our common stock as of December 31, 2023, was approximately \$10.4 million, or approximately \$0.39 per share of common stock based upon 26,523,878 shares outstanding. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the total number of shares outstanding as of December 31, 2023.

After giving effect to the sale of 12,285,056 shares of common stock at an offering price of \$4.07 per share and pre-funded warrants to purchase 6,142,656 shares of common stock at the offering price of \$4.0699 per pre-funded warrant (which equals the offering price per share of our common stock less the \$0.0001 per share exercise price of each such pre-funded warrant) (and excluding shares of our common stock issued and any proceeds received upon exercise of the pre-funded warrants or any resulting accounting associated with the pre-funded warrants), our as adjusted net tangible book value as of December 31, 2023, would have been approximately \$80.6 million, or \$2.08 per share of common stock. This represents an immediate increase in net tangible book value of \$1.69 per share to our existing stockholders and an immediate dilution in net tangible book value of \$1.99 per share to new investors in this offering.

The following table illustrates this per share dilution:

Offering price per share		\$	4.07
Net tangible book value per share as of December 31, 2023	\$	0.39	
Increase per share attributable to new investors	\$	1.69	
As adjusted net tangible book value per share as of December 31, 2023, after giving effect to this offering ⁽¹⁾	\$	2.08	
Dilution per share to new investors purchasing shares in this offering	\$	1.99	

- (1) As adjusted net tangible book value per share and dilution per share take into account the net proceeds from the sale of the pre-funded warrants but not the shares of common stock to be issued upon exercise of the pre-funded warrants.

If holders of pre-funded warrants exercise the pre-funded warrants in full, the as adjusted net tangible book value per share of common stock after giving effect to this offering would be \$1.79 per share, and the dilution in net tangible book value per share to investors purchasing common stock in this offering would be \$2.28 per share.

The number of shares of our common stock to be outstanding after this offering is based on 26,523,878 shares of our common stock outstanding as of December 31, 2023, which amount excludes:

- 179,001 shares issuable upon the exercise of stock options outstanding as of December 31, 2023, at a weighted average exercise price of \$38.53 per share;
- 137,500 shares of common stock issued under our equity incentive plans after December 31, 2023;
- 156,591 shares of common stock reserved for future issuance under our 2023 equity incentive plan;
- 859,400 shares of common stock reserved for future issuance under our inducement equity incentive plan;
- 9,397,897 shares of common stock issuable upon the exercise of warrants outstanding as of December 31, 2023, at a weighted average exercise price of \$5.70 per share, subject to customary adjustments thereunder;
- 2,919,140 shares of common stock issuable upon the exercise of pre-funded warrants outstanding as of December 31, 2023, at an exercise price of \$0.0001;
- 589,681 shares of common stock issuable upon the exercise of warrants issued in connection with our credit facility entered into on January 8, 2024, at an exercise price of the lesser of \$4.75 per share and the effective price per share of any bona fide equity financing with gross proceeds in excess of \$10,000,000 that occurs before September 30, 2024, which exercise price will be \$4.07 following this offering;
- 1,902,376 shares of common stock issued and sold after December 31, 2023 pursuant to our open market sale agreement with Jefferies LLC for aggregate gross proceeds of \$10.3 million; and
- 6,142,656 shares of common stock issuable upon the exercise of the pre-funded warrants offered hereby.

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DESCRIPTION OF PRE-FUNDED WARRANTS

The following is a brief summary of certain terms and conditions of the pre-funded warrants being offered by us. The following description is subject in all respects to the provisions contained in the pre-funded warrants.

Form

The pre-funded warrants will be issued as individual warrant agreements to each individual purchaser of a pre-funded warrant. The form of pre-funded warrant will be filed as an exhibit to a Current Report on Form 8-K that we will file with the SEC.

Term

The pre-funded warrants do not expire.

Exercisability

The pre-funded warrants are exercisable at any time after their original issuance. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice and by payment in full of the exercise price in immediately available funds for the number of shares of our common stock purchased upon such exercise. As an alternative to payment of the exercise price in immediately available funds, the holder may elect to exercise the pre-funded warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of our common stock determined according to the formula set forth in the pre-funded warrant. No fractional shares of our common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will, at our election, either pay the holder an amount in cash equal to such fraction multiplied by the exercise price or round up to the next whole share.

Exercise Limitations

Under the pre-funded warrants, we may not effect the exercise of any pre-funded warrant, and a holder will not be entitled to exercise any portion of any pre-funded warrant, which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 4.99% (or, at the election of the holder, 9.99%) of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (i) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 4.99% (or, at the election of the holder, 9.99%) of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants.

Exercise Price

The exercise price per whole share of our common stock issuable upon the exercise of the pre-funded warrants is \$0.0001 per share of our common stock. The exercise price of the pre-funded warrants and the number of shares of our common stock issuable upon exercise of the pre-funded warrants are subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

Transferability

Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent. The pre-funded warrants will be held in definitive form by the purchasers. The ownership of the pre-funded warrants and any transfers of the pre-funded warrants will be registered in a warrant register maintained by us or our transfer agent.

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Exchange Listing

We do not plan on applying to list the pre-funded warrants on The Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

Fundamental Transactions

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, upon consummation of such a fundamental transaction, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction without regard to any limitations on exercise contained in the pre-funded warrants, and any additional consideration receivable as a result of such fundamental transaction.

No Rights as a Stockholder

Except by virtue of such holder's ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights or the rights to receive dividends, until the holder exercises the pre-funded warrant.

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UNDERWRITING

Subject to the terms and conditions set forth in the underwriting agreement dated May 2, 2024, between us and Stifel, Nicolaus & Company, Incorporated ("Stifel" or the "underwriter"), we have agreed to sell to the underwriter, and the underwriter has agreed to purchase from us, 12,285,056 of shares of our common stock and pre-funded warrants to purchase 6,142,656 shares of our common stock, at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement.

The underwriting agreement provides that the obligations of the underwriter are subject to certain conditions precedent such as the receipt by the underwriter of officers' certificates and legal opinions and approval of certain legal matters by its counsel. The underwriting agreement provides that the underwriter will purchase all of the shares of common stock and pre-funded warrants if it purchases any of the shares and pre-funded warrants. We have agreed to indemnify the underwriter and certain of its controlling persons against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the underwriter may be required to make in respect of those liabilities.

The underwriter has advised us that, following the completion of this offering, they currently intend to make a market in the common stock as permitted by applicable laws and regulations. However, the underwriter is not obligated to do so, and the underwriter may discontinue any market-making activities at any time without notice in its sole discretion. Accordingly, no assurance can be given as to the liquidity of the trading market for the common stock, that you will be able to sell any of the common stock held by you at a particular time or that the prices that you receive when you sell will be favorable.

The underwriter is offering the shares of common stock and pre-funded warrants subject to its acceptance of the shares of common stock and pre-funded warrants from us and subject to prior sale. The underwriter reserves the right to withdraw, cancel or modify offers to the public and to reject orders in whole or in part. In addition, the underwriter has advised us that it does not intend to confirm sales to any account over which it exercises discretionary authority.

Commission and Expenses

The underwriter has advised us that it proposes to offer the shares of common stock and pre-funded warrants to the public at the initial public offering price set forth on the cover page of this prospectus supplement. After the offering, the initial public offering price may be changed by the underwriter. No such change will impact the amount of proceeds to be received by us as set forth on the cover page of this prospectus.

The following table shows the public offering price, the underwriting discounts and commissions that we are to pay the underwriter and the proceeds, before expenses, to us in connection with this offering.

	Per Share	Per Pre-Funded Warrant	Total
Offering price	\$ 4.07	\$ 4.0699	\$ 75,000,174
Underwriting discounts and commissions	\$ 0.2442	\$ 0.2442	\$ 4,500,047
Proceeds to us, before expenses	\$ 3.8258	\$ 3.8257	\$ 70,500,126

We estimate expenses payable by us in connection with this offering, other than the underwriting discounts and commissions referred to above, will be approximately \$0.3 million. We have also agreed to reimburse the underwriter for up to \$80,000 for certain fees and expenses incurred in connection with this offering, including its counsel fees related to determining the offering's compliance with the rules of the Financial Industry Regulatory Authority ("FINRA"). In accordance with FINRA Rule 5110, these reimbursed fees and expenses are deemed underwriting compensation for this offering.

Listing

Our common stock is listed on the Nasdaq Capital Market under the trading symbol "ABEO." We do not intend to list the pre-funded warrants on the Nasdaq Capital Market, any other nationally recognized securities exchange or any other nationally recognized trading system.

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No Sales of Similar Securities

We and our officers and directors have agreed, subject to specified exceptions, not to directly or indirectly:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open "put equivalent position" within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended ("Exchange Act");
- otherwise dispose of any shares of common stock, options or warrants to acquire shares of common stock, or securities exchangeable for or exercisable for or convertible into shares of common stock currently or hereafter owned either of record or beneficially; or
- publicly announce an intention to do any of the foregoing, without the prior written consent of Stifel.

This restriction terminates after the close of trading of the common stock on and including the 90th day after the date of this prospectus supplement.

Stifel may, in its sole discretion and at any time or from time to time before the termination of the 90-day period release all or any portion of the securities subject to lock-up agreements. There are no existing agreements between the underwriter and any of our officers and directors who will execute a lock-up agreement, providing consent to the sale of shares prior to the expiration of the lock-up period.

Stabilization

The underwriter has advised us that it, pursuant to Regulation M under the Exchange Act, as well as certain persons participating in the offering, may engage in short sale transactions, stabilizing transactions, syndicate covering transactions or the imposition of penalty bids in connection with this offering. These activities may have the effect of stabilizing or maintaining the market price of the common stock at a level above that which might otherwise prevail in the open market. A short sale involves the sale by the underwriter of a greater number of shares than it is required to purchase in this offering. The underwriter must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriter is concerned that there may be downward pressure on the price of the shares of our common stock in the open market after pricing that could adversely affect investors who purchase in this offering. A stabilizing bid is a bid for the purchase of shares of common stock on behalf of the underwriter for the purpose of fixing or maintaining the price of the common stock. A syndicate covering transaction is the bid for or the purchase of shares of common stock on behalf of the underwriter to reduce a short position incurred by the underwriter in connection with the offering. Similar to other purchase transactions, the underwriter's purchases to cover the syndicate short sales may have the effect of raising or maintaining the market price of our common stock or preventing or retarding a decline in the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. A penalty bid is an arrangement permitting the underwriter to reclaim the selling concession otherwise accruing to a syndicate member in connection with the offering if the common stock originally sold by such syndicate member is purchased in a syndicate covering transaction and therefore have not been effectively placed by such syndicate member.

Neither we nor the underwriter make any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of our common stock. The underwriter is not obligated to engage in these activities and, if commenced, any of the activities may be discontinued at any time.

The underwriter may also engage in passive market making transactions in our common stock on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M during a period before the commencement of offers or sales of shares of our common stock in this offering and extending through the completion of distribution. A passive market maker must display its bid at a price not in excess of the highest independent bid of that security. However, if all independent bids are lowered below the passive market maker's bid that bid must then be lowered when specified purchase limits are exceeded.

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Electronic Distribution

A prospectus in electronic format may be made available by e-mail or on the web sites or through online services maintained by the underwriter or its affiliates. In those cases, prospective investors may view offering terms online and may be allowed to place orders online. The underwriter may agree with us to allocate a specific number of shares of common stock for sale to online brokerage account holders. Any such allocation for online distributions will be made by the underwriter on the same basis as other allocations. Other than the prospectus in electronic format, the information on the underwriter's website and any information contained in any other website maintained by the underwriter is not part of this prospectus, has not been approved and/or endorsed by us or the underwriter and should not be relied upon by investors.

Other Activities and Relationships

The underwriter and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The underwriter and certain of its affiliates have, from time to time, performed, and may in the future perform, various commercial and investment banking and financial advisory services for us and our affiliates, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the underwriter and certain of its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for its own account and for the accounts of its customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. The underwriter and certain of its affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time holds, or recommend to clients that it acquires, long and/or short positions in such securities and instruments.

Notice to Investors

Canada

This prospectus supplement constitutes an "exempt offering document" as defined in and for the purposes of applicable Canadian securities laws. No prospectus has been filed with any securities commission or similar regulatory authority in Canada in connection with the offer and sale of the securities. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this prospectus supplement or on the merits of the securities and any representation to the contrary is an offence.

Canadian investors are advised that this prospectus supplement has been prepared in reliance on section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* ("NI 33-105"). Pursuant to section 3A.3 of NI 33-105, this prospectus supplement is exempt from the requirement that the issuer and the underwriter provides investors with certain conflicts of interest disclosure pertaining to "connected issuer" and/or "related issuer" relationships that may exist between the issuer and the underwriter as would otherwise be required pursuant to subsection 2.1(1) of NI 33-105.

Resale Restrictions

The offer and sale of the securities in Canada is being made on a private placement basis only and is exempt from the requirement that the issuer prepares and files a prospectus under applicable Canadian securities laws. Any resale of the securities acquired by a Canadian investor in this offering must be made in accordance with applicable Canadian securities laws, which may vary depending on the relevant jurisdiction, and which may require resales to be made in accordance with Canadian prospectus requirements, pursuant to a statutory exemption from the prospectus requirements, in a transaction exempt from the prospectus requirements or otherwise under a discretionary exemption from the prospectus requirements granted by the applicable local Canadian securities regulatory authority. These resale restrictions may under certain circumstances apply to resales of the securities outside of Canada.

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Representations of Purchasers

Each Canadian investor who purchases the securities will be deemed to have represented to the issuer and the underwriter that the investor (i) is purchasing the securities as

principal, or is deemed to be purchasing as principal in accordance with applicable Canadian securities laws, for investment only and not with a view to resale or redistribution; (ii) is an “accredited investor” as such term is defined in section 1.1 of National Instrument 45-106 *Prospectus Exemptions* (“NI 45-106”) or, in Ontario, as such term is defined in section 73.3(1) of the *Securities Act* (Ontario); and (iii) is a “permitted client” as such term is defined in section 1.1 of National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*.

Taxation and Eligibility for Investment

Any discussion of taxation and related matters contained in this prospectus supplement does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a Canadian investor when deciding to purchase the securities and, in particular, does not address any Canadian tax considerations. No representation or warranty is hereby made as to the tax consequences to a resident, or deemed resident, of Canada of an investment in the securities or with respect to the eligibility of the securities for investment by such investor under relevant Canadian federal and provincial legislation and regulations.

Rights of Action for Damages or Rescission

Securities legislation in certain of the Canadian jurisdictions provides certain purchasers of securities pursuant to an offering memorandum (such as this prospectus supplement), including where the distribution involves an “eligible foreign security” as such term is defined in Ontario Securities Commission Rule 45-501 *Ontario Prospectus and Registration Exemptions* and in Multilateral Instrument 45-107 *Listing Representation and Statutory Rights of Action Disclosure Exemptions*, as applicable, with a remedy for damages or rescission, or both, in addition to any other rights they may have at law, where the offering memorandum, or other offering document that constitutes an offering memorandum, and any amendment thereto, contains a “misrepresentation” as defined under applicable Canadian securities laws. These remedies, or notice with respect to these remedies, must be exercised or delivered, as the case may be, by the purchaser within the time limits prescribed under, and are subject to limitations and defences under, applicable Canadian securities legislation. In addition, these remedies are in addition to and without derogation from any other right or remedy available at law to the investor.

Language of Documents

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur Canadien confirme par les présentes qu’il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d’achat ou tout avis) soient rédigés en anglais seulement.*

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Australia

This document does not constitute a prospectus, product disclosure statement or other disclosure document under the Australia’s Corporations Act 2001 (Cth) (the “Corporations Act”) of Australia. This document has not been lodged with the Australian Securities & Investments Commission and is only directed to the categories of exempt persons set out below. Accordingly, if you receive this document in Australia:

You confirm and warrant that you are either:

- a “sophisticated investor” under section 708(8)(a) or (b) of the Corporations Act;
- a “sophisticated investor” under section 708(8)(c) or (d) of the Corporations Act and that you have provided an accountant’s certificate to the Company which complies with the requirements of section 708(8)(c)(i) or (ii) of the Corporations Act and related regulations before the offer has been made; or
- a “professional investor” within the meaning of section 708(11)(a) or (b) of the Corporations Act.

To the extent that you are unable to confirm or warrant that you are an exempt sophisticated investor or professional investor under the Corporations Act, any offer made to you under this document is void and incapable of acceptance.

You warrant and agree that you will not offer any of the securities issued to you pursuant to this document for resale in Australia within 12 months of those securities being issued unless any such resale offer is exempt from the requirement to issue a disclosure document under section 708 of the Corporations Act.

European Economic Area

In relation to each member state of the European Economic Area (each a “Member State”), no securities that are the subject of the offering contemplated by this prospectus have been offered or will be offered pursuant to the offer described herein in that Member State prior to the publication of a prospectus in relation to the securities which has been approved by the competent authority in that Member State or, where appropriate, approved in another Member State and notified to the competent authority in that Member State, all in accordance with the Prospectus Regulation, except that the securities may be offered to the public in that Member State at any time:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the Prospectus Regulation) in that Member State, subject to obtaining the prior consent of the underwriter for any such offer; or

(iii) in any other circumstances falling within Article 1(4) of the Prospectus Regulation,

provided that no such offer of securities shall require the issuer or the underwriter to publish a prospectus pursuant to Article 3 of the Prospectus Regulation or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

Each person in a Member State who acquires any securities in the offer or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriter that it is a qualified investor within the meaning of the Prospectus Regulation.

In the case of any securities being offered to a financial intermediary as that term is used in Article 5(1) of the Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriter that the securities acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in a Member State to qualified investors, in circumstances in which the prior consent of the underwriter has been obtained to each such proposed offer or resale. Neither the issuer nor the underwriter has authorised, nor do they authorise, the making of any offer of securities through any financial intermediary, other than offers made by the underwriter which constitute the final placement of securities contemplated in this document.

The issuer and the underwriter and its affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to any securities in any Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase, or subscribe for, any securities and the

In Member States, this document is being distributed only to, and is directed only at, persons who are “qualified investors” within the meaning of Article 2(e) of the Prospectus Regulation (“Qualified Investors”). This document must not be acted on or relied on in any Member State by persons who are not Qualified Investors. Any investment or investment activity to which this document relates is available in any Member State only to Qualified Investors and will be engaged in only with such persons.

Hong Kong

The contents of this prospectus have not been reviewed, approved or authorized by any regulatory authority in Hong Kong. The information contained in this prospectus is for information purposes only and does not constitute an offer, solicitation, invitation or recommendation to subscribe for or purchase any share or other securities, other products or to provide any investment advice. You are advised to exercise caution in relation to this prospectus. If you are in any doubt about any of the contents of this prospectus, you should obtain independent professional advice. No securities have been, may be or will be offered or sold in Hong Kong, by means of any document, other than to persons whose ordinary business is to buy or sell shares or debentures, whether as principal or agent; or to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the “SFO”) and any rules made thereunder; or in other circumstances which do not result in the document being a “prospectus” as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the “C(WUMP)O”), or which do not constitute an offer to the public within the meaning of the C(WUMP)O. No document, invitation or advertisement relating to the securities has been issued or may be issued or will be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere), which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted under the securities laws of Hong Kong) other than with respect to securities which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made thereunder.

This document has not been and will not be registered with the Registrar of Companies in Hong Kong. Accordingly, this document may not be issued, circulated or distributed in Hong Kong, and the securities may not be offered for subscription to members of the public in Hong Kong. Each person acquiring the securities will be required, and is deemed by the acquisition of the securities, to confirm that he is aware of the restriction on offers of the securities described in this document and the relevant offering documents and that he is not acquiring, and has not been offered any securities in circumstances that contravene any such restrictions.

Japan

The offering has not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948 of Japan, as amended) (the “FIEA”), and the Initial Purchaser will not offer or sell any securities, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means, unless otherwise provided herein, any person resident in Japan, including any corporation or other entity organized under the laws of Japan), or to others for re-offering or resale, directly or indirectly, in Japan or to a resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the FIEA and any other applicable laws, regulations and ministerial guidelines of Japan.

Singapore

This document and any other document or material relating to the securities have not been and will not be lodged or registered with the Monetary Authority of Singapore. Accordingly, this document and any other document or material in connection with the offer or sale, or the invitation for subscription or purchase of the securities may not be issued, circulated or distributed, nor may the securities be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor under Section 274 of the Securities and Futures Act, Chapter 289 of Singapore (the “SFA”), (ii) to a relevant person as defined under Section 275(2) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions, specified in Section 275 of the SFA and where (where applicable) Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018, or (iii) otherwise pursuant to, and in accordance with the conditions of any other applicable provision of the SFA. **In the event that you are not an investor falling within any of the categories set out above, please return this document immediately. You may not forward or circulate this document to any other person in Singapore.**

No offer is made to you with a view to the securities being subsequently offered for sale to any other party. There are on-sale restrictions that may be applicable to investors who acquire securities. As such, investors are advised to acquaint themselves with the provisions of the SFA relating to resale restrictions and comply accordingly.

Where the securities are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- a corporation (which is not an accredited investor as defined under Section 4A of the SFA) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferable within six months after that corporation or that trust has acquired the securities under Section 275 of the SFA except:

- to an institutional investor under Section 274 of the SFA or to a relevant person defined in Section 275(2) of the SFA, or to any person pursuant to an offer referred to in Section 275(1A) or Section 276(4)(i)(B) of the SFA;
- where no consideration is given for the transfer;
- where the transfer is by operation of law;
- as specified in Section 276(7) of the SFA; or
- as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018 of Singapore.

Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (“SIX”) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, the issuer or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, or FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes, or CISA. The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of securities.

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Israel

This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the securities is directed only at, investors listed in the first addendum, or the Addendum, to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, underwriters, venture capital funds, entities with equity in excess of NIS 50 million and “qualified individuals”, each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

United Kingdom

In relation to the United Kingdom, no securities that are the subject of the offering contemplated by this prospectus have been offered or will be offered to the public in the United Kingdom prior to the publication of a prospectus in relation to the securities which has been approved by the UK Financial Conduct Authority, except that the securities may be offered to the public in the United Kingdom at any time:

(i) to any legal entity which is a qualified investor as defined under Article 2 of the UK Prospectus Regulation;

(ii) to fewer than 150 natural or legal persons (other than qualified investors as defined under Article 2 of the UK Prospectus Regulation), subject to obtaining the prior consent of the underwriter for any such offer; or

(iii) in any other circumstances falling within Section 86 of the Financial Services and Markets Act 2000 (as amended) (the “FSMA”), provided that no such offer of the securities shall require the issuer or any underwriter to publish a prospectus pursuant to Section 85 of the FSMA or supplement a prospectus pursuant to Article 23 of the UK Prospectus Regulation.

Each person in the United Kingdom who acquires any securities in the offer or to whom any offer is made will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriter that it is a qualified investor within the meaning of the UK Prospectus Regulation.

In the case of any securities being offered to a financial intermediary as that term is used in Article 5(1) of the UK Prospectus Regulation, each such financial intermediary will be deemed to have represented, acknowledged and agreed to and with the issuer and the underwriter that the securities acquired by it in the offer have not been acquired on a non-discretionary basis on behalf of, nor have they been acquired with a view to their offer or resale to, persons in circumstances which may give rise to an offer to the public other than their offer or resale in the United Kingdom to qualified investors, in circumstances in which the prior consent of the underwriter has been obtained to each such proposed offer or resale. Neither the issuer nor the underwriter has authorised, nor do they authorise, the making of any offer of securities through any financial intermediary, other than offers made by the underwriter which constitute the final placement of securities contemplated in this document.

The issuer and the underwriter and its affiliates will rely upon the truth and accuracy of the foregoing representations, acknowledgements and agreements.

For the purposes of this provision, the expression an “offer to the public” in relation to the securities in the United Kingdom means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase or subscribe for any securities and the expression “UK Prospectus Regulation” means Regulation (EU) 2017/1129 as it forms part of United Kingdom law by virtue of the European Union (Withdrawal) Act 2018.

In the United Kingdom, this document is being distributed only to, and is directed only at, persons who are “qualified investors” within the meaning of Article 2(e) of the UK Prospectus Regulation who are also: (i) persons who fall within the definition of “investment professionals” in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the “Order”); (ii) persons falling within Article 49(2) of the Order; or (iii) persons to whom it may otherwise lawfully be communicated (all such persons together being referred to as “relevant persons”). This document must not be acted on or relied on in the United Kingdom by persons who are not relevant persons. Any investment or investment activity to which this document relates is available in the United Kingdom only to relevant persons and will be engaged in only with such persons.

Any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) may only be communicated or caused to be communicated in connection with the issue or sale of the securities in circumstances in which Section 21(1) of the FSMA does not apply. All applicable provisions of the FSMA and the Order must be complied with in respect of anything done by any person in relation to the securities in, from or otherwise involving the United Kingdom.

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LEGAL MATTERS

The validity of the common stock and pre-funded warrants being offered hereby will be passed upon for us by Willkie Farr & Gallagher LLP, New York, New York. Covington & Burling LLP, New York, New York, is counsel to the underwriter in connection with this offering.

EXPERTS

The financial statements of Abeona Therapeutics, Inc. as of December 31, 2023, and for the year ended December 31, 2023, incorporated by reference in this Prospectus Supplement by reference to Abeona Therapeutics, Inc.’s annual report on Form 10-K for the year ended December 31, 2023 have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report. Such financial statements are incorporated by reference in reliance upon the report of such firm given their authority as experts in accounting and auditing.

The consolidated financial statements for the fiscal year ended December 31, 2022, incorporated by reference from the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2023, have been audited by Whitley Penn LLP, an independent registered public accounting firm, as stated in its report filed with the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2023, which is also 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; INCORPORATION BY REFERENCE

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website at www.sec.gov that contains reports,

statements and other information about issuers, such as us, who file electronically with the SEC. We maintain a website at www.abeonatherapeutics.com. However, the information on our website is not incorporated by reference into this prospectus supplement or the accompanying prospectus and you should not consider it a part of this prospectus supplement or the accompanying prospectus.

The SEC allows us to “incorporate by reference” into this prospectus supplement the information in other documents that we file with it. This means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement, and information in documents that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus supplement. We incorporate by reference into this prospectus supplement the documents listed below; provided, however, that we are not incorporating, in each case, any documents or information deemed to have been furnished and not filed in accordance with SEC rules:

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2023 filed on March 18, 2024;
- the portions of our definitive proxy statement on [Schedule 14A](#) filed on March 19, 2024 that are incorporated by reference into Part III of our Annual Report on Form 10-K for the year ended December 31, 2023;
- our Current Reports on Form 8-K filed on [January 8, 2024](#), [April 22, 2024](#), [April 24, 2024](#), and [May 3, 2024](#); and
- the description of our common stock, par value \$0.01 per share contained in our Registration Statement on [Form 8-A](#), dated and filed with the SEC on November 4, 2014, as updated by [Exhibit 4.4](#) to our Form 10-K for the fiscal year ended December 31, 2019, and including any amendments or reports filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus supplement and deemed to be part of this prospectus supplement from the date of the filing of such reports and documents.

You may obtain a copy of any or all of the documents referred to above which may have been or may be incorporated by reference into this prospectus supplement, except for exhibits to those documents (unless the exhibits are specifically incorporated by reference into those documents), at no cost to you by writing or telephoning us at the following address and telephone number: Abeona Therapeutics Inc., Attn: Investor Relations, 6555 Carnegie Avenue, 4th Floor, Cleveland, Ohio 44103, telephone (646) 813-4701.

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PROSPECTUS

\$250,000,000

ABEONA THERAPEUTICS INC.

Common Stock

Preferred Stock

Warrants

Debt Securities

This prospectus will allow us to issue, from time to time at prices and on terms to be determined at or prior to the time of the offering, up to \$250,000,000 of any combination of the securities described in this prospectus. We may also offer common stock or preferred stock upon conversion of or exchange for the debt securities or common stock, preferred stock or debt securities upon the exercise of warrants.

This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide you with the specific terms of any offering in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplements and any related free writing prospectus will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this document. You should read this prospectus, any prospectus supplement, and any related free writing prospectus, as well as any documents incorporated by reference into this prospectus or any prospectus supplement, carefully before you invest.

Our securities may be sold directly by us to you, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus and in the applicable prospectus supplement. If any underwriters or agents are involved in the sale of our securities with respect to which this prospectus is being delivered, the names of such underwriters or agents and any applicable fees, commissions or discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on The Nasdaq Capital Market (“Nasdaq”), under the symbol “ABEO.” On June 4, 2021, the last reported sale price of our common stock on Nasdaq was \$1.69 per share.

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks that we have described on page 4 of this prospectus under the caption “Risk Factors.” We may include specific risk factors in supplements to this prospectus and any related free writing prospectus under the caption “Risk Factors.” This prospectus may not be used to sell our securities unless accompanied by a 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. Any representation to the contrary is a criminal offense.

The date of this prospectus is October 22, 2021.

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ABOUT THIS PROSPECTUS

This prospectus is part of a “shelf” registration statement. Under this shelf registration process, we may sell, at any time and from time to time, in one or more offerings, any combination of the securities described in this prospectus. The exhibits to our Registration Statement contain the full text of certain contracts and other important documents we have summarized in this prospectus. Since these summaries may not contain all the information that you may find important in deciding whether to purchase the securities we offer, you should review the full text of these documents. The Registration Statement and the exhibits can be obtained from the Securities and Exchange Commission (“SEC”) as indicated under the heading “Where You Can Find More Information; Incorporation By Reference.”

This prospectus only provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement that contains specific information about the terms of those securities and the terms of that offering. The prospectus supplement may also add, update, or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with the additional information described below under the heading “Where You Can Find More Information; Incorporation By Reference.”

We have not authorized any dealer, agent, or other person to give any information or to make any representation other than those contained or incorporated by reference into this prospectus and any accompanying prospectus supplement. You must not rely upon any information or representation not contained or incorporated by reference into this prospectus or an accompanying prospectus supplement. This prospectus and the accompanying prospectus supplement, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying prospectus supplement, if any, constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus and any accompanying prospectus supplement is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus and any accompanying prospectus supplement is delivered or securities are sold on a later date.

References in this prospectus to the terms “the Company,” “Abeona,” “we,” “our” and “us” or other similar terms mean Abeona Therapeutics Inc., unless we state otherwise or the context indicates otherwise.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement, and the other documents we have filed with the SEC that are incorporated herein by reference contain forward-looking statements that involve substantial risks and uncertainties. All statements, other than statements of historical facts, regarding our strategy, future operations, future financial position, future revenues, projected costs, prospects, plans, objectives of management or other financial items are forward-looking statements. The words “anticipate,” “believe,” “estimate,” “expect,” “seek,” “intend,” “may,” “plan,” “predict,” “project,” “will,” “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus, particularly as set forth and incorporated by reference into the “Risk Factors” section below, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures, collaborations, or investments we may make.

You should read this prospectus, any supplements to this prospectus and the documents that we incorporate by reference into this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. We do not assume any obligation to update any forward-looking statements, except as otherwise required by law. We advise you, however, to consult any further disclosures we make on related subjects in our future annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K we file with or furnish to the SEC.

THE COMPANY

Overview

Abeona Therapeutics Inc. is a clinical-stage biopharmaceutical company developing gene and cell therapies for life-threatening rare genetic diseases. Our lead clinical programs consist of (i) EB-101, an autologous, gene-corrected cell therapy for recessive dystrophic epidermolysis bullosa (“RDEB”), (ii) ABO-102, an adeno-associated virus (“AAV”)-based gene therapy for Sanfilippo syndrome type A (“MPS IIIA”), and (iii) ABO-101, an AAV-based gene therapy for Sanfilippo syndrome type B (“MPS IIIB”). We continue to develop additional AAV-based gene therapies designed to treat ophthalmic and other diseases, next-generation AAV-based gene therapies using our own novel capsids and capsids from the AIM™ capsid library that we have exclusively licensed from the University of North Carolina at Chapel Hill, and internal AAV vector research programs. A number of our product candidates are eligible for orphan drug designation, breakthrough therapy designation, or other expedited review processes in the U.S., Europe, Japan, or other world markets. Our pipeline includes three programs in clinical development—EB-101, ABO-101 and ABO-102—for which we hold several U.S. and European Union (“EU”) regulatory designations, and a pipeline of additional earlier stage programs.

Our Mission and Strategy

Abeona is at the forefront of gene and cell therapy research and development. We are a fully-integrated company featuring therapies in clinical development, in-house manufacturing facilities, a robust pipeline, and scientific and clinical leadership. We see our mission as working to create, develop, manufacture, and deliver gene and cell therapies for people impacted by serious diseases. We partner with leading academic researchers, patient advocacy organizations and caregivers to develop therapies that address the underlying cause of a broad spectrum of rare genetic diseases for which no effective treatment options exist today.

Since our last fiscal year, we have continued to make progress toward fulfilling our goal of harnessing the promise of genetic medicine to transform the lives of people impacted by serious diseases and redefining the standard of care through gene and cell therapies. Our strategy to achieve this goal consists of:

Advancing Our Clinical Gene and Cell Therapy Programs and Research and Development with a Focus on Rare and Orphan Diseases.

We have three programs in clinical development—EB-101, ABO-101 and ABO-102—and a pipeline of additional earlier stage programs. Through our gene and cell therapy research and development expertise, we believe we are positioned to introduce efficacious and safe therapeutics to transform the standard of care in devastating diseases and establish our leadership position in the field.

Applying Novel Next-Generation AIM™ Capsid Technology to Develop New In-Vivo Gene Therapies.

We are researching and developing next-generation AAV-based gene therapy using our own novel capsids and capsids from the AIM™ capsid library. We plan to continue to develop AAV capsids capable of improved tissue targeting for various indications and potentially evading immunity to wildtype AAV vectors.

Establishing Leadership Position in Commercial-Scale Gene and Cell Therapy Manufacturing.

We established current Good Manufacturing Practice (“cGMP”), clinical-scale manufacturing capabilities for gene-corrected cell therapy and AAV-based gene therapies in our state-of-the-art Cleveland facility. We believe that our platform provides us with distinct advantages, including flexibility, scale, reliability, and the potential for reduced development risk, reduced cost, and faster times to market. We have focused on establishing internal Chemistry, Manufacturing and Controls (“CMC”) capabilities that drive value for our organization through process development, assay development and manufacturing. We have also deployed robust quality systems governing all aspects of product lifecycle from preclinical through commercial stage.

Establishing Additional Gene and Cell Therapy Franchises and Adjacencies through In-Licensing and Strategic Partnerships.

We seek to be the partner of choice in gene therapy treatment and have closely collaborated with leading academic institutions, key opinion leaders, patient foundations, and industry partners to generate novel intellectual property, accelerate research and development, and understand the needs of patients and their families.

Maintaining and Growing Our IP Portfolio.

We strive to have a leading intellectual property portfolio. To that end, we seek patent rights for various aspects of our programs, including vector engineering and construct design, our production process, and all features of our clinical products including composition of matter and method of administration and delivery. We expect to continue to expand our intellectual property portfolio by aggressively seeking patent rights for promising aspects of our product engine and product candidates.

Company Information

We were incorporated in 1974. On October 24, 2014, we changed our name to PlasmaTech Biopharmaceuticals, Inc., and on June 19, 2015, we changed our name to Abeona Therapeutics Inc. to reflect our broader rare disease commitment. Our principal executive office is located at 1330 Avenue of the Americas, 33rd Floor, New York, NY 10019 and our telephone number is (646) 813-4701. Our website is www.abeonatherapeutics.com. We do not incorporate by reference into this prospectus the information on our website, and you should not consider it as part of this prospectus supplement.

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RISK FACTORS

An investment in our securities involves risks and uncertainties. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus. In particular, you should carefully consider the information under the heading “Risk Factors,” as well as the factors listed under the heading “Forward-Looking Statements,” in each case contained in our Annual Report on Form 10-K for our most recent fiscal year, in any Quarterly Reports on Form 10-Q that have been filed since our most recent Annual Report on Form 10-K, and in any other documents that we file (not furnish) with the SEC under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), each of which is incorporated by reference in this prospectus. Any of the risks described could significantly and negatively affect our business, financial condition, results of operations, cash flows and prospects and the trading price of our securities. You could lose all or part of your investment.

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USE OF PROCEEDS

Unless otherwise specified in a prospectus supplement accompanying this prospectus, the net proceeds from the sale of the securities to which this prospectus relates will be used to fund continued clinical development of pipeline products, as well as for working capital and general corporate purposes. General corporate purposes may include repayment of debt, acquisitions, additions to working capital, capital expenditures, research and development and investments in our subsidiaries. Net proceeds may be temporarily invested prior to use.

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PLAN OF DISTRIBUTION

We may sell the offered securities in any of the ways described below or in any combination or any other way set forth in an applicable prospectus supplement from time to time:

- to or through underwriters or dealers;
- through one or more agents; or
- directly to purchasers or to a single purchaser.

The distribution of the securities may be effected from time to time in one or more transactions:

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

Each prospectus supplement will describe the method of distribution of the securities and any applicable restrictions.

The prospectus supplement with respect to the securities of a particular series will describe the terms of the offering of the securities, including the following:

- the name or names of any underwriters, dealers or agents and the amounts of securities underwritten or purchased by each of them;
- the public offering price of the securities and the proceeds to us and any discounts, commissions or concessions allowed or reallocated or paid to dealers; and
- any securities exchanges on which the securities may be listed.

Any offering price and any discounts or concessions allowed or reallocated or paid to dealers may be changed from time to time.

Only the agents or underwriters named in each prospectus supplement are agents or underwriters in connection with the securities being offered thereby.

We may authorize underwriters, dealers or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in each applicable prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in each applicable prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions, and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will be subject only to those conditions set forth in each applicable prospectus supplement, and each prospectus supplement will set forth any commissions we pay for solicitation of these contracts.

Agents, underwriters and other third parties described above may be entitled to indemnification by us against certain civil liabilities, including liabilities under the Securities Act of 1933, as amended (the "Securities Act"), or to contribution from us with respect to payments which the agents, underwriters or other third parties may be required to make in respect thereof. Agents, underwriters and such other third parties may be customers of, engage in transactions with, or perform services for us in the ordinary course of business.

One or more firms, referred to as "remarketing firms," may also offer or sell the securities, if a prospectus supplement so indicates, in connection with a remarketing arrangement upon their purchase. Remarketing firms will act as principals for their own accounts or as our agents. These remarketing firms will offer or sell the securities in accordance with the terms of the securities. Each prospectus supplement will identify and describe any remarketing firm and the terms of its agreement, if any, with us and will describe the remarketing firm's compensation. Remarketing firms may be deemed to be underwriters in connection with the securities they remarket. Remarketing firms may be entitled under agreements that may be entered into with us to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, and may be customers of, engage in transactions with or perform services for us in the ordinary course of business.

Certain underwriters may use this prospectus and any accompanying prospectus supplement for offers and sales related to market-making transactions in the securities. These underwriters may act as principal or agent in these transactions, and the sales will be made at prices related to prevailing market prices at the time of sale.

The securities we offer may be new issues of securities and may have no established trading market. The securities may or may not be listed on a securities exchange. Underwriters may make a market in these securities, but will not be obligated to do so and may discontinue any market making at any time without notice. We can make no assurance as to the liquidity of, or the existence of trading markets for, any of the securities.

Certain persons participating in an offering may engage in overallocation, stabilizing transactions, short covering transactions and penalty bids in accordance with rules and regulations under the Exchange Act. Overallocation involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a short covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time.

We also may sell any of the securities through agents designated by us from time to time. We will name any agent involved in the offer or sale of these securities and will list commissions payable by us to these agents in the applicable prospectus supplement. These agents will be acting on a best efforts basis to solicit purchases for the period of its appointment, unless stated otherwise in the applicable prospectuses.

We may sell any of the securities directly to purchasers. In this case, we will not engage underwriters or agents in the offer and sale of these securities.

We may engage in sales deemed to be "at the market offerings" as defined in Rule 415 promulgated under the Securities Act, including sales made directly on or through Nasdaq, the existing trading market for our common stock, sales made to or through a market maker other than on an exchange or otherwise, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices and/or any other method permitted by law. The terms of such "at the market offerings" will be set forth in the applicable prospectus supplement. We may engage an agent to act as a sales agent in such "at the market offerings" on a best efforts basis using commercially reasonable efforts consistent with normal trading and sales practices, on mutually agreed terms between such agent and us. We will name any agent involved in such "at the market offerings" of securities and will list commissions payable by us to these agents in the applicable prospectus supplement.

In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement so indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including in short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in such sale transactions will be an underwriter and, if not identified in this prospectus, will be named in the applicable prospectus supplement (or a post-effective amendment). In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus and an applicable prospectus supplement. Such financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

In compliance with the guidelines of the Financial Industry Regulatory Authority, Inc. (“FINRA”), the maximum consideration or discount to be received by any FINRA member or independent broker dealer may not exceed 8% of the aggregate proceeds of the offering.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

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GENERAL DESCRIPTION OF SECURITIES THAT WE MAY SELL

We may offer and sell, at any time and from time to time:

- Shares of our common stock;
- Shares of our preferred stock;
- Warrants to purchase shares of our common stock, preferred stock and/or debt securities;
- Debt securities consisting of debentures, notes or other evidences of indebtedness; or
- Any combination of these securities.

The terms of any securities we offer will be determined at the time of sale. We may issue debt securities that are exchangeable for or convertible into common stock or any of the other securities that may be sold under this prospectus. When particular securities are offered, a supplement to this prospectus will be filed with the SEC, which will describe the terms of the offering and sale of the offered securities.

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DESCRIPTION OF OUR COMMON STOCK

Our authorized capital stock consists of 200,000,000 shares of common stock, \$0.01 par value per share, and 2,000,000 shares of preferred stock, \$0.01 par value per share, which may be issued in one or more series. The following summary of the terms of our common stock is subject to and qualified in its entirety by reference to our restated certificate of incorporation (the “Certificate of Incorporation”) and amended and restated bylaws (the “Bylaws”). Please refer to “Where You Can Find More Information; Incorporation By Reference” below for directions on obtaining these documents.

As of June 4, 2021, we had 99,892,667 shares of common stock outstanding and no shares of preferred stock outstanding.

General

Holders of our common stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and have the right to vote cumulatively for the election of directors. This means that in the voting at our annual meeting, each stockholder or his proxy may multiply the number of his shares by the number of directors to be elected, then cast the resulting total number of votes for a single nominee, or distribute such votes on the ballot among the nominees as desired. Holders of our common stock are entitled to receive ratably such dividends, if any, as may be declared by our Board of Directors (the “Board”) out of funds legally available therefor, subject to any preferential dividend rights for our outstanding preferred stock.

Upon our liquidation, dissolution, or winding up, the holders of our common stock are entitled to receive ratably our net assets available after the payment of all debts and other liabilities and subject to the prior rights of any of our outstanding preferred stock. Holders of our common stock have no preemptive, subscription, redemption, or conversion rights. The rights, preferences, and privileges of holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock which we may designate and issue in the future.

Our common stockholders may not receive any assets or funds until our creditors have been paid in full and the preferential or participating rights of our preferred stockholders have been satisfied. If we participate in a corporate merger, consolidation, purchase or acquisition of property or stock, or other reorganization, any payments or shares of stock allocated to our common stockholders will be distributed pro rata to holders of our common stock on a per share basis. If we redeem, repurchase, or otherwise acquire for payment any shares of our common stock, we will treat each share of common stock identically.

We may issue additional shares of our common stock, if authorized by the Board, without the common stockholders’ approval, unless required by Delaware law or a stock exchange on which our securities are traded. If we receive the appropriate payment, shares of our common stock that we issue will be fully paid and nonassessable.

Anti-Takeover Provisions

We are subject to the provisions of Section 203 of the General Corporation Law of Delaware (“DGCL”). Section 203 prohibits certain publicly held Delaware corporations from engaging in a “business combination” with an “interested stockholder,” for a period of three years after the date of the transaction in which the person became an “interested stockholder,” unless the business combination is approved in a prescribed manner. A “business combination” includes mergers, asset sales and other transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an “interested stockholder” is a person or entity who, together with affiliates and associates, owns (or within the preceding three years, did own) 15% or more of the corporation’s voting stock. The statute contains provisions enabling a corporation to avoid the statute’s restrictions if the stockholders holding a majority of the corporation’s voting stock approve the transaction. Moreover, our Certificate of Incorporation provides that our directors shall be divided into three classes, with the terms of each class to expire in different years.

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In addition, our Certificate of Incorporation, in order to combat “greenmail,” provides in general that any direct or indirect purchase by us of any of our voting stock or rights to acquire voting stock known to be beneficially owned by any person or group which holds more than five percent of a class of our voting stock and which has owned the securities being purchased for less than two years must be approved by the affirmative vote of at least two-thirds of the votes entitled to be cast by the holders of voting stock, subject to certain exceptions. The prohibition of “greenmail” may tend to discourage or foreclose certain acquisitions of our securities which might temporarily increase the price of our securities. Discouraging the acquisition of a large block of our securities by an outside party may also have a potential negative effect on takeovers. Parties seeking control of us through large acquisitions of our securities will not be able to resort to “greenmail” should their bid fail, thus making such a bid less attractive to persons seeking to initiate a takeover effort.

Elimination of Monetary Liability for Officers and Directors

Our Certificate of Incorporation incorporates certain provisions permitted under DGCL relating to the liability of directors. The provisions eliminate a director's liability for monetary damages for a breach of fiduciary duty, including gross negligence, except in circumstances involving certain wrongful acts, such as the breach of director's duty of loyalty or acts or omissions involving intentional misconduct or a knowing violation of law. These provisions do not eliminate a director's duty of care. Moreover, these provisions do not apply to claims against a director for certain violations of law, including knowing violations of federal securities law. Our Certificate of Incorporation also contains provisions to indemnify the directors, officers, employees, or other agents to the fullest extent permitted by DGCL. We believe that these provisions will assist us in attracting and retaining qualified individuals to serve as directors.

Our Certificate of Incorporation also contains provisions to indemnify the directors, officers, employees, or other agents to the fullest extent permitted by DGCL. These provisions may have the practical effect in certain cases of eliminating the ability of stockholders to collect monetary damages from directors. We believe that these provisions will assist us in attracting or retaining qualified individuals to serve as our directors.

The Nasdaq Capital Market

Our common stock is listed on Nasdaq under the symbol "ABEO."

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, New York, New York.

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DESCRIPTION OF OUR PREFERRED STOCK

The Board may, without further action by our stockholders, from time to time, direct the issuance of shares of preferred stock in series and may, at the time of issuance, determine the rights, preferences, and limitations of each series, including voting rights, dividend rights and redemption and liquidation preferences. Satisfaction of any dividend preferences of outstanding shares of our preferred stock would reduce the amount of funds available for the payment of dividends on shares of our common stock. Holders of shares of our preferred stock may be entitled to receive a preference payment in the event of any liquidation, dissolution or winding-up of our Company before any payment is made to the holders of shares of our common stock. In some circumstances, the issuance of shares of preferred stock may render more difficult or tend to discourage a merger, tender offer or proxy contest, the assumption of control by a holder of a large block of our securities or the removal of incumbent management. Upon the affirmative vote of the Board, without stockholder approval, we may issue shares of preferred stock with voting and conversion rights which could adversely affect the holders of shares of our common stock.

If we offer a specific class or series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

- the title and stated value;
- the number of shares offered, the liquidation preference per share and the purchase price;
- the dividend rate(s), period(s) and/or payment date(s) or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated), the conversion period and any other terms of conversion (including any anti-dilution provisions, if any);
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated), the exchange period and any other terms of exchange (including any anti-dilution provisions, if any);
- voting rights, if any, of the preferred stock;
- a discussion of any material U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of the Company;
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the Company; and
- any other affirmative, negative, or other covenants or contractual rights which might be attendant with the specific class or series of preferred stock.

The preferred stock offered by this prospectus, when issued, will not have, or be subject to, any preemptive or similar rights.

Transfer Agent and Registrar

The transfer agent and registrar for any series or class of preferred stock will be set forth in each applicable prospectus supplement.

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DESCRIPTION OF OUR WARRANTS

This section describes the general terms and provisions of our warrants to acquire our securities that we may issue from time to time. The applicable prospectus supplement will describe the specific terms of the warrants offered through that prospectus supplement.

We may issue warrants for the purchase of our debt securities, common stock or preferred stock or other securities issued by us. We may issue warrants independently or together with other securities, and they may be attached to or separate from the other securities. We will file a copy of the warrant and warrant agreement with the SEC each time we issue a series of warrants, and these warrants and warrant agreements will be incorporated by reference into the Registration Statement of which this prospectus is a part. A holder of our warrants should refer to the provisions of the applicable warrant agreement and prospectus supplement for more specific information.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount, and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise and a description of that class or series of our preferred stock;
- if applicable, the exercise price for our debt securities, the amount of our debt securities to be received upon exercise and a description of that series of debt securities;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if the warrants may not be continuously exercised throughout that period, the specific date or dates on which the warrants may be exercised;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars, or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the common stock, preferred stock or debt securities will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;

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- information with respect to book-entry procedures, if any;
- any redemption or call provisions;
- whether the warrants are to be sold separately or with other securities as parts of units; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

After your warrants expire they will become void. All warrants will be issued in registered form. The prospectus supplement may provide for the adjustment of the exercise price of the warrants.

Warrants may be exercised at the appropriate office of the warrant agent, or any other office indicated in the applicable prospectus supplement. Before the exercise of warrants, holders will not have any of the rights of holders of the securities purchasable upon exercise and will not be entitled to payments made to holders of those securities.

The warrant agreements may be amended or supplemented without the consent of the holders of the warrants to which it applies to effect changes that are not inconsistent with the provisions of the warrants and that do not materially and adversely affect the interests of the holders of the warrants. However, any amendment that materially and adversely alters the rights of the holders of warrants will not be effective unless the holders of at least a majority of the applicable warrants then outstanding approve the amendment. Every holder of an outstanding warrant at the time any amendment becomes effective, by continuing to hold the warrant, will be bound by the applicable warrant agreement as amended. The prospectus supplement applicable to a particular series of warrants may provide that certain provisions of the warrants, including the securities for which they may be exercisable, the exercise price and the expiration date, may not be altered without the consent of the holder of each warrant.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

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DESCRIPTION OF OUR DEBT SECURITIES

This section describes the general terms and provisions of the debt securities that we may offer under this prospectus, any of which may be issued as convertible or exchangeable debt securities. We will set forth the particular terms of the debt securities we offer in a prospectus supplement. The extent, if any, to which the following general provisions apply to particular debt securities will be described in the applicable prospectus supplement. The following description of general terms relating to the debt securities and the indenture under which the debt securities will be issued are summaries only and therefore are not complete. You should read the indenture and the prospectus supplement regarding any particular issuance of debt securities.

We will issue any debt under an indenture to be entered into between us and the trustee identified in the applicable prospectus supplement. The terms of the debt securities will include those stated in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as amended (the "Indenture Act"), as in effect on the date of the indenture. We have filed or will file a copy of the form of indenture as an exhibit to the Registration Statement in which this prospectus is included. The indenture will be subject to and governed by the terms of the Indenture Act.

We may offer under this prospectus up to an aggregate principal amount of \$250,000,000 in debt securities, or if debt securities are issued at a discount, or in a foreign

currency, foreign currency units or composite currency, the principal amount as may be sold for an initial public offering price of up to \$250,000,000. Unless otherwise specified in the applicable prospectus supplement, the debt securities will represent direct, unsecured obligations of the Company and will rank equally with all of our other unsecured indebtedness.

The following statements relating to the debt securities and the indenture are summaries, qualified in their entirety by reference to the detailed provisions of the indenture and the final form indenture as may be filed with a future prospectus supplement.

General

We may issue the debt securities in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will describe the particular terms of each series of debt securities in a prospectus supplement relating to that series, which we will file with the SEC.

The prospectus supplement will set forth, to the extent required, the following terms of the debt securities in respect of which the prospectus supplement is delivered:

- the title of the series;
- the aggregate principal amount;
- the issue price or prices, expressed as a percentage of the aggregate principal amount of the debt securities;
- any limit on the aggregate principal amount;
- the date or dates on which principal is payable;
- the interest rate or rates (which may be fixed or variable) or, if applicable, the method used to determine such rate or rates;
- the date or dates from which interest, if any, will be payable and any regular record date for the interest payable;
- the place or places where principal and, if applicable, premium and interest, is payable;

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- the terms and conditions upon which we may, or the holders may require us to, redeem or repurchase the debt securities;
- the denominations in which such debt securities may be issuable, if other than denominations of \$1,000 or any integral multiple of that number;
- whether the debt securities are to be issuable in the form of certificated securities (as described below) or global securities (as described below);
- the portion of principal amount that will be payable upon declaration of acceleration of the maturity date if other than the principal amount of the debt securities;
- the currency of denomination;
- the designation of the currency, currencies, or currency units in which payment of principal and, if applicable, premium and interest, will be made;
- if payments of principal and, if applicable, premium or interest, on the debt securities are to be made in one or more currencies or currency units other than the currency of denomination, the manner in which the exchange rate with respect to such payments will be determined;
- if amounts of principal and, if applicable, premium and interest 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, then the manner in which such amounts will be determined;
- the provisions, if any, relating to any collateral provided for such debt securities;
- any addition to or change in the covenants and/or the acceleration provisions described in this prospectus or in the indenture;
- any events of default, if not otherwise described below under “Defaults and Notice”;
- the terms and conditions, if any, for conversion into or exchange for shares of our common stock or preferred stock;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents; and
- the terms and conditions, if any, upon which the debt securities shall be subordinated in right of payment to other indebtedness of the Company.

We may issue discount debt securities that provide for an amount less than the stated principal amount to be due and payable upon acceleration of the maturity of such debt securities in accordance with the terms of the indenture. We may also issue debt securities in bearer form, with or without coupons. If we issue discount debt securities or debt securities in bearer form, we will describe material U.S. federal income tax considerations and other material special considerations which apply to these debt securities in the applicable prospectus supplement.

We may issue debt securities denominated in or payable in a foreign currency or currencies or a foreign currency unit or units. If we do, we will describe the restrictions, elections, and general tax considerations relating to the debt securities and the foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

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Exchange and/or Conversion Rights

We may issue debt securities which can be exchanged for or converted into shares of our common stock or preferred stock. If we do, we will describe the terms of exchange or conversion in the prospectus supplement relating to these debt securities.

Transfer and Exchange

We may issue debt securities that will be represented by either:

- “book-entry securities,” which means that there will be one or more global securities registered in the name of a depository or a nominee of a depository; or
- “certificated securities,” which means that they will be represented by a certificate issued in definitive registered form.

We will specify in the prospectus supplement applicable to a particular offering whether the debt securities offered will be book-entry or certificated securities.

Certificated Debt Securities

If you hold certificated debt securities issued under an indenture, you may transfer or exchange such debt securities in accordance with the terms of the indenture. You will not be charged a service charge for any transfer or exchange of certificated debt securities but may be required to pay an amount sufficient to cover any tax or other governmental charge payable in connection with such transfer or exchange.

Global Securities

The debt securities of a series may be issued in the form of one or more global securities that will be deposited with a depository or its nominees identified in the prospectus supplement relating to the debt securities. In such a case, one or more global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal amount of outstanding debt securities of the series to be represented by such global security or securities.

Unless and until it is exchanged in whole or in part for debt securities in definitive registered form, a global security may not be registered for transfer or exchange except as a whole by the depository for such global security to a nominee of the depository and except in the circumstances described in the prospectus supplement relating to the debt securities. The specific terms of the depository arrangement with respect to a series of debt securities will be described in the prospectus supplement relating to such series.

No Protection in the Event of Change of Control

Any indenture that governs our debt securities covered by this prospectus may not have any covenant or other provision providing for a put or increased interest or otherwise that would afford holders of our debt securities additional protection in the event of a recapitalization transaction, a change of control of the Company or a highly leveraged transaction. If we offer any covenants or provisions of this type with respect to any debt securities covered by this prospectus, we will describe them in the applicable prospectus supplement.

Covenants

Unless otherwise indicated in this prospectus or the applicable prospectus supplement, our debt securities may not have the benefit of any covenant that limits or restricts our business or operations, the pledging of our assets or the incurrence by us of indebtedness. We will describe in the applicable prospectus supplement any material covenants in respect of a series of debt securities.

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Consolidation, Merger, and Sale of Assets

We may agree in any indenture that governs the debt securities of any series covered by this prospectus that we will not consolidate with or merge into any other person or convey, transfer, sell or lease our properties and assets substantially as an entirety to any person, unless such person and such proposed transaction meets various criteria, which we will describe in detail in the applicable prospectus supplement.

Defaults and Notice

The debt securities of any series will contain events of default to be specified in the applicable prospectus supplement, which may include, without limitation:

- failure to pay the principal of, or premium or make-whole amount, if any, on any debt security of such series when due and payable (whether at maturity, by call for redemption, through any mandatory sinking fund, by redemption at the option of the holder, by declaration or acceleration or otherwise);
- failure to make a payment of any interest on any debt security of such series when due;
- our failure to perform or observe any other covenants or agreements in the indenture with respect to the debt securities of such series;
- certain events relating to our bankruptcy, insolvency, or reorganization; and
- certain cross defaults, if and as applicable.

If an event of default with respect to debt securities of any series shall occur and be continuing, we may agree that the trustee or the holders of at least 25% in aggregate principal amount of the then outstanding debt securities of such series may declare the principal amount (or, if the debt securities of such series are issued at an original issue discount, such portion of the principal amount as may be specified in the terms of the debt securities of such series) of all debt securities of such series or such other amount or amounts as the debt securities or supplemental indenture with respect to such series may provide, to be due and payable immediately. Any provisions pertaining to events of default and any remedies associated therewith will be described in the applicable prospectus supplement.

Any indenture that governs our debt securities covered by this prospectus may require that the trustee under such indenture shall, within 90 days after the occurrence of a default, give to holders of debt securities of any series notice of all uncured defaults with respect to such series known to it. However, in the case of a default that results from the failure to make any payment of the principal of, premium or make-whole amount, if any, or interest on the debt securities of any series, or in the payment of any mandatory sinking fund installment with respect to debt securities of such series, if any, the trustee may withhold such notice if it in good faith determines that the withholding of such notice is in the interest of the holders of debt securities of such series. Any terms and provisions relating to the foregoing types of provisions will be described in further detail in the applicable prospectus supplement.

Any indenture that governs our debt securities covered by this prospectus will contain a provision entitling the trustee to be indemnified by holders of debt securities before proceeding to exercise any trust or power under the indenture at the request of such holders. Any such indenture may provide that the holders of at least a majority in aggregate principal amount of the then outstanding debt securities of any series may direct the time, method, and place of conducting any proceedings for any remedy available to the trustee, or of exercising any trust or power conferred upon the trustee with respect to the debt securities of such series. However, the trustee under any such indenture may decline to follow any such direction if, among other reasons, the trustee determines in good faith that the actions or proceedings as directed may not lawfully be taken, would involve the trustee in personal liability or would be unduly prejudicial to the holders of the debt securities of such series not joining in such direction.

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Any indenture that governs our debt securities covered by this prospectus may endow the holders of such debt securities to institute a proceeding with respect to such indenture, subject to certain conditions, which will be specified in the applicable prospectus supplement and which may include, that the holders of at least a majority in aggregate principal amount of the debt securities of such series then outstanding make a written request upon the trustee to exercise its power under the indenture, indemnify the trustee and afford the trustee reasonable opportunity to act. Even so, such holders may have an absolute right to receipt of the principal of, premium or make-whole amount, if any, and interest when due, to require conversion or exchange of debt securities if such indenture provides for convertibility or exchangeability at the option of the holder and to institute suit for the enforcement of such rights. Any terms and provisions relating to the foregoing types of provisions will be described in further detail in the applicable prospectus supplement.

Modification of the Indenture

We and the trustee may modify any indenture that governs our debt securities of any series covered by this prospectus with or without the consent of the holders of such debt securities, under certain circumstances to be described in a prospectus supplement.

Defeasance; Satisfaction and Discharge

The prospectus supplement will outline the conditions under which we may elect to have certain of our obligations under the indenture discharged and under which the indenture obligations will be deemed to be satisfied.

Regarding the Trustee

We will identify the trustee and any relationship that we may have with such trustee, with respect to any series of debt securities, in the prospectus supplement relating to the applicable debt securities. You should note that if the trustee becomes a creditor of the Company, the indenture and the Indenture Act limit the rights of the trustee to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim, as security or otherwise. The trustee and its affiliates may engage in, and will be permitted to continue to engage in, other transactions with us and our affiliates. If, however, the trustee acquires any “conflicting interest” within the meaning of the Indenture Act, it must eliminate such conflict or resign.

Governing Law

The law governing the indenture and the debt securities will be identified in the prospectus supplement relating to the applicable indenture and debt securities.

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WHERE YOU CAN FIND MORE INFORMATION; INCORPORATION BY REFERENCE

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains a website at www.sec.gov that contains reports, statements, and other information about issuers, such as us, who file electronically with the SEC. We maintain a website at www.abeonatherapeutics.com. However, the information on our website is not incorporated by reference into this prospectus and any prospectus supplement and you should not consider it a part of this prospectus or any accompanying prospectus supplement.

The SEC allows us to “incorporate by reference” into this prospectus the information in other documents that we file with it. This means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus. We incorporate by reference into this prospectus the documents listed below; provided, however, that we are not incorporating, in each case, any documents or information deemed to have been furnished and not filed in accordance with SEC rules:

- Our Annual Report on [Form 10-K](#) for the year ended December 31, 2020;
- Our Quarterly Report on [Form 10-Q](#) for the quarter ended March 31, 2021;
- Our Current Reports on Form 8-K or 8-K/A filed on [February 1, 2021](#), [March 23, 2021](#), [March 30, 2021](#), [April 19, 2021](#), [May 28, 2021](#), [May 28, 2021](#) and [November 19, 2021](#); and
- The description of our common stock, par value \$0.01 per share contained in our Registration Statement on [Form 8-A](#), dated and filed with the SEC on November 4, 2014, as updated by [Exhibit 4.4](#) to our Form 10-K for the fiscal year ended December 31, 2019, and including any amendments or reports filed with the SEC for the purpose of updating such description.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of this initial registration statement and prior to the effectiveness of this registration statement, but excluding any information furnished to and not filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

You may obtain a copy of any or all of the documents referred to above which may have been or may be incorporated by reference into this prospectus, except for exhibits to those documents (unless the exhibits are specifically incorporated by reference into those documents) at no cost to you by contacting us at the following address and telephone number: Investor Relations, Abeona Therapeutics Inc., 1330 Avenue of the Americas, 33rd Floor, New York, NY 10019, telephone (646) 813-4701.

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LEGAL MATTERS

Unless otherwise specified in the prospectus supplement accompanying this prospectus, Morgan, Lewis & Bockius LLP will provide opinions regarding certain legal matters. Certain partners and attorneys of Morgan, Lewis & Bockius LLP hold shares of our common stock. Additional legal matters may be passed upon for us or any underwriters, dealers, or agents by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements incorporated by reference from the Company’s Annual Report on Form 10-K for the fiscal year ended December 31, 2020 have been audited by Whitley Penn LLP, an independent registered public accounting firm, as stated in their report, which is incorporated by reference into this prospectus. 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.

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12,285,056 Shares of Common Stock

Pre-funded Warrants to Purchase 6,142,656 Shares of Common Stock



PROSPECTUS SUPPLEMENT

Sole Bookrunner

Stifel

May 3, 2024
